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15th International Conference on Economics and Business 2021

CHALLENGES IN THE CARPATHIAN BASIN

Global Challenges - Local Answers. Interdependencies or Slobalisation?

Sapientia - Hungarian University of Transylvania, Faculty of Economics, Socio-Human Sciences and Engineering, Miercurea-Ciuc, 2021

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TABLE OF CONTENTS

PREFACE 15

SECTION A: Agriculture and rural economics 18

BÁLÓ ANDRÁS: THE ANDEAN COMMON AGRICULTURAL POLICY: A PIONEER OF AGRI-ENVIRONMENTAL PROTECTION? 19

BORBÉLY CSABA: INVESTIGATION OF FOOD WASTE IN HUNGARIAN HOUSEHOLDS 34

ORSOLYA GERGELY – ANDREA ZERKULA RESTART - THE IMPACT OF PANDEMIC ON FEMALE ENTREPRENEURS FROM SZEKLERLAND 48

GYÖRGY OTTILIA: FOOD SHOPPING DURING THE FIRST TWO MONTHS OF THE COVID-19 IN ROMANIA 61

HORVÁTHNÉ PETRÁS VIKTÓRIA: SETTING UP A SIMULATION MODEL FOR AGRICULTURAL MANAGERS 78

HORVÁTHNÉ PETRÁS VIKTÓRIA – GROTTE JUDIT: THE USE OF ICT TOOLS IN THE AGRARIAN VOCATIONAL EDUCATION 92

KÁDÁR BEÁTA, NAGY SZERÉNA: THE EFFECTS OF THE COVID-19 PANDEMIC ON THE ECONOMY AND LABOUR MARKET, WITH SPECIAL EMPHASIS ON THE AGRICULTURAL SECTOR AND AGRICULTURAL WORKFORCE 105

ZSOMBOR KÁPOLNAI: SHOPPING COMMUNITY IN HUNGARY 2020 119

KOPONICSNÉ GYÖRKE DIÁNA – HORVÁTHNÉ KOVÁCS BERNADETT – SZABÓ KINGA: YOUNG FARMER AS KEY PLAYERS IN RURAL AREAS: HOW THE EU SUPPORTS CAN CONTRIBUTE TO THE POPULATION RETENTION CAPACITY OF THE COUNTRYSIDE 137

PÉTER EMŐKE KATALIN: JOINING COOPERATIVES IN THE CATCHMENT AREA OF SZÉKELYKERESZTÚR .. 157

SECTION B: Business informatics and operational research sections 178

PIROSKA BIRÓ – TAMÁS KÁDEK: HOW CAN THE PROGCONT SYSTEM HELP WITH PROGRAMMING EDUCATION DURING A PANDEMIC? 179

WEBER DENNIS – HAMMERL LÁSZLÓ – TON ANH DON: BUSINESS RESILIENCE THROUGH AI EXPERTISE – AN OPPORTUNITY FOR RURAL ECONOMIES? 192

WOHLLEBE ATILLA: MOBILE APPS IN STATIONARY RETAIL: ASSESSING THE THEORETICAL AND PRACTICAL RELEVANCE OF FEATURES AND DEVELOPING A TYPOLOGY – INSIGHTS INTO THE GERMAN MARKET 208

SECTION C: Capital market, corporate finance and financial analysis 223

BÍRÓ BÍBORKA ESZTER, BENDE RÉKA: SNAPSHOT VIEWS ON THE IMPACT OF COVID -19 ON THE PHARMACEUTICAL INDUSTRY. THE FINANCIAL-

ECONOMIC ANALYSIS OF PFIZER INC. CORPORATION 224

ZOLTÁN ANDRÁS DÁNIEL: PRE-CRISIS FINANCIAL RESERVES FOR SMES OPERATING IN VULNERABLE SECTORS..... 236

ISTVÁN FETTER –ANNA ÁGNES ACZKOV: HOW BANKING HAS BEEN CHANGING AS A RESPONSE TO COVID-19 - AN INTRODUCTION TO A NEW DIGITAL ERA 248

SZTANKÓ ÉVA – SZIKSZAI SZABOLCS – NAGY ANDREA MAGDA – BOSNYÁK-SIMON NIKOLETT: FINANCIAL LITERACY AMONG UNIVERSITY STUDENTS..... 260

UYEN TON THANH HOANG: MONETARY POLICY EFFECTS ON STOCK MARKET LIQUIDITY DURING FINANCIAL CRISIS AND NON-CRISIS PERIOD: A LITERATURE REVIEW..... 273

SECTION D: Current Issues in financial regulation..... 291

FAEYZH BARHOOM: THE GROWTH OF INCOME INEQUALITY: IS THERE A ROLE FOR BANKING CRISES?..... 292

KOVÁCS-RUMP HENETTA – MENICH-JÓNÁS JUDIT: INTRODUCTION OF IFRS IN UKRAINE AND HUNGARY: A COMPARATIVE ANALYSIS..... 320

LŐRINCZ ANNAMÁRIA: FORECASTS REGARDING ON THE SUSTAINABILITY OF THE ROMANIAN PENSION SYSTEM..... 335

MENICH-JÓNÁS JUDIT – KOVÁCS-RUMP HENETTA: PLANNING DIFFICULTIES OF HUNGARIAN MUNICIPALLY OWNED COMPANIES..... 349

MARIA MORARU: THE ECONOMIC IMPACT OF COVID-19 ON ROMANIA AND OTHER EU STATES..... 361

Anett PARÁDI DOLGOS - József VARGA - Zoltán SIPICZKI: THE NATURE OF HOUSEHOLD INFLATION REDISTRIBUTION 378

PATYI BALÁZS –PATAKI LÁSZLÓ: EXAMINATION OF FINANCIAL TYPE PHENOMENAS OF DOMESTIC VEHICLE MANUFACTURING COMPANIES 392

PÓCSIK ORSOLYA: HOW SHOULD HUNGARY JOIN TO EUROZONE?..... 407

BENCE VÉGVÁRI - GÁBOR SZABÓ-SZENTGRÓTI – MARTIN GELENCSÉR UNIVERSAL BASIC INCOME: EFFETCS ON INDIVIDUALS AND CHANGES SINCE THE PANDEMIC – A LITERATURE REVIEW..... 424

SECTION E: Marketing..... 435

BÍRÓ BÍBORKA ESZTER – BÍRÓ BORÓKA JÚLIA: THE ANALYSIS OF A LOCAL FOOD MARKETPLACE SYSTEM IN ROMANIA. BARRIERS AND OPPORTUNITIES DURING CORONAVIRUS PANDEMIC. 436

KATA FÖLDI: THE QUALITATIVE RESEARCH OF HUNGARIAN ORIGIN EFFECT ON PRIVATE LABEL FOOD BRAND CHOICE IN EAST HUNGARY IN 2020 . 449

BRIGITTA GÁBOR: NETNOGRAPHIC RESEARCH OF CONSUMERS' ACCEPTANCE 463

JOSEPH HORVATH: THE ROLE OF DIGITAL CUSTOMER EXPERIENCE AND TRUST IN EXPLAINING

CUSTOMER LOYALTY - AN EXTENSION TO THE ECSI MODEL: THE DIGITAL TRANSFORMATION APPROACH TO COMMUNICATION SERVICE PROVIDERS..... 475

DIRK SIEGFRIED HÜBNER: HOW CONSUMER BEHAVIOR IS CHANGING AS A RESULT OF THE COVID-19 PANDEMIC..... 491

KISS MARIETTA – SZAKÁLY ZOLTÁN – KONTOR ENIKŐ: TRENDS IN GLOBAL AND HUNGARIAN FOOD TRADE..... 503

KORCSMÁROS ENIKŐ – CSINGER BENCE: THE POTENTIAL OF SOCIAL MEDIA FROM A BUSINESS PERSPECTIVES..... 517

IOAN-DAVID LEGMAN - MANUELA ROZALIA GABOR: INCREASE ECONOMIC EFFICIENCY BY IMPROVING CUSTOMER SATISFACTION..... 533

MOLNÁR JUDITH: THE TIP OF THE BALANCE IS APPROPRIATENESS..... 553

ANDREA, OLSOVSZKYNÉ NÉMEDI: CHALLENGES AND EXPERIENCES OF DUAL TRAINING IN HIGHER EDUCATION..... 567

SECTION F 1: Management 579

DÂMBEAN CAMELIA ANGELICA - MANUELA ROZALIA GABOR: EMOTIONAL INTELLIGENCE AND STRESS INVOLVED IN HUMAN RESOURCE MANAGEMENT IN THE MACHINE BUILDING INDUSTRY..... 580

ZSOFIA KARASZ: THE IMPACT OF COVID19 ON THE SERVICES PROVIDED BY THE EDUCATION SECTOR WITH A SPECIAL EMPHASIS ON COMPARISON BETWEEN THE OBLIGATORY ONLINE AND THE FACE-TO-FACE EDUCATION..... 596

SOMAYEH KARIMAN-ISTVÁN KUNOS: EFFECTIVENESS OF COACHING FOR MANAGING ACCULTURATIVE STRESS AND DEVELOPING THE ORGANIZATIONAL PERFORMANCE AT MISKOLC UNIVERSITY 612

DR. KOCSICSKA IVANA: HEALTHCARE WORKFORCE MOTIVATION – A GLOBAL CHALLENGE FOR HEALTHCARE MANAGEMENT 625

SECTION F 2: Management 642

KARÁCSONY PÉTER-KRUPÁNSZKI KORNÉL: ANALYSIS OF THE RELATIONS BETWEEN THE MANAGER AND THE EMPLOYEE IN HUNGARIAN SMALL AND MEDIUM ENTERPRISES 643

GÁBOR SZABÓ-SZENTGRÓTI - MARTIN GELENCSÉR - EDYTA BOMBIAK - BENCE VÉGVÁRI: THE SPREAD OF DIGITIZATION AND AUTOMATION: SOME ISSUES OF BASIC INCOME 657

GÁBOR SZABÓ-SZENTGRÓTI - JÓZSEF POÓR - ZOLTÁN MAJÓ-PETRI: HR CHALLENGES AND REACTIONS DURING THE PANDEMIC PERIOD 672

SECTION F 3: Management 684

Gokhan COSKUN: LEADERSHIP - MOTIVATION INTERACTION 685

STEFANIE BRÜCKEL: HOW THE INTEGRATION OF THE UN SDG INTO A TRADITIONAL MBA PROGRAM CREATES MORE RESILIENT MANAGEMENT PRACTICES – A CASE STUDY APPROACH. 699

GELENCSÉR MARTIN – VÉGVÁRI BENCE – SZABÓ-SZENTGRÓTI GÁBOR: EXAMINING THE

RELATIONSHIP BETWEEN EMPLOYEE WELL-BEING AND PERFORMANCE - A LITERATURE REVIEW 731

AYSE GUNALTAY- ÁGNES TOKÁR-SZADAI: MANAGEMENT CONSULTING AND THE VIEW OF CORPORATIONS TO MANAGEMENT CONSULTING: A CASE STUDY CONDUCTED IN CORPORATIONS OPERATING IN ISTANBUL 748

NÉMETH KORNÉL – NÉMETH ESZTER– SZÉP KÁROLY: AFFECTING CHANGES OF THE SME SECTOR AS A RESULT OF COVID-19. DOES INNOVATION MAKE SENSE?..... 771

SZABÓ ÁRPÁD: THE EU FUNDED SPEED PROGRAM FOR CREATING SME'S AND JOBS IN ROMANIA 786

ANH DON TON, DENNIS WEBER, LASZLO HAMMERL: HOW COOPETITION OF CROSS-FUNCTIONAL TEAMS BECOME IMPORTANT IN TIMES OF COVID-19 IN CARPATHIAN BASIN: A GROUNDED THEORY 810

TONY SUSILO WIBOWO: SPIRITUALITY AS AN ENTREPRENEURIAL SKILL – EXAMPLES FROM INDONESIA..... 835

SECTION G 1: Regional disparities and territorial problems 851

CSEH BALÁZS – VARGA JÓZSEF: THE GEOPOLITICAL POSITION OF TURKEY AT THE BEGINNING OF THE 21ST CENTURY - AN OVERVIEW OF HUNGARIAN RELATIONS..... 852

DR. EPERJESI ZOLTÁN: THE ROLE OF THE EUROPEAN INVESTMENT BANK IN REDUCING REGIONAL DISPARITIES IN THE EUROPEAN UNION 872

FEHÉR HELGA: FOREIGN TRADE COMPETITIVENESS OF SUB-SAHARAN AFRICAN COUNTRIES - THE EFFECTS OF CHINA'S TRADE EXPANSION 886

ENIKŐ KORCSMÁROS – ROLAND MARČA: ANALYSING THE TENDENCY OF INTERNATIONAL LABOUR MOBILITY IN NOVÉ ZÁMKY DISTRICT 901

KOZMA DOROTTYA EDINA – NEUMANNÉ VIRÁG ILDIKÓ – MOLNÁRNÉ BARNA KATALIN: CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT IN THE GROUP OF VISEGRAD FOUR 917

ARNE MARQUERING: THE UNITED NATIONS NEW INTERNATIONAL ECONOMIC ORDER AND THE CONNECTED RISKS FOR MULTINATIONAL CORPORATIONS IN EMERGING MARKETS 934

LAURA NISTOR - GYÖNGYVÉR BÁLINT: SECOND-HAND CLOTHES BETWEEN AUSTERITY AND SUSTAINABILITY. THE CASE OF THE SZEKLERLAND-BASED (ROMANIA) CONSUMERS 949

VIZELI IBOLYA – ALT MÓNIKA-ANETTA: MOVING TOWARD A KNOWLEDGE-BASED ECONOMY – AN ANALYSIS OF THE QUATERNARY SECTOR IN ROMANIA AND IN TRANSYLVANIA 973

SECTION G 2: Regional disparities and territorial problems 1004

BALCSÓK ISTVÁN-CSÁSZÁR ROZÁLIA-HORVÁTH OLIVÉR-THÉKES ISTVÁN- SZARVÁK TIBOR: KEY CONCEPTS METHODOLOGY OF SOCIAL INCLUSION PARTNERSHIPS 1005

CSIZMADIA ADRIÁN – BAREITH TIBOR: EXAMINATION OF THE INCOME SITUATION OF SOMOGY COUNTY IN THE PERIOD 2013-2018 1027

ZOLTÁN ANDRÁS DÁNIEL - MELINDA KOCZOR-KEUL: CHANGES IN THE LOCAL BUSINESS TAX IN THE SETTLEMENTS OF HUNGARY 1049

ZOLTÁN ANDRÁS DÁNIEL – JÚLIA TOBAK – TAMÁS MOLNÁR: REGIONAL ASPECTS OF SUPPORTING ENTREPRENEURSHIP IN HUNGARY 1060

BOGLÁRKA KONKA: ELECTRIC CAR MARKET ANALYSIS IN HUNGARY 1072

PETRA PÉTERFI: POSSIBLE REASONS FOR THE DISCREPANCY BETWEEN THE NUMBER OF CHILDREN PLANNED AND THE NUMBER OF CHILDREN ACTUALLY BORN IN HUNGARY 1085

SECTION G 3: Regional disparities and territorial problems 1096

MOLNÁRNÉ BARNA KATALIN – MOLNÁR TAMÁS – KOZMA DOROTTY EDINA: DEVELOPMENT OF POPULATION EXPENDITURES DURING MULTI-DAY DOMESTIC TRIPS IN TOURIST REGIONS, WITH SPECIAL REGARD TO THE CORONAVIRUS EPIDEMIC 1097

BENCZI MELINDA: ACHIEVEMENT (UN)LOCKED: HOW DID THE COVID-19 GLOBAL PANDEMIC CHANGE THE NARRATIVE OF CROSS-BORDER COOPERATION? 1111

DOBOS EMESE: THE PROMISE OF THE PANDEMIC? NEW PERSPECTIVES FOR THE FASHION PRODUCTION COMPANIES OF HUNGARY AND ROMANIA IN THE

GLOBAL SUPPLY CHAIN DUE TO THE RELOCATION TENDENCIES 1140

KOZMA DOROTTY EDINA: ANALYSIS OF THE RELATIONSHIP BETWEEN SUSTAINABLE DEVELOPMENT AND HUMAN WELL-BEING IN THE PERIOD OF 2014-2018 1165

SIPOSNÉ NÁNDORI ESZTER – ZSIDÓ KINGA EMESE: REGIONAL DIFFERENCES IN THE LABOR MARKET EFFECTS OF COVID-19 PANDEMIC IN HUNGARY AND IN ROMANIA 1183

UWE RADTKE –DOREEN KAEM: RELATION BETWEEN DISTRICT HEATING SYSTEM OF KAPOSVÁR AND SUSTAINABILITY 1197

FIRAS ZEIDAN–RAMONA AL DANAF–BERKE SZILÁRD –SALMAN SHAYYA*: RESILIENT FAMILY BUSINESS PERFORMANCE THROUGH THE COVID-19 HEALTH CRISIS: A SHORT COMMUNICATION 1216

SECTION H: Tourism and urban services 1241

HOÀNG THỊ PHƯƠNG THẢO: RESTORING AND PROMOTING DOMESTIC TOURISM IN VIETNAM AFTER THE COVID-19 PANDEMIC: ORIENTING THE DEVELOPMENT OF RURAL TOURISM THROUGH SYNTHESIZING LESSONS LEARNED FROM MANY COUNTRIES AROUND THE WORLD 1242

KÓRÓDI MÁRTA – POVENSZKY KAMILLA: PRODUCT SPECIFICATION FEATURES PROVIDED BY FOUR-STAR HOTELS IN HUNGARY 1257

SAVELLA ORSOLYA: EFFECT OF KNOWLEDGE ACQUIRED DURING HEALTH TOURISM TRAVELLING FOR HEALTH BEHAVIOUR – WITH SPECIAL EMPHASIS

OF WOMAN IN GROUPS OF THEIR 36-55 AND 56-74 YEARS 1271

SZÉKELY KINGA KATALIN: ONLINE COMMUNICATION IN THE TOURISM SECTOR IN TIMES OF PANDEMIC 1283

GYÖRGY SZERB, GYÖNGYI BÁNKUTI, KATALIN SZERB, ANDRÁS BENCE SZERB: CONSUMPTION HABITS OF SNOW SPORTS IN HUNGARY 1295

KATALIN VARGÁNÉ CSOBÁN – ANETT GODÁNÉ SŐRÉS: CHALLENGES OF THE DEVELOPMENT OF CULINARY TOURISM IN THE BALATON TOURISM REGION 1322

PREFACE

"Life lives and wants to live,
She didn't give so much beauty
To accuse him now
Bloody and silly bastards."
Endre Ady: Gesture to the guards

It is no coincidence that I chose Ady's poem as the very first thought, especially its first line quoted here: "Life Lives and Wants to Live". Although the conference volume now in the hands of the reader is entitled "International Conference on Economics and Business", in its real content it was not only about the economy, but the discourse was about the real "Life" delimited by society and nature. These three dimensions of Sustainability, i.e. Life, have become an accepted approach today, which is reflected in the conference's rich choice of topics.

At the same time, it is necessary to point out - and this justifies the motto - that in the new situation caused by the pandemic, the emphasis has also changed the relationship between the three dimensions. *First*, the economy has shrunk abruptly and taken the form of an economic crisis, although real funds have not been severely damaged. *Second*, largely because of the first impact, nature has recovered a bit: it has experienced significantly fewer negative externalities from the economy than before the epidemic. Obviously, this is not enough for complete regeneration, but at least the directions to which the economy needs to pay more attention in the future have been revealed. However, in terms of the magnitude and significance of the processes, the *third* change is most noteworthy. And this is nothing more than a re-attunement in society and in the fine fabric of society and, within that, in the lives of families. Here, it is essential to highlight the very significant shift in the relationship with the economy in the sense that the

family was forced to accept and take over functions from the economy that were previously clearly among the basic tasks of the economy. These include providing a job while working from home, bearing some of the overheads at work, and providing adequate infrastructure. Some of the social functions previously provided by the community (education, training) were also the responsibility of families. In addition to the increased amount of socio-economic tasks (or as a result of this), the relationship of society (and the family) with the environment has also changed significantly, especially in the first phase of the epidemic. Numerous studies show that consumer habits have completely changed, leaving room for food shopping in particular. Food accumulation in the initial period was accompanied by strong food waste, thus placing a heavy burden on the environment while keeping alive a very important economic activity. Later, as a result of socio-learning processes, food waste has decreased, and consumer trends are now increasingly beginning to resemble the pre-epidemic period.

A brief glimpse into the history of the last year and a half or two also confirms that social, economic and environmental processes are forcing proper adaptation, that is, that (sustainable) life wants to live. *Homo sapiens* has the ability to form a proper picture of this life and its changing processes, to gain new knowledge about it and thus to enrich long-term sustainability. The conference has provided an imprint of this multi-layered change. This year, it is exactly 20 years since the education started at Sapientia Hungarian University of Transylvania and the Hungarian-language higher education in Szeklerland also began. It is a significant milestone in the life of such a young institution to be able to reach a larger audience in its field and to provide an appropriate framework for dialogue. This opportunity was created for the 15th time by the Faculty of Miercurea Ciuc of the University, which on the one hand proves a strategic vision, and on the other hand a

strongminded determination and readiness on the part of the Faculty staff and the organizers.
The volume contains, in a systematic way, the lectures whose authors have met the normative requirements for a journal article and have met the standards set by the editors. Although the focus of the conference is on the business and economic processes of the Carpathian Basin, the topic is much broader in terms of both geographical scope and content coverage: we meet with a study from Indonesia and Turkish finance, as well as gain insight into marketing, e.g., also about changed consumer habits.
I encourage colleagues and interested people who are reading the volume to use the experiences of the studies read here in their own field. That's why it all came about. New knowledge about the world will only help us if we apply it. Life lives and wants to live.

Miercurea Ciuc, 6 July 2021,

dr. Tóth József
professor
Sapientia - Hungarian University of Transylvania
Corvinus University of Budapest

SECTION A: Agriculture and rural economics

BÁLÓ ANDRÁS:
THE ANDEAN COMMON AGRICULTURAL POLICY: A PIONEER OF AGRI-ENVIRONMENTAL PROTECTION?

[1]Department of Geography, Geoeconomy and Sustainable Development, Institute of International, Political and Regional Studies, Corvinus University of Budapest, Budapest, e-mail: andras.balo2@stud.uni-corvinus.hu

Abstract: Agricultural policy tends to be one of the very first areas countries try to work together in when it comes to starting a regional cooperation. This clearly is the case of the European Union and the 2 most important integration systems of South America: the Southern Common Market (Mercosur) and the Andean Community of Nations (ACN). ACN was formed on the example of the EU which led to the creation of the Andean Common Agricultural Policy (ACAP). The aim of this article is to provide an overview of the ACAP in comparison with that of the Common Agricultural Policy (CAP) of the EU based on literature review. Thanks to the green architecture of the CAP, the EU is largely seen as a pioneer of agri-environmental protection. The present paper seeks to answer the question whether the ACAP is following the path set by the CAP as regards agri-environmental measures.

Keywords: cooperation, harmonization, food security, green architecture, regional integration, South America

Introduction

Due to population growth and changes in eating habits, agriculture will be one of the key sectors for the common future of humanity. In the light of climate change, European consumers are also

expecting agriculture to take a more and more serious action, as a result of which the European Union's agricultural policy, the Common Agricultural Policy (CAP), is undergoing very significant changes. However, given that agriculture and food production-related sectors and services provide more than 44 million jobs in the EU, and that the agricultural sector alone employs 20 million people on a regular basis, the CAP itself must not be jeopardized.[1] The importance of the sector was recognized at the beginning of the European integration process and has become a real success ever since. European farmers provide the population with high-quality and affordable products. The Union's agricultural products, culinary traditions are world-renowned and, globally, the EU is one of the leading producers and net exporters of agri-food products. Thanks to its exceptional agricultural potential, Europe has the potential to play a key role in global food security, and it must play that role. The Union's budget figures show that Brussels is willing to undertake this task. In 2018, the EU supported farmers with € 58.82 billion, just over a third of its budget of around € 160 billion.[2] However, we must not forget that the European Union faces many challenges in the world in the field of agriculture. One of its strongest competitors is the Andean Community. The aim of this article is to provide an overview of the Andean Common Agricultural Policy (ACAP) in comparison with the Common Agricultural Policy (CAP) of the EU based on literature review. I build this article on a central hypothesis. I assume that the Andean Community does address the issue of agri-environment and regulates it, at least in part, at community level. However, according to my hypothesis, the Andean Community is

[1] https://europa.eu/european-union/topics/agriculture_hu
[2] https://ec.europa.eu/info/food-farming-fisheries/key-policies/common-agricultural-policy/cap-glance_hu

fundamentally neoliberal, and its main goal is liberalization, the dismantling of trade distortions and export subsidies.

The Andean integration process

The Andean Community (CAN) is a community of four South American states united by the common objective of achieving an autonomous, integral and more balanced development, through the Andean, South American and Latin American integration. The Andean integration process began with the signing of the Cartagena Agreement (*Acuerdo de Cartagena*) also known as the Andean Pact (*Pacto Andino*) on 26 May 1969, with the purpose of establishing a customs union within ten years (Aguirre Ochoa 2014, 6 p.). The member states of the community are Bolivia, Colombia, Ecuador and Peru. These countries are home to more than 100 million inhabitants and occupy approximately a quarter of the South American subcontinent. Additionally, the Southern Common Market (Mercosur)[3] states are associate members of the Andean Community since 7 July 2005 by decision of the Andean Council (*Consejo Andino*), while Mexico and Panama are observer countries (Aguirre Ochoa 2014, 3 p.). The Cartagena Agreement was signed with the purpose of improving the standard of living of the member states' inhabitants, through integration and economic and social cooperation. The number of member states of the Andean Community has been constantly changing: on 13 February 1973 Venezuela joined and in 2006 left the Community while Chile left it on 30 October 1976. The Andean integration process has gone through different stages. From a basically closed concept of inward looking integration, in accordance with the import substitution model (predominant in the 70's), it was reoriented towards an open regionalism scheme in the late 80's. At the

[3] The Southern Common Market (Mercosur) currently comprises Brazil, Argentina, Paraguay and Uruguay.

Galapagos meeting (1989), the leaders of the Andean countries approved the strategic design and the work plan on the new model of the integration, according to which the member states eliminated tariffs among themselves and formed a free trade zone in 1993 in which the goods circulate freely. Services were also liberalized, especially transport in its different modalities. Intra-community trade grew dramatically, and thousands of jobs were created. Changes in the world economy posed new challenges that required an institutional and structural reform of the Cartagena Agreement. Consequently, the Trujillo Protocol and the Sucre Protocol were signed. As a result of these reforms, the Andean Pact was replaced by the Andean Community created in 1997 (ibid., 6 p.). In 2007, at the Tarija Summit, the presidents of the Andean Community countries agreed to promote comprehensive integration that advocates a more balanced approach between social, cultural, economic, political, environmental and commercial aspects (ibid., 7 p.). Currently, the actions of the Andean Community countries are guided by the Guiding Principles (*Principios Orientadores*) and the Strategic Agenda (*Agenda Estratégica*) approved in 2010, as well as its Implementation Plan (*Plan de Implementación*).[4]

Objectives of the Andean Common Agricultural Policy

The objectives of the Andean Common Agricultural Policy are directly related to the general objectives of the Andean Community, both regulated by the Cartagena Agreement. General objectives are as follows:[5]

1. To **promote** the balanced and harmonious development of the member countries in conditions of equity, through integration and economic and social cooperation.

[4] https://www.aduana.gob.ec/comunidad-andina-can/

[5] http://www.comunidadandina.org/Seccion.aspx?tipo=QU

2. To **accelerate** growth and the generation of productive employment for the inhabitants of the member countries.
3. To **facilitate** the participation of the member countries in the regional integration process, with a view to the gradual formation of a Latin American common market.
4. To **reduce** external vulnerability and improve the position of member countries in the international economic context.
5. To **strengthen** subregional solidarity and reduce the differences in the development that exist among the member countries.

As mentioned above, the below goals of the ACAP are closely linked to the general objectives (Cartagena Agreement, Article 87, Chapter IX):

a) Improving the standard of living of the rural population;
b) Attention to the food and nutritional requirements of the population in satisfactory terms in order to ensure the least possible dependence on supplies from outside the subregion;
c) Timely and adequate supply of the subregional market and protection against the risks of food shortages;
d) The increase in the production of basic foods and levels of productivity;
e) Complementation and subregional specialization of production with a view to making better use of its factors and increasing the exchange of agricultural and agro-industrial products;
f) The subregional substitution of imports and the diversification and increase of exports.

Main decision-making bodies of the ACAP

Based on the previously mentioned Cartagena Agreement we can identify two types of decision-making bodies of the Andean

Common Agricultural Policy: 1. intergovernmental organizations, such as the Andean Presidential Council (*Consejo Presidencial Andino*) and the Commission of the Andean Community (*Comisión de la Comunidad Andina*) and 2. community organizations such as the Andean Parliament (*Parlamento Andino*) and the General Secretariat (*Secretaría General*) (Aguirre Ochoa 2014, 8 p.). The **Andean Presidential Council** is the highest level body of the Andean Integration System (*Sistema Andino de Integración – SAI*) that exercises direction over political decisions. It issues guidelines that are implemented by the bodies that comprise it. The **Commission of the Andean Community** on the other hand is made up of a plenipotentiary representative of each of the governments of the member countries. It is another regulatory body of the Andean Integration System whose legislative capacity consists of the adoption of Decisions (*Decisiones*), especially related to trade and investment. As for the community organizations, the **Andean Parliament** is the deliberative community body of the SAI. It represents the peoples of the Andean Community and is made up of representatives elected by universal and direct suffrage. It operates in the city of Bogotá (Colombia) on a permanent basis. The **General Secretariat** is the executive and technical body of the Andean Community and in this capacity acts solely according to the interests of the subregion. It has its permanent headquarters in Lima (Peru) (ibid.). Apart from the institutions mentioned above, there are two more bodies of the Andean Community dealing specifically with issues related to the APAC: the Council of Ministers of Agriculture (*Consejo de Ministros de Agricultura*) and the Agricultural Council (*Consejo Agropecuario*). The **Council of Ministers of Agriculture** is a coordinating, advisory and consulting body of the integration which meets on a regular basis in the framework of the **Meeting of Ministers of Agriculture** (*Reunión de Ministros de Agricultura*). The Meeting of Ministers of

Agriculture of the Member Countries is responsible for advising the Commission and making recommendations on:

a) The subregional policy for the integrated development of the agricultural sector;
b) The harmonization of policies and the coordination of national plans for agricultural development;
c) Joint agricultural development programs, common marketing systems and supply agreements for the sector's products, planning and execution of agricultural policy, export promotion, applied research, technical and financial assistance for the sector. and plant and animal health;
d) General compliance with the rules of the Cartagena Agreement and the Commission's Decisions relating to the agricultural sector (Art. 2, Decision No. 121).[6]

According to Article 3 of the Decision No. 121 of the Commission, the Meeting of Ministers of Agriculture shall pronounce itself through Resolutions (*Resoluciones*) and be held in an ordinary way in the fourth quarter of each year and in an extraordinary way at the request of the Commission, the Board[7] or one of the Member States, after consulting the other countries. The **Agricultural Council**'s task is to advise the main bodies of the Cartagena Agreement on the harmonization and coordination of national policies, the preparation of the corresponding joint programs and actions, and the analysis of the progress of integration in the agricultural field (Art. 1, Decision No. 76).[8] It holds two ordinary meetings a year, one of which has the main

[6] https://www.derechoteca.com/comunidadandina/decision-121-reunion-de-ministros-de-agricultura-de-los-paises-miembros/

[7] Board of the Cartagena Agreement (*Junta del Acuerdo de Cartagena*)

[8] https://www.derechoteca.com/comunidadandina/decision-076-creacion-del-consejo-agropecuario/

function of preparing the upcoming meeting of the Ministers of Agriculture and must be held no less than two months before the aforementioned meeting (Art. 8, Decision No. 121).

Main instruments of the ACAP

The Andean Community created and adopted three different instruments to achieve the objectives of the ACAP: 1. the Andean Price Band System (*Sistema Andino de Franjas de Precios – SAFP*), adopted by the member countries in November 1994, as a result of the Decision No. 371[9] from November 1994); 2. the Andean Agricultural Security System (*Sistema Andino de Seguridad Agropecuaria – SASA*, adopted by the Decision No. 515[10] in March 2002), which establishes the criteria, principles and procedures to protect the health of animals and plants and to facilitate the trade of these products; and 3. the system for monitoring the agricultural sector policy of the Andean Community states through a set of indicators and other mechanisms (Otero, s/f; Briceño 2000 in Anido 2008, 24 p.). The **SAFP** aims to stabilize the cost of importing a special group of agricultural products, which are characterized by their price instability in international markets. This stabilization is achieved by increasing the *ad valorem* tariff when the international price is below the floor level, or by lowering said tariff to zero when the price in question is above the ceiling of the band. The price band is equivalent to converting the tariff into a variable factor that is automatically adjusted to counteract external fluctuations in the international price (CAN, 2007e in ibid.). The SASA on the other hand is "(…) the set of principles, elements and institutions, which is in charge of harmonizing

[9] http://www.sice.oas.org/trade/junac/decisiones/dec371s.asp

[10] http://www.desarrolloeconomico.gov.co/sites/default/files/marco-legal/Decision-CAN-515.pdf

sanitary and phytosanitary standards; improving animal and plant health; contributing to the improvement of human health; facilitating the trade of plants, plant products, regulated articles, and animals and their products; and ensuring compliance with the regulations on this matter" (CAN, 2007f in ibid. 25 p.). Last but not least, the system for monitoring the agricultural sector policy of the Andean Community states refers to the monitoring of the different protection measures adopted by the Andean Community Member States, which is carried out through the so-called Indicators of Support to the Agricultural Sector (*Indicadores de Apoyo al Sector Agropecuario - IASA*) and other instruments that allow locating the differences in the conditions of competition on which harmonization proposals can be made (World Bank, 2007 in ibid. 27 p.).

Agri-environmental protection in the framework of the ACAP

The Andean Community has a long tradition of agri-environmental measures. The first and only regulation of the field the Decision No. 182[11] on the Andean "José Celestino Mutis" System on agriculture, food security and environmental conservation (*Sistema Andino "José Celestino Mutis" sobre agricultura, seguridad alimentaria y conservación del ambiente*) elaborated on 25 July 1983. Article 15 of the Decision regulated the 5 main objectives of the System as regards agri-environment:

1. the rational use and management of soils, forests, fauna and flora;
2. the rational management of river basins, as well as the surrounding forests and pastures;
3. environmental education programs in relation to the problems of soil conservation and renewable natural

[11] http://www.fao.org/faolex/results/details/en/c/LEX-FAOC079243/

resources, as well as the participation of the population in carrying out conservation practices;

4. agreements between two or more countries for the protection and development of hydrographic basins, including reforestation programs and other activities that contribute to the better use of natural resources;
5. systems and agreements for the protection and defense of maritime areas against pollution and the conservation of their biological resources.

The Andean "José Celestino Mutis" System was designed as a set of actions that allows to protect the member countries against the risks of food shortages and to meet the food and nutritional needs of the population, through improvements in production, productivity, technology, establishment of reserves, commercialization, and food consumption. Most of the general objectives of the System defined in Article 2 of the Decision No. 182 are related to production, food security, and trade. The list of objectives only contains one goal which is directly related to agri-environmental protection. The last point l) aims to *"promote policies and joint actions for the use and conservation of hydrobiological, forest and related natural resources"*. The Meeting of Ministers of Agriculture is responsible for the formulation of the Andean Community's agri-environmental policy as well as for the implementation of the System. For the adoption of specific measures related to the System the Commission can hold Extraordinary Sessions (*Sesiones Extraordinarias*) with the participation of the Ministers of Agriculture as plenipotentiary representatives accredited by the governments of the member states. The Board of the Cartagena Agreement provides technical support and presents proposals, studies or evaluations that contribute to the development of the System. The Agricultural Council, made up of high-level representatives of the Ministries of Agriculture of the member states, provides advice to the bodies of the Cartagena Agreement

and the Ministers of Agriculture regarding the harmonization and coordination of national policies, preparation of programs and joint actions in the agricultural sector and, in particular, in the area of the Andean "José Celestino Mutis" System. It also cooperates in activities related to the application of Decision No. 182 and the evaluation of its operation. The member countries coordinate everything concerning the execution of the activities related to the Decision.

Agri-environmental protection in the ACAP and the CAP in comparison

When comparing the ACAP with the CAP, important coincidences are observed regarding their primary purpose. The ACAP's initial goal was to achieve food security, along with the idea of consolidating exports of primary and agro-industrial products, inside and outside the bloc. In the case of the CAP, it was also about improving the level of food security, which fundamentally required organizing and liberalizing the domestic agricultural market, together with border protection. The latter was considered an essential condition for increasing the competitiveness of European agriculture that time (Izam and Onffroy, 2001 in Anido 2008, 33 p.). Thanks to the CAP, the national agricultural policy measures of the EU countries have been merged into a common policy, while it was possible to consolidate a common market for agricultural products. In contrast to this, in the case of the ACAP, little progress has been made towards the consolidation, merger and harmonization of country-level agricultural policies and a supranational regulation that minimizes trade distortions in the markets (García, 2007 in Anido 2008, 34 p.). The main reason behind this slow development was the heterogeneity of the individual agendas of the Andean Community member countries. The repeated practice of applying safeguards and sanitary and phytosanitary measures between the

Andean Community countries themselves has also been an important barrier (ibid.). Another important difference between the ACAP and the CAP is the differential treatment of individual countries. The CAP treats the MSs differently according to the development level of each country (Izam and Onffroy, 2001 in Anido 2008, 34 p.). It differentiates by country, region, type of production and category of producers, using different instruments depending on the case and all financed by EU funds, being of a supranational nature. In contrast to this, the ACAP does not make a difference between individual states, denying in practice the asymmetries of their agriculture, in addition to having a preponderantly intergovernmental character. The CAP developed into a single common policy, which allowed the consolidation of the common agricultural market. Its implementation meant important structural changes, among which are the decrease in the number of farmers, the increase in the average size of farms and the increase of agricultural production (ibid.). The ACAP on the other hand has been treated as part of the national agricultural policy of each member country and could not achieve the same secondary effects. As for financing, while in the CAP the tendency has been to favor the financial conditions of small and medium-sized farms, in the case of the Andean Community there is no clear distinction between the target actors. Small and medium-sized agricultural enterprises and cooperatives are often unaware of the possibilities in terms of tariff and financing incentives offered by the integration process (Anido 2008, 35 p.). Overall, the Andean Community's environmental measures are exhausted by comparing national environmental regulations, mapping differences, asymmetries, harmonizing and dismantling rules that negatively affect food security. The Andean countries concentrate on food security more than anything else. The Andean "José Celestino Mutis" System was a big step forward but it cannot be compared to the greening measures applied by the European

Union. Basically, the ACAP's current logic corresponds to that of the CAP at an earlier stage followed in the 1960s until the MacSharry reforms. Another similarity is that both the European Union and the Andean Community started to recognized the adverse environmental effects of intensive agriculture since the early 1980s however while the CAP elaborated its ambitious greening architecture including the greening payment and different rules on permanent grassland, crop diversification and ecological focus areas, the Andean "José Celestino Mutis" System remains basically unchanged regulating only the main objectives of agri-environmental protection in the region and containing a set of actions that allows to protect the member countries more against the risks of food shortages and to meet the food and nutritional needs of the population.

Conclusion

The aim of this paper was to give a short insight into the Andean Common Agricultural Policy (ACAP) and to compare it with the Common Agricultural Policy (CAP) of the EU based on literature review. During the review process, we basically used primary legal sources such as Decisions No. 76, 121, 182, 371, 515 of the Commission of the Andean Community. Our first hypothesis assuming that the Andean Community does address the issue of agri-environment and regulates it, at least in part, at community level has been confirmed. The Andean "José Celestino Mutis" System regulates the 5 main objectives of the Andean agri-environmental measures and the institutions responsible for their realization. The member countries coordinate everything concerning the execution of the activities related to the Decision No. 182 on the Andean "José Celestino Mutis" System. These actions however are exhausted by comparing national environmental regulations, mapping differences, asymmetries, harmonizing and dismantling rules that negatively affect food

security. Food security is considered to be the main goal of the Andean Community, thus my second hypothesis has only been partly confirmed. According to the legal references we analysed, the Andean Community is basically neoliberal but its main objective is not liberalization, nor the dismantling of trade distortions and export subsidies. The European Union's agricultural policy, the Common Agricultural Policy, on the other hand, is multifunctional, inspiring detailed, increasingly stringent agri-environmental measures. The European Union's agricultural policy, the Common Agricultural Policy, on the other hand, has detailed, increasingly stringent agri-environmental measures including the greening payment and different rules on permanent grassland, crop diversification and ecological focus areas. According to its tools the Andean "José Celestino Mutis" System resembles the agri-environmental measures elaborated by the Mercosur countries in their Framework Agreement on the Environment (*Acuerdo Marco sobre Medio Ambiente*) of 22 June 2001 more than the greening architecture of the European Union, however the confirmation of this idea would certainly need further studies and research.

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BORBÉLY CSABA: INVESTIGATION OF FOOD WASTE IN HUNGARIAN HOUSEHOLDS[12]

borbely.csaba@uni-mate.hu
MATE Kaposvár Campus, associate professor

Abstract

Our current existence on the Earth raises a number of contradictions such as our relation to food. According to the FAO, a third of the food produced does not reach the consumers, according to calculations by the Word Resources Institute, although if we reduced losses by a quarter, 795 million people would have enough food to feed. This controversial situation gives topicality to the topic, which will only grow as the Earth's population grows by about 80 million people a year and our resources for our nourishment are finite. In our research we focused on households within the topic area of food waste generated in the supply chain. This focus of research is considered a difficult one because results could be found only with data logging and this method has several limitations which could be distorting the results. In our research 20 households in Kaposvár were asked to log the amount of their food waste for 14 days. We set up five hypotheses before our research.

Keywords: food waste and loss, hungary, houshold,

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Introduction

The issue of food waste is one of the serious problems of modern social existence. We will probably not find in the history in which there would have been no loss of food, but what we are experiencing today is, to put it mildly, unprecedented in the history of mankind. It is also clear that the problem manifests itself differently in different societies around the world, but we find no lossless food use anywhere. Economic development, personal tastes, the bad instincts and habits that go with it, the technology available at different stages of the supply chain, along with many other factors, give a nuanced picture of food waste in different parts of the world. We live in a Janus-faced world: while hunger and the consequent secondary diseases are destroying populations in some parts of the world meanwhile in richer societies the overweight - in many cases pathological overweight - and its consequences are high on the list of health problems. The population of our earth is growing unstoppably and the burning question is how we can provide food for growing populations. We still have reserves in our productive resources, but their limitations are not an issue. Food wastage has been identified as a solution in many places as a treatment option for a given problem. We can see a staggering amount of losses, the problem has risen to a level that we may no longer be able to deal with on a human scale. In many places, we can see government or civil initiatives that are predominantly local to address the problem. With our work, we want to support this activity with objective data and, last but not least, to confirm that the problem is extremely big in this area as well.

Material and Methods

In the methodological part, we would like to clarify why we repeated - with a lower number of items - a research that had already been carried out in Hungary (NÉBIH "Without a

Remnant" project), and despite the fact that there were already international surveys (eg FUSIONS), where expert estimates have been made of domestic food waste in households. The main argument was that although there was already such a domestic survey, there was only one of them, so there was a chance that different directions in terms of results would emerge. Knowing the results of the NÉBIH "Without a Residue" project, it can also be stated that we analyzed different background variables in the two researches, different partial results were obtained from the two researches. Comparisons with other research results can be problematic because they do not always work with the same methodology, and in many cases the definition background does not match. Nevertheless, we have found that in the international literature - perhaps precisely because of the low number of studies giving primary results - they almost always refer to the results of research conducted with a different methodology, and we did this in the case of the first hypothesis. In our work we used primary and secondary data sources.

Primary research

In our research, we used a logging method in 20 households in Kaposvár. It can be stated that the larger number of items would have exceeded the available resources (the NÉBIH project with much better opportunities also "interviewed" only 100 households). The decision on the number of items was thus determined by the possibilities, but at the same time it was clear from the evaluation that the results of a set containing outstanding data were strongly influenced by these values. The possibility of data cleansing also arose, but knowing the international data, we estimated that none of the data sets contained extremely high values (e.g., the highest value in the research is approximately the same as the national average in the UK). Another argument in favor of keeping the entire database was that none of the

participants indicated that they did not understand something, something would have slipped into the survey, even though this option was available to them. Thus, overall, we decided to use data from all 20 families in the evaluation, however, we found that the literature that breaks the stick with a low number of items takes a statistically high risk. Participants applied for the survey partly on a voluntary basis and partly on a personal request. We tried to provide all participants with appropriate information, which meant a personal conversation as well as additional information in printed form. Participants in the project were provided with a digital kitchen scale that they could keep after the survey. In the case of the participants in the research, we could not strive for representativeness, so the obtained results can only be considered accurate for the given group, in all other cases it is only informative information.

Respondents had two options to categorise their waste: 'non-avoidable food waste' and 'avoidable food waste', which was only partly identical with the method used in the NÉBIH *(Szakos D. – Szabó-Bódi B. – Kasza Gy., 2019)* project. Non-avoidable food waste includes food parts which are generally not considered edible (e.g. egg shell, bones, potato peel). Avoidable food waste products are those which were not consumed in spite of the fact that there had been nothing wrong with them originally. We believe this is the more significant of the two categories because the foods listed here are those that we identify as classically discarded food. The results were recorded in Microsoft Excel data tables and evaluated using the given program. We did not enter into a deeper correlation econometric analysis for two reasons: on the one hand, due to the low number of items, and on the other hand, the vast majority of research on the topic only examines the extent of specific annual food waste and loss.

Secondary research

In terms of secondary sources, we relied primarily on Internet databases. Of these, we used in our work: EUROSTAT (https://ec.europa.eu); the website of the Central Statistical Office (www.ksh.hu). In addition, we reviewed a number of related Internet portals and journals.

Results and Discussion

After reviewing the literature and the research carried out on this topic at the Kaposvár Campus of Szent István University, we set up five hypotheses before our research:

H1: The amount of food waste generated in Hungarian households does not exceed the EU average.

H2: Households cooking several times a week produce less food waste.

H3: Households including a family member with a special diet of some sort produce a smaller amount food waste.

H4: The more children a family have, the larger amount of food waste is produced.

H5: Households of retired persons generate less food waste.

The amount of food waste

During the analysis of the database, first we examined the general results of the logging data of the survey participants, which - due to the same methodology - are well comparable with the results of the NÉBIH "Without Remnants" program (Table 1.).

Table 1. Composition of food waste in own research and in NÉBIH project

Name	Own research (kg)	NÉBIH project (kg)
Avoidable food	26,1	33,1
Non-avoidable	36,4	32,1
Potentially	n.d.	2,8

Source: Own research (2018) and Szabó-Bódi – Kasza (2017)

In our first hypothesis we stated that the food waste of households in Hungary is lower than the EU average. This assumption was based on a 2010 European Commission report (European Commission, 2010), which analyzed food wastage in the then 27-member EU, based in part on national statistics and in part on expert estimates, supported, inter alia, by data tables. In this survey, the EU average of food waste generated by households was 76 kg / person / year, while the domestic estimate was 39 kg / person / year. Comparing our research results, we used the results of an EU project, "Fusions" (Stenmarck Å et al, 2016), in which the amount of food waste at different stages of supply was estimated for the EU-28 (Table 2.). We chose this project because we wanted to work with the most up-to-date data possible for the whole of the Union.

Table 2. Amount of food waste in the supply chain (EU-28)

Sector	Food waste and loss	Food waste and loss (kg/capita)
Production	9,1	18
Processing	16,9	33
Commerce	4,6	9
Restaurants	10,5	21
Households	46,5	**92**
Altogether	87,3	173

Source: Stenmarck Å et al, 2016

Comparing our result (62.5 kg/per capita/year) to the result of a survey made across several countries (92 kg/per capita/year) we can conclude that our first hypothesis is confirmed, i.e. the amount of food waste in Hungarian households is lower than the EU average.

The effect of cooking on the amount of food waste

Our second hypothesis was that households that cook more than once a week generate less food waste. Numerous websites, according to a study, regular cooking at home is one of the main solutions to reduce losses, as it creates an opportunity for recycling. The relevant background variable of our questionnaire (Do you bake or cook at home?) Provided respondents with five options: (yes, every day; yes, several times a week; yes, once or twice a week; yes, but less often than weekly; hardly or never this happens). When evaluating the results, we found that all participants cook at least once a week, so no one was classified in the last two categories. Knowing the effect of cooking and baking on food waste, we made another statement within Hypothesis 2 before we started to analyze the results. The possibility of cooking and baking can be recycled from previous food scraps, in addition, in the case of food made according to one's own taste, presumably less leftovers are generated. Another advantage is that those who cook for themselves or their families can calculate the planned amount well, which also points in the direction of decreasing food waste. For this reason, we consider it logical that we can count on less "avoidable" food waste, but at the same time there will be more "by-products" and "unavoidable" waste during cooking and baking (egg, potatoes, vegetable peels). The results are shown in Table 3.

Table 3. The effect of baking and cooking on the amount of food waste

Baking, cooking	Avoidable waste (kg/capita/year)		Non-avoidable waste (kg/capita/year)	
	Érték	Szórás	Érték	Szórás
Every day (n = 4)	35,23	43,75	46,17	12,22
Several times a week (n = 12)	24,52	18,37	29,94	22,09
Once or twice a week (n = 4)	21,58	19,07	46,14	40,50

Source: Own research (2018)

[1]*Mean without extreme value in the given group (n = 3).*

The data in Table 3 basically did not confirm our assumptions. We believe that the low number of items already makes its mark on the results, but since all 20 data recordings were professionally good, we did not question what was described in it. However, there was a family where I saw very high values compared to the others. Six people live in this family (2 active adults, 2 retirees, 2 school children) with an annual total food waste production of 136.64 kg / capita, of which the avoidable loss was more than 100.77 kg / capita.

On the whole, our results do not completely confirm this hypothesis. Based on our data this hypothesis should be discarded but after filtering out the extreme values and with a larger item number it would be probably possible to confirm the second hypothesis.

Food waste habits of special diets

In our Hypothesis 3, we used the assumption that if there is at least one person in the household who requires a special diet, the amount of food waste there will be less than the average of those on a normal diet. In our research, special diets were mainly people with gastroenterological diseases (lactose, flour sensitivity, long-term diet after surgery), diabetics, or dieters. Our hypothesis was based on the assumption that they could not eat everything, and in many cases they could eat from narrow food selection and these foods are very expensive in most of cases. In our survey 7 of the 20 respondents indicated that someone was living on a special diet in their household. Based on previous research results, we hypothesized that in this group, beyond the basic idea of Hypothesis 3, the amount of avoidable waste is smaller, while the amount of unavoidable waste is higher than the average of all fillers. In our opinion, the more expensive ingredients and the narrow range of dishes made from them encourage the members of this group to pay more attention and save money.

Tbel 4. Food waste habits of special diets in our research

Name	Avoidable waste (kg/capita/year)		Non-avoidable waste (kg/capita/year)	
	Value	Dispersion	Value	Dispersion
Special diets	17,33	19,36	31,90	21,19
Normal diets	30,78	25,69	38,86	27,51

Source: Own research (2018)

From the data in Table 4, it can be concluded that the amount of food waste for those following a special diet was 49.23 kg / person / year, which is almost 20 kg less than for those on a normal diet.

Within the results, the amount of avoidable waste in the case of special diets is significantly lower than in the case of normal diets, which is also considered logical. Foods made from expensive, sometimes hard-to-obtain raw materials are valued more by those concerned than those that can be bought at normal prices in almost every commercial unit.

On the whole, this is confirmed by our findings: in households where there is at least one person following a special diet, the total amount of food waste is lower. In addition, we concluded that the lower amounts in the "avoidable" category could possibly be attributed to the specific and more expensive food products.

The effect of the number of children on the amount of food waste

In the survey 12 of the 20 households had children under 18 years of age. In our Hypothesis 4, we assumed that the presence of a child in the household increases the amount of food waste, and as the number of children increases, the amount of waste per capita also increases. According to the literature, the taste world, which in many cases varies from child to child, is one of the main reasons for the generation of household food waste. Our research experience has shown that the amount that cannot be avoided depends on a number of factors, so in this chapter we have focused primarily on the avoidable amount that is actually wasted.
In the methodological chapter, we stated that the research was not representative, however, it is necessary to state that the results obtained are therefore informative. The values in Table 5. only partially supported our hypothesis. The amount of avoidable food waste shows an actual increase across three categories, however, this trend seems to be reversed for families with three children. In this group, the results of only two families are included and the value of one can be said to be relatively low in the examined category (10.19 kg / person / year).

Table 5. The effect of the number of children on the amount of food waste

Name	Avoidable waste (kg/capita/year)		Non-avoidable waste (kg/capita/year)	
	Value	Dispersion	Value	Dispersion
No children	13,09	8,97	34,79	22,10
1 child	27,11	20,77	43,93	33,51
2 children	58,85	37,49	25,35	21,56
3 children	25,20	21,23	33,34	10,51

Source: Own research (2018)

This hypothesis is only partly confirmed by our findings but we assume that with a larger item number the extreme values would not distort the results of the groups to such an extent and the hypothesis could be confirmed.

Food waste habits of retirees

Some literature highlights that retirees treat food less wastefully than other groups in society. In our study, we meant a retired household where there are no family members of other ages. Two families met this criterion. In addition to the basic hypothesis, we again made additional assumptions, namely that retirees can devote more attention and time to the process of food procurement, cooking, and storage. More thoughtful shopping, more cooking per week, well-planned quantities and careful storage and residual use characterize this group. In Table 6., the households participating in the study were divided into two groups accordingly. The research results support the hypotheses, although it was somewhat surprising that the amount of total waste was

higher, albeit to a small extent, for retirees. The category that is considered more important to us, avoidable food waste is approximately half of the active group, while in the case of unavoidable waste, retirees throw away almost 50% more. The latter higher value can be attributed to the fact that this group is likely to cook more than once (in one household every day, in the other several times a week), which necessarily leads to more unavoidable losses.

Table 6. Retirees v. active people food waste habits

Name	Avoidable waste (kg/capita/year)		Non-avoidable waste (kg/capita/year)	
	Value	Dispersion	Value	Dispersion
Retirees (n=2)	13,59	2,78	49,66	7,61
Active poeople (n=18)	28,97	25,01	40,48	26,07

Source: Own research (2018)

On the whole, our fifth hypothesis is confirmed by our findings: households including only pensioners produce less non-avoidable and more avoidable food waste, which results from the fact that pensioners cook more often than the members of the control group.

Conclusions

In many places, many times, the practices of controlling food waste generated in households have been described, we can find many good practices, the application of which could lead to meaningful results. We have found that these practices are familiar to most people (e.g., shopping with a pre-compiled list, reviewing the refrigerator regularly, recycling options, etc.) but are not used consistently and regularly. Why don't we pay more attention to a

problem that occurs every day? Why do we only think about trouble when we have a hurtful conscience after throwing out more food? For a better understanding of the problem, figure 7 shows the process of action against food waste.

In our view, the biggest problem right now is in the first stage: although people still perceive the problem, which can trigger action on an ad hoc basis, they are not really aware of the seriousness of the issue, so the perception phase is missed by many. In order to achieve a meaningful and lasting result, we need to move on at this point, we need to explain to people how serious the situation is in the area of food waste. There are many aspects to food waste. We see two points of intervention that can be used to reach most people in the 21st century today (without, of course, giving up all other options to improve the situation).

The first area is environmental protection and the sustainability that can be closely linked to it, but perhaps a more sensitive reaction can be elicited by presenting the economic side of the situation. After elaborating on the content of these two main strands, people should be addressed with the results obtained. This information should be the responsibility of all concerned: government agencies, NGOs, educational institutions, everyone who comes into contact with food waste and considers it their responsibility to minimize it.

Campaigns and information events need to be launched in an organized and coordinated way to capture information in people and trigger daily routines with which they can effectively and permanently reduce the amount of food waste.

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ORSOLYA GERGELY – ANDREA ZERKULA
RESTART - THE IMPACT OF PANDEMIC ON FEMALE ENTREPRENEURS FROM SZEKLERLAND

Orsolya Gergely, PhD., Sapientia Hungarian University of Transylvania, Department of Social Sciences, gergelyorsolya@uni.sapientia.ro

Andrea Zerkula, MA Student, Sapientia Hungarian University of Transylvania, Communication and Public Relation, zerkulaandrea@uni.sapientia.ro

Abstract
A crisis affects the present but even the future of a community, a region, or a country. The COVID-19 crisis has a huge impact not only on the current business performance, but also on its future. The "forecast" is not so promising: expectedly three from four businesses without a continuity plan probably will fail within three years after the pandemic. While nature of the challenges is similar across businesses, international studies show that women and youth-led businesses seem less resilient against this crisis. This paper explores what kind of social-economical effect had the COVID-19 pandemic on the female entrepreneurs from Szeklerland, a rural region in Romania. Our paper is based on a small-scale online research, which was conducted among female entrepreneurs during the first 2 months of the pandemic (March-April 2020). Our aim is to describe the situation of the female entrepreneurs, to present their special case, their reaction and strategies regarding to the pandemic.
Keywords: entrepreneurship, female entrepreneurs, SMEs, COVID-19, motherhood

1. Introduction

After March 2020 numerous research reports and analysis articulated the fact, that the pandemic has affected women and man differently (Fisher et al. 2020; Nistor et al. 2020, Geambaşu et al. 2020 etc). Even if this period has been a huge challenge for everybody, it seems that women were challenged in more heavy and complex ways since March 2020 (Geambaşu et al 2020a, Nistor et al 2020, Fodor et al 2020). What can be the reason for this? The first answer can be found in labour market segregation: the majority of the employees in health and social sector are typically women. The second answer can be searched in the traditionaly household task division: women usually take on the bigger part of household and home care tasks (Koltai et al. 2020). The COVID-19 crisis stuck the everyday life considerably, but for women with small child or children was a huge task increase, wich caused big difficulties for every mother, but especially for working mothers (Geambaşu et al 2020, Nistor et al 2020). And bigger difficulties for female entrepreneurs. Numerous analysis have presented how women have to face the new situations brought by the homw office, home school or increased housework tasks (Fodor et al. 2020, Nistor et al 2020). But what about women who run businesses? Even in normal periods harmonazing the private and family responsibilities with the entrepreneurial activity can be a complexe management task (Hyytinen & Russkaren, 2017). Even when the course of life was ordinary, for female entrepreneurs was a bigger challenge to cope with a child care duties and housework, than for male entrepreneurs (Geambaşu-Gergely 2018, Gergely 2020). But in this period they had also to face much bigger difficulties in all fronts: in business, in family and regarding to the persona mental health as well, all these in the same time. The business had to be closed down for short or longer period, the lockdown had a negative impact on their business activity. So that can be said, that because of the COVID-19 situation female

entrepreneurs had to face multiple challenges (Koltai et al. 2020). The economic crisis caused by the pandemic had a negative impact on four from five (79%) of the women-led businesses. One from ten (11%) had to close their business due to the covid-19 situation, two from three reported a deterioration of their situation, and only 8% said that the business improved thanks to the covid-19 situation (Koltai et al. 2020: 6)

2. Women before and during pandemic

2.1 Women – the reserved army of the labour market

In Romania the labour market opportunities during the comunism for the female population was worse than for the male population, and this disadvantage has not been worked out so far (Geambaşu 2004, Gergely 2020, 2021). The expansion of the global market, the development of international supply systems and the increasingly strong development of a profit-oriented market have generated market competition at all levels in terms of wages and working conditions. This is particularly striking for women working in the textile and clothing industries: women working in these industries tended to work for low wages, not infrequently working overtime, in less secure and even less unhealthy conditions (Gergely 2021). At the same time, however, the textile industry provides the status of an employee and, in many cases was an opportunity to break out. In this industry, norms have remained surprisingly unchanged in both time and space, and often still face the same challenges for workers, activists, decision-makers, and international organizations today as they did two or three, or even five or ten decades ago (Gergely 2021). Socio-historically, textile and clothing companies were also at the forefront of the heyday of industrialization, as the start-up costs of this type of business were relatively low and no highly skilled workforce was required for production. And it was also able to win the labor surplus relatively cheaply among the rural population, which was forcibly separated from agriculture after 1950 in Romania. And even the female

population was pleased because the textile work provided an opportunity for rural women to participate more actively in the formal economy. Provided the entry point, but not the breakout point. Because there are few examples of vertical upward mobility in terms of labor market stratification, but downward mobility was much more common, as if married, a woman was almost obviously left out of the labor market, and reintegration was even more difficult than the entry. While the transition from agriculture to industry and from household to factory production meant a really steep and not simple change, the unpaid and undervalued work of the woman who runs the households, manages the logistics of daily family life, and takes care of homes and children, has remained unchanged. But his paid work was not as much as that of men: the XX. At the beginning of the twentieth century, women working on looms earned, on average, about 40 percent less than their male counterparts, who also worked in a similar industry. It also strengthened and defined the status of women in the labor market: the secondary, complementary and temporary role of women, Only the reserve army of the labor market was made up of workers in the textile industry, and if more crisis times arose, they could be laid off as soon as possible. And the situation is quite similar even after 100 years, according to the Romanian National Statistical Institute, in June 2020, there were 457,000 officially registered unemployed, 100,000 more than a year earlier. Two-third of the employees who have lost their jobs in the past year are women. All of this paints a very negative future perspective for us: women's labor market activity is declining, which could lead to, among other things, the loss of status within the family, not to mention the families' financial problems. In practice, it has pushed back gender equality movements for decades. Thus, there is an urgent need to develop policies and strategies that provide an additional social protection system for women and mothers raising their minor

child (ren), often in the event of economic crises and mass redundancies (Gergely 2021).

2.2 The womanish face of COVID-19

According to a qualitative research conducted among women living in Hungary and Romania, who were working from home together with their partner during May 2020 and who were also rising at least one child having age between 2-14 years, perceived the time spent in quarantine at home as a big an positive opportunity to have time for the family, to be much more present in their children's lives as in pre-pandemic times (Geambaşu et al. 2020). Dealing with the home schooling and being able to handle the work, without question multiplied the burden on mothers (Geambaşu et al. 2020). The pandemic period was not the cause for the unequal gender division of unpaid and invisible domestic work, but the COVID-19 period and mainly the quarantine, when all the educational institutes were closed, reinforced and deepened preexisting gender inequalities (Geambaşu et al. 2020: 156). For all the mothers, regardless the country and the job they had, their lives had been challanged and changed radically, but the the lives of their spouses/partners were not changed in the same proportion. All these put women under significant pressure from several directions: on one hand the social distancing, ont he other hand working from home, nevertheless the permanent presence of the children and the need for childcare, and last but not least the challenges regarding the homeschooling (Geambaşu et al. 2020: 156). And there is no doubt that this chaotic period had a very negative impact on their mental health (Geambaşu et al. 2020: 156).

3. Home office versus home schooling

According to the results of a survey conducted among female entrepreneurs during COVID-19 pandemic in June 2020 in Central and Easter Euriope, the majority of the increased tasks has fallen

on the shoulders of women and mothers (Koltai et al. 2020). Even if every second woman reported that she did not spend less time on their business after the epidemic period started, the half of the female entrepreneurs could spend less time for their business than in the pre-pandemic period (Koltai et al. 2020: 5n). One of the reason is that female entrepreneurs spent less time on business during the epidemic on one hand because the declining of the orders and decline in demand, on the other hand and in equal proportion because of the household and care duties which increased significantly (Koltai et al. 2020). And they were almost left alone with these increased task-menegment: almost three quarter of the household task and child related responsabilieties (70-75%) were their sole responsibility in the family (Koltai et al 2020). This study conducted among female entrepreneurs from seven European countries[13] showed also that on an average weekday – compared with the perioed before March 2020 those female entrepreneurs who were raising a child under seven year spent with one and a half hours more time on a day with caring for children, and also with one more extra hour doing household tasks. But for those women who were raising at least one child who is going to school already, the picture is even more dramatic: those female entrepreneurs whose child or children were in school, thes spent more than 120 minutes more on caring and as well 60 minutes more on housekeeping. This result a total of 90 minutes less time for their business (Koltai et al. 2020). If we compare these numbers to the pre-pandemic data, we can observe a 20% of time loss, which means that woman could allocate much less time for their busines. It seems that this period was the greatest challenge for female entrepreneurs raising school children, since they had to put with nearly 3 hours daily in the family and houshold, we can

[13] Countries include in the Hétfa research were: Austria, Bulgaria, Czech Repucblic, Hungary, Romania, Serbia and Spain.

said that they „sacrificed their businesses for home education" (Koltai et al. 2020: 6).

4. Data Collection

Our online survey was conducted during April-May 2020, and focused on the situation caused by the pandemic for female entrepreneurs. Through this online survey, we aimed to determine how female entrepreneurs[14] coped with the difficulties caused by the COVID-19 pandemic. The non-representative online survey was distributed throughout Transylvania in special Facebook groups and female entrepreneurial networks. In total 84 female entrepreneur[15] filled out the questionary[16]. In this paper we will focus only on the results of the open-ended questions: (1) what happened with the business during the pandemic, (2) what were the biggest challenges during this period, and (3) what kind of future perspective can be drawn according to the female entrepreneurs.

5. Results

5.1 Negative impact on the entrepreneurial activity

The respondents[17]' businesses had declined during the pandemic. 90% of those who had to temporarily close or suspend their business, approximately 90% were unable to continue their activities. These results indicate that the situation had negatively affected the production and services of all entrepreneurial companies regardless of how their operations had changed since

[14] In the present study, we considered entrepreneurs who ran a firm either alone or with partners, which was their main source of income.

[15] The respondents were female entrepreneurs having age between 22–59 years, and they had started their businesses after 1989 and before 2020.

[16] We used a Google questionary which contained 30 questions, and it was available from 2 April to 20 May 2020.

[17] Nearly three-quarters of respondents have less than ten employees, i.e., the majority of our respondents are owners of micro-enterprises. There are few who own small businesses (the number of their employees are between 9 and 50) and there are two persons, whose business reached the medium-size (more than 49 employees, but less than 250 employees).

the onset of the pandemic. Moreover, the results shows that the pandemic had burdened not only businesses but also employees: employees were required to take compulsory leave mainly in the commercial sector.

The data analysis revealed that one of the biggest challenges for entrepreneurs even before the pandemic was the administration, however, during the pandemic, the tax requirements, returns and payments doubled. Moreover, several other problems had emerged, such as switching to online sales, keeping up employee morale, and producing for customers at this time, which made administration even more difficult. The next most frequently mentioned problem was the suspension of activities, the ensuing financial difficulties, and the number of cancelled events. Nearly half of the enterprises had sufficient financial reserves for one to three months, 15% for less than one month, and a small percentage had sufficient financial reserves for more than one year. These results indicate that the female entrepreneurs were not prepared for an income loss of this calibre.

5.2. The dissapearence of the clients

The other big challege was the disappearance of the clients. Moreover, it was difficult to meet the needs of clients, and it was difficult to find new clients. The difficulties listed below affected the individual rather than the business. In many cases, the lockdown, problems with the lockdown period, a lack of personal connections, and the inability to go outside in peace have emerged. Implementing work-life balance during quarantine has also been a challenge for women entrepreneurs. Several respondents indicated that it was difficult to work from home with young children and to manage their learning at home. Most respondents mentioned the "uncertain future": the uncertainty, the lack of prospects in the complicated situation caused by the pandemic, and the

impossibility of knowing when could be restarted the businesses activity.

5.3. What future holds

Despite the problems and challenges listed almost a third of the women entrepreneurs were positive about the future. Some respondents had experienced this situation as a creative period, and they had time for plans and redesignt. Some realised that in the future, their business would need safety net and savings, to be more prepared for such situation. Overall, the respondents expressed a positive outlook on the future. The majority pointed out that it would be a long process until their business will recover to the pre-pandemic level.

One third of the respondents expressed that they have to be prepared to accept the fact that they might have to close their activity for good. During this period (April and May), missed events had been a vital loss for some businesses. And they think rationally that in the future, people would have less money, and they would spend less on things that were not absolutely necessary. More than a quarter of the respondents said they needed to redesign their business in part or in full. Some had already decided that they would "step back" into the market with a new business, they have to push the restart button. Some expressed that they were waiting for the fate of their current business but were preparing by having a "plan B". Some had asked a marketing expert for help with redesigning their business. Some people were expanding their business, products, or services to be able to continue operating if a similar event occurred. The majority of respondents highlighted the need to put more emphasis on online sales and promotion.

Several respondents stated that they did not know what would happen in the future or what the impact on their business would be. Some respondents expressed that they viewed the future of their business as unpredictable and subject to chance.

According to some respondents, companies that had not been able to keep up with the market will disappear, and those who survived this selection would be strengthened in their return. New opportunities would allow them to remain in the market. However, those who will survive have to be more flexible, more open, faster. Some respondents said that they expected that their customers would be more responsible and more careful. Moreover, they expected that employees would be re-evaluated, particularly regarding flexible working hours.

Finally, some respondents expressed that they expected difficulties, but they tried to have a positive attitude towards the future, although it was difficult in the current situation. These respondents reported a sharp decline in turnover, hoped to have enough work to sustain themselves, and anticipated an economic crisis.

Understandably, those who had closed their business during this period and had experienced a larger loss of income, they expected material difficulties in restarting, such as fewer customers and lower income.

6. Conclusion

The majority of the businesses experienced a decline during the pandemic times, and a big part of the female entrepreneurs was forced to send employees on forced leave because of the minimalization of services and production process. Even in pre-pandemic times the time management was always an issue, but it has come to the fore even more since the beginning of the pandemic. With the advent of the virus epidemic, sales and promotion processes have also changed, with entrepreneurs having to move to the online space, which was not an easy task for some businesses. The biggest problems were businesses that did not sell online before the pandemic and had to close their stores due to curfew. This mainly affects the commercial sector as they are characterized by contact sales but did not have the opportunity to meet customers due to restrictions. Entrepreneurs reported not

only financial and sales difficulties, but also how they were affected as individuals by the pandemic period. It was very difficult for many of them to stay home, that they could not meet their family members, and suddenly, the world around them was completely upset.

The strongest feeling experienced during the quarantine period was the feeling of total chaos. But in the same time, they also felt some level of liberation, as they could also perform activities, they did not have the opportunity to do before the eruption of Covid-19. Surprisingly many people have mixed emotions. Overall, women entrepreneurs have a positive view of the future. Except, of course, those who had to shut down their business during this period, thus facing a huge loss of income. On top of all this, a lot of entrepreneurs point out that it will be a long process until their business could get back on track. During this period, several women entrepreneurs had to rethink their business. There are those who have already decided that they will "step back" into the market with a new business, and those who are waiting for the fate of their current business but are preparing with Plan B. They stressed that they need to put more emphasis on online sales in the future and that they need financial reserves if a similar case were to happen again.

Even if it was a possibility to speak about their problems, only a few female entrepreneurs filled out our questionary. This may have been due to the chaotic pandemic times which was full with challenges and adaptation requirements. Many of the female entrepreneurs had to redesign their business or part of the business, they were also forced to switch to an online platform, or stay at home with their children. Or all these in the same time, which caused a big free time loss, and they had less time for answering online questionaries. Because of this, we know less about this population, but even though our research is an

important milestone regarding to the situation of female entrepreneurs in COVID-19 crisis.

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GYÖRGY OTTILIA:
FOOD SHOPPING DURING THE FIRST TWO MONTHS OF THE COVID-19 IN ROMANIA

Sapientia Hungarian University of Transylvania, Cluj-Napoca, Romania

Abstract
As a result of the outbreak of the 2020 COVID -19 epidemic, the emerging economic impact, the declining trust, the digital impact, and the home office have changed consumer behavior. The aim of our research is to examine the food shopping habits, the consumer effects that the outbreak of the epidemic may have caused. In the present study, we conducted a survey of Hungarian urban consumers in Romania at the beginning of the epidemic during the curfew period. More than 900 completed questionnaires were collected over the two-month period.

Keywords: COVID-19 closure, household food purchases, consumer behaviour, consumer behaviour of urban population.

Introduction

The 2020 pandemic caused by the Coronavirus was primarily a public health crisis, but it also had significant effects on the economy. The current study aims to examine the impact lockdowns have had on food purchasing behavior as well as consumer behavior of Hungarians living in Romanian cities as well as changes in their daily habits. The questionnaire this study was based on was meant to inquire respondents about two distinct timeframes, before the lockdown and after it. An online questionnaire was used to conduct a survey in the first two weeks of the COVID-19 lockdown. It was designed to collect data about

food purchasing behavior, household and grocery expenditure, demographic data, as well as general awareness and behavior during this specific timeframe. 901 respondents participated in the study, all of them living in cities.
During the lockdown people were encouraged to stay home and only focus on the most urgent purchasing needs such as buying food. This is why probably households' total consumption shrunk, their basket purchase suffered changes, along with people's spending habits. I believe these changes in consumer behavior are worth studying.

Literature review

The COVID-19 pandemic caused drastic measures to be taken in several countries, which impacted people's daily routines including food purchasing behavior. Several studies have been published all over the world which examine the changes in consumer behavior caused by the pandemic. A series of further studies were aimed at exploring consumers' reactions during the quarantine and their possible and expected consequences on food purchasing behavior. The COVID-19 pandemic caused an economic slowdown, affecting global supply chains and consumer behavior. During the past year we could find contradictory patterns in consumer behavior.
Earlier studies conclude that before the pandemic, after the 2008 global economic crisis consumers started to spend more and more on supermarket foods (Cha et al, 2015). If we look at what is arguably the most important part of the economy, the food supply chain, we can observe that all levels of it have been affected from producers to consumers. Certain studies claim that the situation created by the pandemic will urge consumers to spend even more than before in supermarkets and thus expenditure in other areas will decrease (Rosemarie Martin-Neuninger, 2020). Several studies

confirm that similar global events can cause an increase of demand for food products (Aday S., 2020).

Consumer behavior has been distorted by panic which lead to market anomalies. Panic shopping and stockpiling food is a complex and harmful form of consumer behavior fueled by several different attitudes, motivations and psychological reasons (Dholakia, 2020).

The economy has to be flexible enough to accommodate changing consumer behavior. The COVID-19 pandemic showed that people try to eat healthily, in order to fortify their immune systems (Rodríguez-Pérez et al., 2020). In these times we have seen an increased interest in healthy foods and health eating, driving demand for organic and functional foods.

Another study examined the tendency of consumers to stockpile food during the COVID-19 pandemic and it found that it caused a food supply shock on the market (Wang, E., 2020). Furthermore, the above study also found that the pandemic forced families to increase their fresh food reserves causing a surge in food demand. A so-called Nielsen survey shows that the outbreak of COVID-19 forced consumers to look for good quality and low risk products, especially in terms of food, but cleaning solutions as well, in case of which they were also willing to pay higher prices (Nielsen, 2020b).

The change in consumer behavior also had an effect on food waste. According to a recent study the pandemic had a positive effect on reducing food waste, consumers showed concern for reusing, storing and consuming, thereby reducing food waste (Jiribi S., et all, 2020).

Alina Butu et al. concluded in their study that the situation caused by the pandemic and the subsequent quarantine had a major impact on demand for fresh foods. The study conducted in

Romania, in the county of Suceava, showed that demand for fresh vegetables grew significantly. Furthermore, it has been discovered that consumers prefer short supply chains over long ones. Another aspect revealed is that consumer behavior is increasingly defined by a digital transformation (Alina B., 2020.) The study shows a shift in consumer behavior towards shorter supply chains and digital transformation.

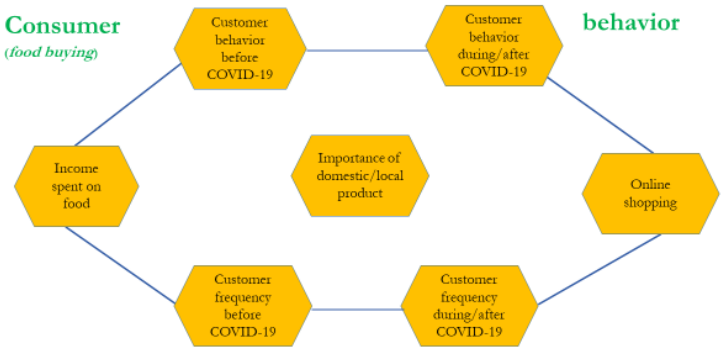
Exploring consumer behavior during the year 2020 has led us to realize that the frequency of going to grocery stores has changed and so has the amount of money spent on every visit (Cranfield, J. A. L.,2020). Consumers have turned their attention to foods that last longer and started cooking more at home, bought more takeaway food and ordered food with home delivery. All this happened as a consequence of restaurant closures and social distancing measures (Bakalis et al., 2020). An American study concludes that people's consumption of food at home increased by 70 % (Aday S., 2020).

The effects of the pandemic in Hungary have also been extensively studied and it is very similar to the situation in Romania. There was a shift in preference regarding the type of store among consumers, supermarkets' popularity decreased, while small grocery stores saw a rise in popularity (Soós G., 2020). The risks associated with the pandemic also caused a decline in shopping frequency, more and more consumers prefer to go shopping once a week. Online shopping for food is also on the rise and the study conducted by Soós shows that people cook more at home.

The aim of the present research was to explore the changes caused by the pandemic in food purchasing behavior among Hungarians living in Romanian cities.

Materials and Methods

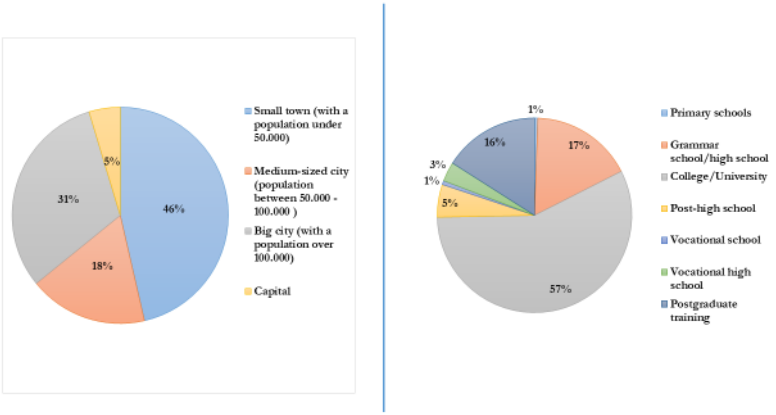
The quantitative research was conducted by administering an online questionnaire. The sample size involves 901 subjects, all Hungarians living in Romanian cities. The online survey had the type of open access, meaning that people could access the questionnaire via links shared on social media sites and groups. The data was collected between April and May 2020 during lockdown. The first part of the questionnaire asked respondents about frequency of shopping for groceries, their choice of location(stores), important factors of purchasing decisions, preference for local products, online shopping behavior, as well as total income spent of groceries (see Figure 1.).



1. Figure: The structure of the questionnaire
Source: own editing

81% of respondents are female. The largest age cohort is 35-44 years which stands for 36 % of the total respondents, followed by subjects aged 26-34 (25 %) and finally people between the ages of 45-55 (22 %). The occurrence of this distribution is most likely

linked to the time spent on the internet among users of the same age cohorts. Compared to similar online surveys, respondents with higher levels of education prevail. 73,1 % of respondents have completed higher education studies (college, university or even PhD). 61,7 % are currently employed and 10% are entrepreneurs. The respondents are Hungarians living in small cities (46 %) followed by respondents living in big cities (see Figure 2.).



2. Figure: Distribution of the city type and the level of education

Source: own editing

In order to assess the financial situation of households we used an objective bracket system which specifies intervals of net income in which respondents were asked to sort themselves in. A large number of the respondents (32,1 %) have a net monthly income of 5000 -7500 RON. 55.2% of the subjects sorted themselves at

the range of over 5000 RON a month. The average income is 5125. 5% of respondents choose not to reveal their income bracket. When asked if their household income has decreased during the pandemic, 50% of respondents said yes.

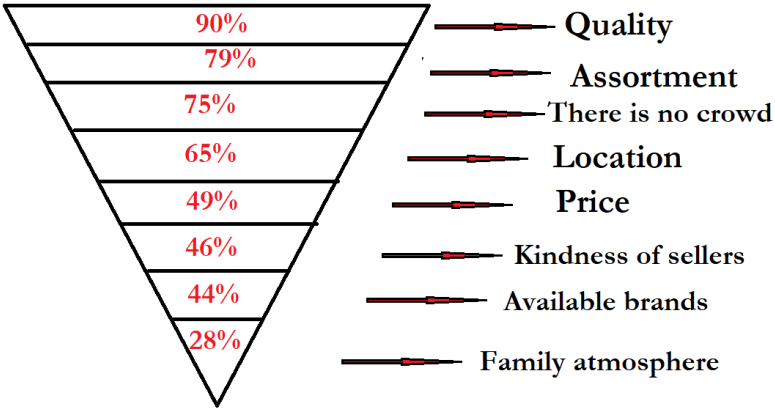


3. Figure: Distribution of net monthly income/family
Source: own editing

Data processing and analysis

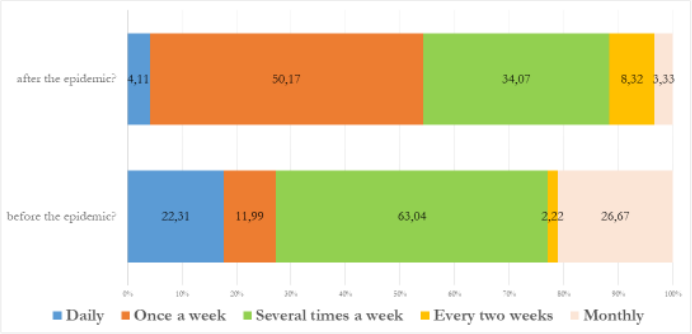
In the first part of the questionnaire respondents were asked about their food purchasing habits, the type of store the choose to do their shopping in, factors affecting purchasing decisions as well as frequency of purchase.
We identified 8 factors of influence on consumer behavior when choosing a store or location to shop (see Figure 4.). This shows the criteria for choosing certain locations over others during the first two months of the pandemic. The most important criteria are

quality, followed by range of variety, a quiet, uncrowded store, and location(convenience).



4. **Figure: Since the outbreak of the epidemic, how important are the following considerations to you when choosing a grocery store?**
Source: own editing

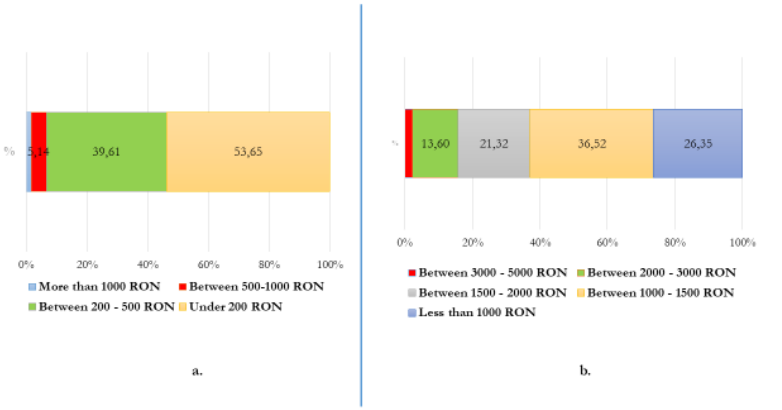
When asked about the frequency of shopping (see Figure 5.) 50 % of respondents stated that only once a week while before the pandemic this ratio was only 12%. Restrictions and lockdowns reduced by half the number of those people who do their shopping more times a week. Daily shopping fell from 22 % to only 4 %.



5. Figure: How often they bought before and during the first two months of the epidemic
Source: own editing

Figure 6. shows the change in expenditure in the first couple of months of the pandemic. Looking at the average sum per shopping based on shopping the frequency of shopping, it can be seen that the majority of respondents spent an average of 200 RON per shopping, followed by the 200-500 RON interval. 43% of subjects who spent less than 200 RON did their shopping once a week, while 45% of such respondents went shopping more than once a week. 60% of those who spend between 200 and 500 RON did their shopping once a week. There is accordance between the amount spent and frequency of shopping. Those respondents who go shopping once a week belong to the former two categories. 46% of respondents who do their shopping once a week spend less than 200 RON and 45% spends between 200-500 RON on one shopping occasion. This is more than 90% combined.

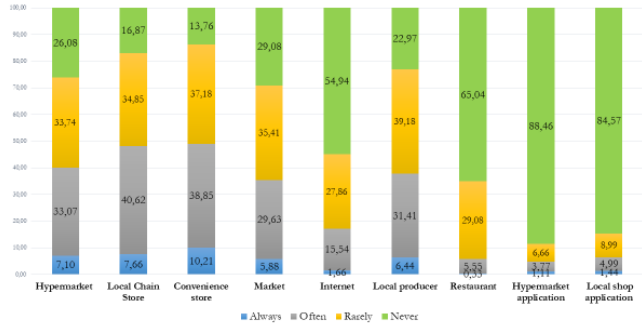
On figure b. we can observe, how much interviewed people have spent on groceries/food in a month's period. The highest proportion of respondents, 36 percentage have bought food in the range of 1000-1500 RON, followed by those who spent under 1000 per month.



6. Figure:
a. Approximately how much money did you spend on food, during an average purchase during the epidemic?
b. In your household in the last month approx. how much money did they spend to buy food?
Source: own editing

When we look into the preferred locations, we can see that small local shops were advantaged at the debute of the pandemic, since almost 50 percentages of the interviewed reported as they always/almost all the times shopped there (figure 7.). These are followed by local chain stores (48 percentage) and hypermarkets (40 percentage).

Purchases from local producers also show a very high proportion of respondents, with 37 percent always or often buying from local producers. The data show a high proportion of those who did not use the internet or an online application at all as a result of the epidemic. Probably the main reason for this is that few people were aware of such opportunities and that just few businesses were prepared for an application designed to create for such a situation. The "never" shopping option was marked by 55 percent of respondents who had never ordered food from the Internet, 88 percent who had never used a hypermarket app, and 84 percent who had never used a local chain store. There is also a high proportion of those who did not order food from a restaurant (65 percent) during the first two months of the epidemic, which is actually due mainly to the fact that people were more at home, cooking more. Slightly more than a third of respondents (35 percent) always or often chose to shop in the market.

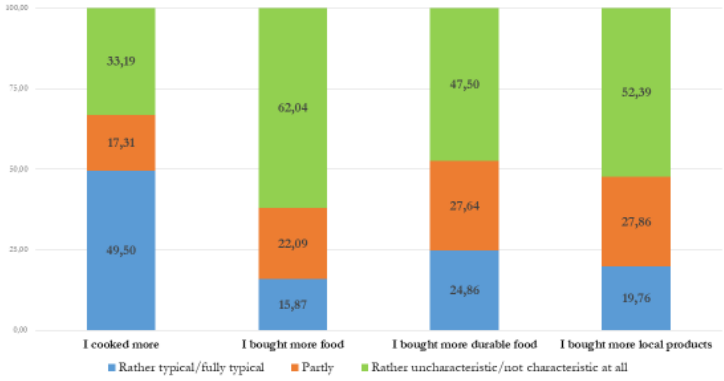


7. Figure: What types of stores bought food during the epidemic?

Source: own editing

The objectives of the research included assessing whether food purchases have increased as a result of the outbreak, how food has changed as a result of home office (home cooking), whether there has been an increase in demand for durable food and local development of demand for products (Figure 8.).

The data show that it is clear that 49.5 percent of the respondents, so almost half of them, were more likely to cook during this period. However, the increase in the amount of food purchased was not typical for more than half of the respondents, the same can be said for the purchase of durable food as well as the purchase of a local product.

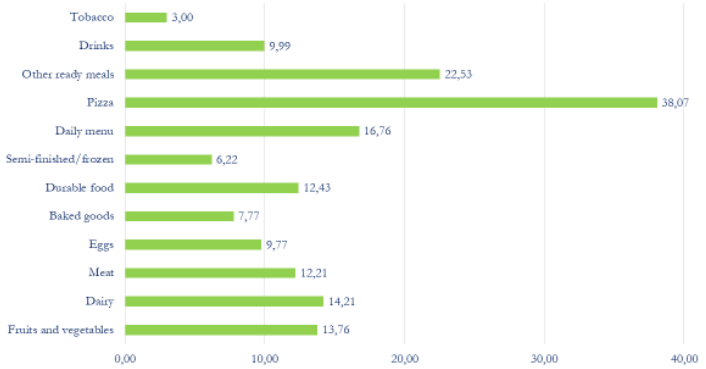


8. Figure: What was typical about buying and cooking food during the pandemic

Source: own editing

Other questions in the questionnaire included the willingness to shop online, and within this, the demand for different food groups. In terms of willingness to shop online, we can state that the greatest demand was for pizza ordering (Figure 9.), followed by

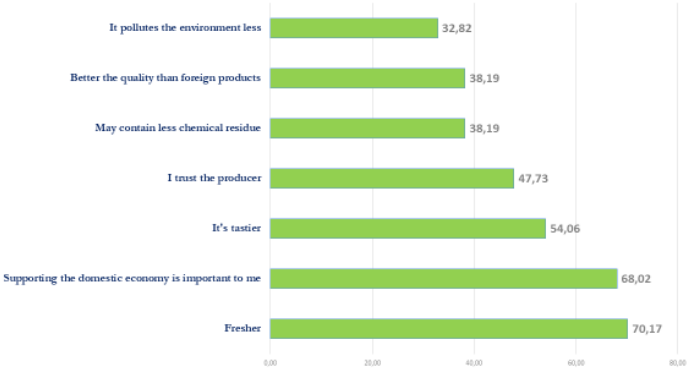
other ready meals as well as daily menu ordering. Only 3.33 percent of respondents ordered weekly online food before the epidemic. This rate increased with the outbreak of the epidemic, with 8.10 percent of respondents shopping online weekly at the start of the epidemic.



9. Figure: What foods have been ordered online (home delivery) since the outbreak
Source: own editing

In our research, we asked about the demand for domestic / local product at the beginning of the epidemic. 53.6 percent of respondents prefer a domestic / local product over a foreign one. However, 37 percent of respondents said they buy from a mix of supply, both domestic and foreign. One of the objectives of the research was to map the underlying reasons for buying a local product, so we asked what individual motivations are behind the preferences of the domestic product. When asked if they preferred domestic or local products during the epidemic, the data show that the fresher indicator received the most votes (Figure 10.), as the

majority of respondents (70 percent) believe that buying a local product freshness is the most important factor. For the examined subjects, the support of the local economy will continue to be important, as 68 percentage of the respondents consider the survival and operation of the local economy during the epidemic to be an important aspect. These two motivational factors were followed by tastier (54 percent of respondents rated) and trust in the producer (48 percent of respondents rated) aspects.



10. Figure: Why domestic or local products were preferred during the first two months of the epidemic?
Source: own editing

Conclusion

According to the data of our research, the appearance of the virus among the Hungarian urban population in Romania did not significantly change the consumer habits regarding the purchase of food, but rather the frequency and the order of preference changed.

Motivations for shopping are multilevel, consistent with research in other parts of the world and as described in the literature, the frequency of food purchases during this period was characterized by awareness, and the rate of once-a-week purchases increased.
At the same time, it is quite clear from the data that the importance of home cooking has increased,
and the long-term food purchases has increased. The highest percentages in online grocery shopping were for pizza, ready meals and daily menu orders.

In terms of store selection, location and places where there is no crowd have become more valuable. Regarding the choice of store, the most important aspect for the respondents was quality, followed by the wide range of products, the quiet, not crowded shop, and the fourth place was the location. However, the interest in local products did not change, approx. they were as interested in local products as before the epidemic (57 percent of respondents consider this factor important).

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HORVÁTHNÉ PETRÁS VIKTÓRIA: SETTING UP A SIMULATION MODEL FOR AGRICULTURAL MANAGERS

Hungarian University of Agriculture and Life Sciences, Kaposvár Campus, Doctoral School in Management and Organizational Sciences, e-mail: horvathne.petrasviktoria@gmail.com

ABSTACT: Among the factors of agricultural production, despite technical progress, the labour force plays a prominent and special role. It is also essential to take account of the specificities of agriculture in the field of professional training, as agricultural work processes involve special working conditions for both animal husbandry and crop production. There is a constant demand in the labour market for professionally trained experts with good problem-solving skills and an open mind to technological and IT innovations. On the other hand, among those employed in agriculture in Hungary, only few meet these expectations. In the light of catching up with international competition, the solution to the problem may be the introduction of innovative methods of vocational training and education, in addition to capital. In today's competitive environment, the educational and training methods currently applied at the vocational secondary school-vocational level do not stand their ground, and are not even suitable for preparing for new challenges.

Keywords: agriculture, education, innovation, simulation models, economy

1. INTRODUCTION:

Among the technological conditions of agricultural production, there has been such a large-scale development in recent decades

that its description and introduction in agricultural vocational education is an inevitable condition in the training of a competitive workforce. One of the greatest challenges in the labour market is the spread of automation, which, in particular, is in need of competitive workers released from the education system (Szabó-Szentgróti and Cseh, 2019; Szabó-Szentgróti and Végvári, 2020, Kőmüves and Berke 2021).
As a result of the innovative technologies that have appeared in agriculture, (Papp-Grotte-Muriqi- Baranyai, 2019) there has been a development with which neither teacher education nor vocational training can keep pace, and as a result, it is not possible to teach the same concept in the same way as before (Kőmüves –Szabó Szentgróti, Bence 2018). A significant renewal is needed in mid-level agricultural education. The renewal of technical and IT training is a significant part of it, while the improvement of the standard of practical education following technological innovations, and the further training of specialist teachers are also an essential condition for ensuring quality education.

1.2. INNOVATIONAL ASPIRATIONS IN EDUCATION:

There is a growing demand in the labour market for the training of practice-oriented professionals who can make professional decisions quickly and efficiently in everyday life. Simulation models can also be used appropriately in agricultural education to develop all these skills. The simulation model we examined differs from the pedagogical methods used so far, but in our opinion, it can help students to gain a deeper understanding of the theoretical knowledge they have acquired, the connections and their practical applicability, and can help the work performance of those professionals who are specialists in the management of certain agricultural sectors and premises.

The effectiveness of the application of simulation models has been proven by several studies, according to which the modelling method develops students' scientific thinking, metacognitive skills, understanding and application of scientific concepts, and thinking in terms of problem-solving (Clement, 1989; Coll, France, Taylor; 2005; Berke 2010). Modelling and simulation have evolved into a powerful educational technology tool. It can be applied in many subjects and last but not least leads to deep learning. It can be validated mainly in the acquisition of knowledge of a topic where it is essential to understand the connections and to express them accurately. Based on the relatively simple mathematical model, many dynamic phenomena and processes can be presented, and thus the set didactic goals can be achieved more easily (Stoffová-Czakóová, 2019).

1.3. SIMULATION MODELS:

Agricultural production is one of the riskiest production activities, with producers facing a number of risks in both the crop and livestock sectors. Some of these risks are relatively easy to manage, but most factors can also have an extremely negative impact on businesses (Balogh, 2017). Buzás (2001) claims that feeding, animal care, animal product extraction, manure removal, and other production work processes can be mechanized, but not fully automated.

Given the above characterization, it can be concluded that agriculture is more difficult to organize, it is uncertain to predict some of the costs, and the resulting yields and profits are difficult to determine, and as a result of these, agricultural activity is considered risky (Buzás, 2000).

As the risk factors determining agriculture significantly influence the efficiency of production, in order to improve the profitability and liquidity positions of farms, it is essential to develop

information systems that provide an opportunity to analyse the expected effects of economic decisions without creating economic sacrifices. Simulation models are a suitable tool for all these tasks, which allow the analysis of the movements of existing livestock, the evolution of inputs and yields over time. With their help, we can examine hypothetical situations and decision alternatives (Gyenge, 2005).
The ultimate goal of simulation models is to use the models to get answers to questions that would only be possible with the help of expensive, time-consuming or impractical experiments and observations (Szőke- Nagy- Balogh, 2010).

2. MATERIAL AND METHOD:

As pork is of great importance for meat consumption among the livestock sectors, the development of the method was based on the production indicators of this sector, with the help of a large livestock farm. Since the main goal of pig breeding is meat production, the economical production of which requires the provision of an appropriate number and quality of reproduction (Soltész, 2015), we started our research by collecting the breeding indicators of the farm. During the documentation, 433 calvings were recorded, in which we covered the number of piglets born alive and still during calving, male and female, and the number of piglets at the time of the weaning in the proportion of sex. The recording of the data of the calving was followed by the systematization of the data sets, which were individually led into MS Excel as sows on the so-called pigsty sheets.
After processing the data and statistical studies describing the distributions, the simulation method was developed, which was based on the elements of the Monte Carlo method (MC method for short). The method is essentially based on random sampling, which can be used to estimate definite integrals for a large number

of samples. In the model, we recorded the influencing variables and their time intervals, probability distributions, and the relationships between the variables. We generated real-value random numbers (1000) between zero and one, presumably with an even distribution, which we ran with a computer using 1000 experimental numbers, thus obtaining an expected value for the outcome variable to be determined. The distribution function can be used to determine the probability that the value of a given variable will fall within a given interval.
Modelling was narrowed down to the total number of piglets born, the number of stillborn piglets, and the number of animals that died before weaning.
By changing the variables in the simulation data set from 0 to 1 during the simulation, using the "IF" functions in the simulation, the elements of both the distribution function and the frequency diagram change, which shows how the simulation affects the elements of reality. In the simulation result, changes affecting the entire economic process can be "predicted", which can form the basis of some economic calculations, so even revenue-income relations can be forecasted in advance, furthermore, it is also excellent for ordering feed base or feed material.

3. RESULTS:

The simulation also contains the original data, modifications provided by the person conducting the simulation, and the outcomes of the simulation conducted by the machine with random values based on the Monte Carlo equation, as seen in the graphs below. The results of the computer-performed "MC" simulation method were largely determined by the constraints of the original data, as the model to be analysed included the influencing variables and their possible intervals, probability distributions, and relationships between the variables. The

computer uses a random number generator to produce the values of the variables in a given interval and distribution.
The description of the simulation is illustrated in Figure 1, which, as a first step, covers the frequency of births, indicating how many piglets a sow has given birth to during farrowing.

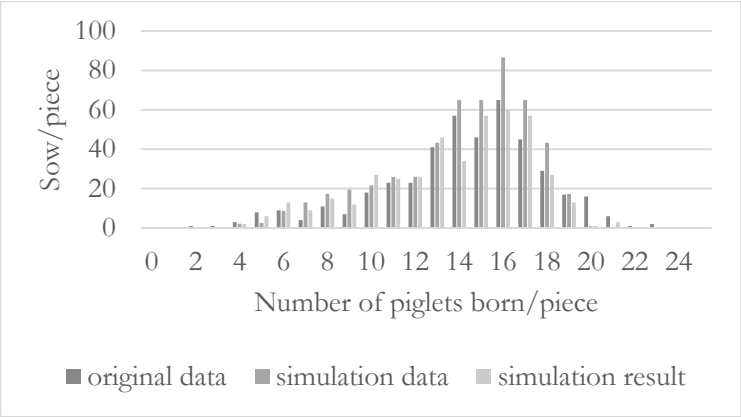


Figure 1: Total birth rate chart
Source: Own data collection and editing, 2020

The results of the graph show that during the simulation we performed (with the original data unchanged and together with the machine simulation), the very high (20-25 piglets / farrowing) and the very low (0-3 piglets / farrowing). I reduced the calving numbers to zero. Thus, based on the results, it can be said that in the simulation performed, 87 sows were able to give birth to 16 piglets per litter, compared to 65 sows according to the original data. In the machine simulation, 69 sows were able to achieve this performance. Compared to the original data, the largest increase, an increase of 48%, was in the number of sows giving birth to 18

piglets (increased from 29 piglets to 43 piglets), and the number of sows giving birth to 17 piglets (from 45 piglets to 65 piglets) increased. Similar changes can be observed during the "MC" simulation performed by the computer. The machine increased the number of sows farrowing 14 and 18 piglets, while it reduced the number of sows farrowing 5, 12, and 19 piglets.

While we can read the number of piglets per farrowing on the frequency diagram, the distribution diagram or function shows us the probability of the data's occurrence in the frequency diagram. In our case, what is the chance that the sow will reach that number of piglets during farrowing.

Figure 2 depicts the birth rate distribution function obtained as a result of the simulation.

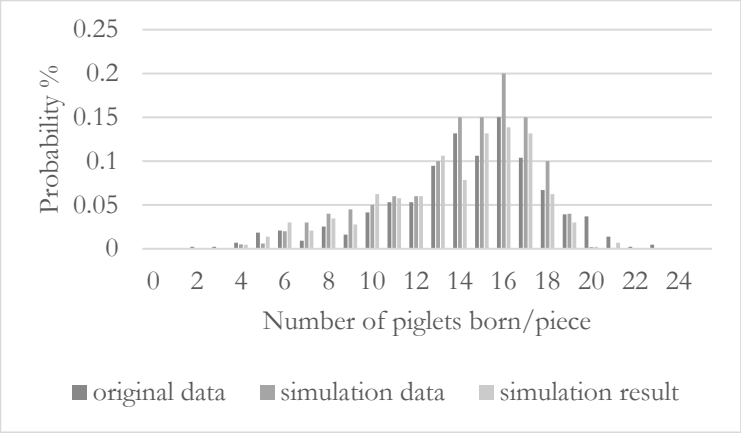


Figure 2: Total birth rate chart
Source: Own data collection and editing, 2020

By analysing the obtained data, we would like to highlight the probability distributions of the birth of 16 piglets as an example. The frequency number for 16 farrowing piglets in the initial data set is 65 piglets, with a probability distribution of 15%. The result of our simulation reaches the same outcome in 87 cases, there is a 20% chance of its realization, while in the simulation performed with the "MC" method, 69 sows reached a number of 16 piglets born during farrowing, with a probability of 16%.

There are significant differences in the results of the distribution function for the number of births when comparing the two simulations. In the process we controlled, there was a larger change (34% and 44%) in the number of sows farrowing 16 and 17 piglets, which represents a 5% increase in the original probability variables. The probability that the same outcomes will occur was calculated using a computer simulation with just a 0.7 % and 1.7 % difference, respectively. Convergence in the two simulations can only be read at the distribution value of 18 sows; the same 10% probability is predicted for this result to occur, with a difference of 4% from the original probability distribution.

The main differences in how the two simulations are used should be highlighted. While there is no change in the number of piglets born under the "MC" method, as defined by the constraints of the original data, it can only be useful for farmers to determine possible birth maxima for the distribution of births, for example in the case of oestrus synchronization. It can be used to forecast a difference in the number of headcounts or the time-proportional distribution of the number of births in the simulation we ran.

Subsequent to this, the number of stillborn piglets was changed, where the frequency of farrowing without death was increased by the largest proportion – by about 20% – when setting up the simulation. The incidence of births with one death was reduced by 17% and two deaths by 6%. Although the mortality rate of the three and five piglets increased slightly, a larger increase in the

frequency of farrowing without mortality compensates for the loss. The computer simulation performed with the "MC" method does not differ much from the process we set up. Concerning the results of the two simulations with the same values, the difference is in the range of 0.1% to 0.5%.

The high proportion of stillborn piglets is clearly an accurate indicator of animal health deficiencies. Failure to comply with vaccination, health policies and regulations can result in severe losses for the farmer.

From the data of the graph, it can be read that in 242 cases, there was no incident of stillbirth during calving. In the simulation we performed, we increased this data by 34% to 325 pups at which we did not experience the birth of a dead pig. Based on the decrease in the number of stillbirths in the condition, it can be assumed that one and two cases were reduced by 63% and 56% in the simulation we performed and reduced by 61% and 53% in the computer simulation based on the "MC" method.

Examining the additional data and the simulation results, significant differences can be detected in the values of pre-weaning mortality. While, 2-6% mortality is considered to be average in the literature, this data exceeds the rate of 16% in our study site, which can be considered as a very high rate, which is due to the prevalence of physical injuries and bacterial diseases due to technological deficiencies.

Examining the values derived from the pre-weaning mortality simulation, we found that no mortality occurred – according to the percentage distribution for the original data set, the mortality rate was 30%. Before the election, 28% of the cases resulted one dead pig, in 20% of the cases, two dead pigs, while in 12% of the cases, we could count three dead pigs.

The result of the computer simulation, performed with the "MC" method, assumes zero mortality in 67% of the cases, and the loss of one pig in 12%, two pigs in 7%, and three pigs in 5% of the

cases. The probability of five or higher deaths in both simulations is 2% or very close to it.

Analysing the data of the pre-weaning frequency mortality chart, in the case of zero deaths in the original dataset, there were 129 cases where no deaths occurred before weaning, 121 cases where one animal died, 2 pigs from 84 sows, and in the case of 54 animals, the number of reproduction decreased by 3. The value given in the simulation under our given conditions assumes 325 cases where there are no deaths, among 65 sows we could count one piglet loss, among 43 sows 3 piglets loss, while in 30 cases, there were 3 piglet deaths before weaning; these results can be achieved through changes in technology, the modernization of innovators, and the suppression of diarrheal bacteria.

The regression model's outcome – the simulation – calculates 291 cases in which no deaths occur, 53 cases in which one death occurs, 32 cases in which two deaths occur, and 24 cases in which three deaths occur in the pre-weaning period.

When comparing the two simulations, it is insignificant that the number of piglets that died before weaning did not alter during the measurements of the "MC" process, which is limited to calculating time distributions and is determined by the constraints of the original results. In our simulation, the number of piglets of choice increased by 19%, compared to both the original data and the simulation performed with the "MC" method. Compared to the average of three years, this would mean an additional sale of about 925 animals, during which the farmer can also expect a significant increase in sales revenue.

One of the pillars of economic production is to maximize the number of piglets born and weaned, while keeping mortality to a minimum. By taking account of the technological equipment, economic indicators of the examined farm, and the results of the conducted simulations, it can be said that the farmer could expect significant investments, such as the modernization of breeding

pens, the change of breeds, and the introduction of innovations in animal health.

SUMMARY:

The primary goal during the development of the simulation was to create a method which, in addition to develop the thinking of the students participating in vocational training, is also suitable for assisting the operation and work organization of individual livestock farms. Our efforts for novelty and the efficiency of the method have been demonstrated in the management of the operation of a large pig farm.
Based on the data documented at the livestock farm and the examination of the simulation results, significant differences can be detected in the individual simulation results, as the usability of the two simulations serves different purposes, but it can be clearly stated that more serious improvements are needed for further economic operation. While 2-6% mortality rate is considered average in the literature, our examined data exceeds 16%, which can be considered as a very high rate. Against the background of the high mortality rate before weaning, the weaker pig rearing ability of sows is to be found primarily in the technological shortcomings. As a result of the changes, as demonstrated by the simulation, millions of sales growth could be experienced, which could also lay the foundation for a further development of the economy.

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HORVÁTHNÉ PETRÁS VIKTÓRIA – GROTTE JUDIT: THE USE OF ICT TOOLS IN THE AGRARIAN VOCATIONAL EDUCATION

[1]Hungarian University of Agriculture and Life Sciences, Kaposvár Campus, e-mail: horvathne.petrasviktoria@gmail.com
[2]Budapest Metropolitan University, Institute of Tourism and Marketing, Associate Professor, e-mail: jgrotte@metropolitan.hu

Abstract: In today's education system, the preparation of the skilled workers faces many challanges due to the high expectations of the society toward the agrarian schools and education. The declining interest in agricultural professions, and the employment difficulties in the sector, raise the question whether the agrarians are ready to find a job in the area of agriculture. Nevertheless, it is importat to see that the peculiarities of agricultural education like the emigration of skilled labor, the decline in the number of students, the integration of technical innovation in agricultural education are also challenging the teachers. Another issue is that due to the dynamic development of the sector, neither the agrarian teacher education nor the agrarian vocational training can follow the latest innovations, therefore the training material can not be the same like it was before.
The agrarian vocational education should be significally renewed. To be able to ensure the quality of the agrarian education, the renewed education should be more focused on the technical and IT training, the improvement of the standard of practical education following technological innovations, and the further training of the teachers.

Keywords: agriculture, technical education, innovation, educational tools

1. INTRODUCTION:

In today's education system, it is possible to prepare skilled workforce within the framework of public education, higher education and vocational training, outside the school system
Nowadays there are high expectations of the economy and the society toward the agrarian schools and education
Young people should be prepared for a work that is difficult to relate to their daily schedule, requires great endurance, while adapting to the biological rhythms of plants and animals.
The declining interest in agricultural professions, and the employment difficulties in the sector, raise the question whether the agrarians are ready to find a job in the area of agriculture. (Horváthné, 2018).
The specialization of the agrarian work procedures creat unique environment in crop production and animal husbandry.
During the evaluation, we should also remember that the organization of the work of livestock farms, such as pig and cattle farms, is a complecated process, as the concentration of the stock, the technology, the mechanization, the degree of production integration and the productivity of the livestock are very different. (Kőmüves; Szabó-Sz, G; Bence, 2018).
In contrast to these expectations, the level of qualification of the workforce in the Hungarian agriculture is low, comparing to other sectors. (Berde, 2003).
This is confirmed by those studies and surveys also, which examined the competencies of students after leaving the vocational education system. It turned out that these students are not having the adequate competencies as new entrants on the labor market. Bábosik, 2007; Kara–Sólyom–Stion, 2014; Makó, 2015) in (Czakó et. al, 2017. Kőmüves-Berke 2021).
Concerning the dynamic development of the agriculture, neither the teacher education nor the vocational education can follow the

latest innovations, therefore the training material can not be the same like it was before. (Tóth-Szabó-Kálmán-Poór, 2021)
The agrarian vocational education should be significally renewed. To be able to ensure the quality of the agrarian education, the renewed education should be more focused on the technical and IT training, the improvement of the standard of practical education following technological innovations, and the further training of the teachers.

1.2. PEDAGOGICAL METHODS IN EDUCATION

The results of Bábosik's (2007) survey pointed out not just to the inadequate competences of students, but also to the problems of teaching methods and organizational solutions of education. Most of the teachers do not think that the frequency of tests and contol is adequate, and many have reported the lack of link between theoretical and practical knowledge. (Berke, 2010). Recent researches draw attention to the need of new teaching methods, that can support the interest of the students.
More educational researchers (Falus, 1989, 2001; Petriné, 2001; Radnóti, 2006;) emphasize that mainly traditional teaching methods, like individual work, presentation, illustration, explanation, discussion, practice, dominate. In order to improve the effectiveness of education, new innovative pedagogical methods are needed.
The present situation requires to launch new innovative methods onto the educational system, otherwise the teachers are unable to prepare the students effectively for the labor market.
It is also important to highlight that the literature often writes about innovation efforts, changed trends and paradigm shift in teaching methods.
The changed economic and technological environment requires new modern educational material.

Amber and the research team (2001) also writes about it. and emphasize the importance of the renewed material, which should follow the development of the technology and the integration of complex knowledge on different fields.
Challanges needed to get answered shortly, otherwise it can stop further development.
Technological innovations are important, which mean the daily usage of the IT tools.
The appearance and the application of the IT tools can not be called innovative in the pedagogical method.
School innovation means the free access to information, and it can not be limited to IT or just a computer, or to the usage of the Internet only.
It includes everything that the teacher or students use during the teaching-learning procedures.

1.2.2 THE NECESSITY TO LAUNCH THE INNOVATIVE PEDAGOGICAL METHODS:

The pandemic, resulted new pedagogical methods, which fundamentally changed the work schedule of the second half of the 2019/2020 school year.
The sudden change to online education, challenged the Hungarian educational system, and the families: students and parents as well. (Hargitai- Sasné- Veres, 2020, Erdeiné Késmárki-Gally Sz.2014)).
According to my opinion and experience, neither the teachers, nor the students were prepared for such a special situation.
On the other hand, I do agree with the ideas of Schulmeister (2009), that this generation used the online platform only for networking and entertainment, but not for learning.
In this case, the question is which of these online platforms: vlogs, blogs, Wikipedia, Twitter, Skype, vodcasts, Youtube can be used for learning and teaching at the same time, and which ones can be

used to create pedagogically relevant content. and whether these online websites can give the opportunity to implement personalized feedback and evaluation (McLoughlin–Lee, 2010).
The changes in the recent period, pointed out the importance of the expansion of the tools and methods that are used in education. Even the European Union supports the integration of the new Communication and Information Technology Toolkit (CIT) into education, teaching and learning programs. The integration of CIT into the education system, means that the old pedagogical methods will be remained unchanged as well.
The learning procedure will coninue to be described by the indirect motivation and the passive learning. (Komenczi, 2009). Typical example for this, what the teachers still use today, that the learning material will be copied by the students not from the blackboared, but from the slide show to their excercise book.
The problem is, that although the ICT was used in the form of a PPT, students are still passive during the lesson, while the teacher reads the material for note.
It means that we use the new tool, but we do not use all the potential which could result in a lesson that is interesting and effective for the students.

2. RESEARCH METHOD:

In our research we were curious to know the tools and methods which are used in the agrarian vocational schools in the Transdanubia region. The primary research is based on a quantitative researched method using a structured online questionnaire in Google Drive format.
The online questionnaire gathered and analyzed data from the seven member institutions of the Transdanubian Agricultural and Vocational Training Center.

The questionnaire was conducted in September 2020. During three weeks, 70 answers arrived from the 86 colleagues, and 68 answers were evaluated in Microsoft Excel table.
The first part of the questionnaire contains background information of the colleagues (sex, number of the teaching years, education, the name of the pedagogical institute.)
68 colleagues have professional qualification, and 2 of them have pedagogical education as well.
The second part of the questionnaire focused on the traditional and innovative pedagogical methods and their way of work.
It also concentrated on the extent to which teachers accept the need to introduce pedagogical innovation
Questions related to the applied educational technology tools were also raised, and involved with the teachers' awareness of the concept of ICT tools, their role in education and the possibilities of their usage.
In the last part of the questionnaire we were curious to know the experiencies of those teachers who applied the innovative tools and methods during the lessons. We intended to see how effective those lessons were, and how they saw the attitude of the students toward the usage and the methods of the new tools. The answers to the questions were systematized and analyzed by Microsoft Excel.

3. RESULTS:

As the extention of the article does not allow the description of the entire research, We present the results of the answers to the questions directly related to the usage of ICT tools only.
First of all we need to examine the methods applied in education, because the tool chosen for teaching is clearly defined by the method that the teacher uses in the class.

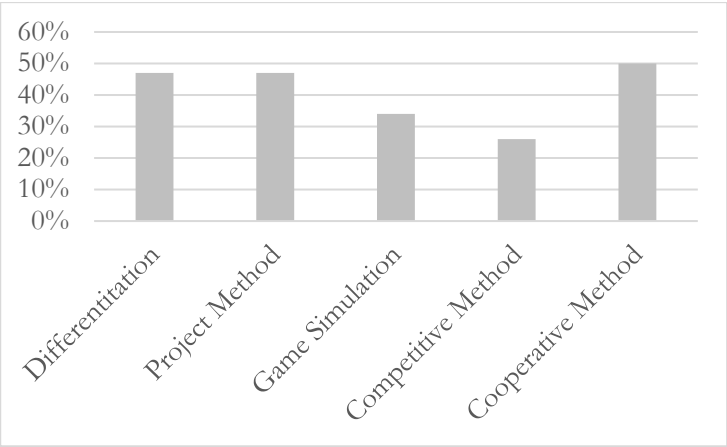


Figure 1: Application of new generation pedagogical methods in agricultural vocational education
Source: Own edition, 2020

The data in the graph show that differentiation, project and cooperative methods are used in equal proportions (47% -50%), while the competitive (competition) method, 26%, was significantly in the back during pedagogical work.
Analysing the answers, an interesting trend can be seen, that differentiation is generally used to a greater extent by teachers who have been teaching for a shorter period of time. As the number of years spent in teaching increases, the application of new generation methods in pedagogical practice decreases, in contrast, the younger generation of teachers is more likely to focus on the application of innovative methods.
On the second graph, the results show that the most frequently used educational technololgy devices are the projector and the computer, due to the everyday application of the frontal classroom work.
PowerPoint presentations are used mostly for teaching new material, to which laptop and projector are needed.

Among the usage of new generation pedagogical tools, smart boards (29%) and illustrative models (39%) are less present. This depends on the technical equipment of the given school.
On the other hand, the usage of the interactive whiteboard requires a scpecial program, which is not available to all institutions or teachers.

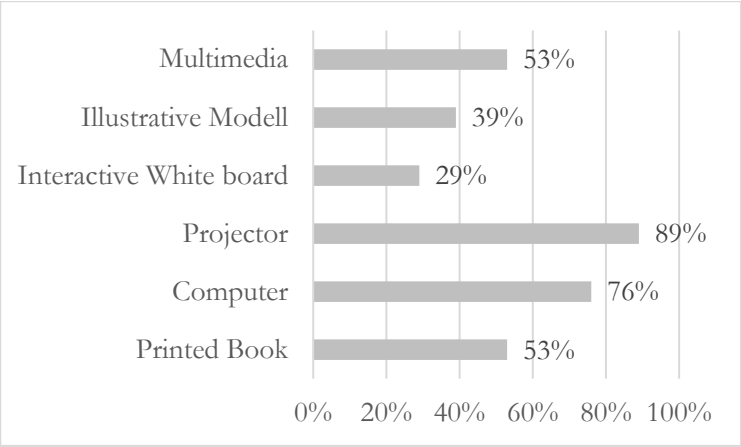


Figure 2: Application of new generation pedagogical tools in agricultural vocational education
Source: Own edition, 2020

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It can be said that each age group use computers and projectors in teaching, and it is not influenced by the number of years spent in teaching.
In the following group, my colleagues were able to rate the truthfulness of the statements on a 1 to 5. scale

The choices assigned to the numbers were as follows:
1./ I completely disagree with the statement
2./ I disagree with the statement
3./ I do not know the answer
4./ I do agree with the statement

5./ I completely agree with the statement

At this stage of the questionnaire, the teachers were asked about their opinion regarding the effectiveness of the usage of ICT tools, and the extent to which the use of innovative tools determines students 'interest and development. Results can be seen on the 3rd graph.

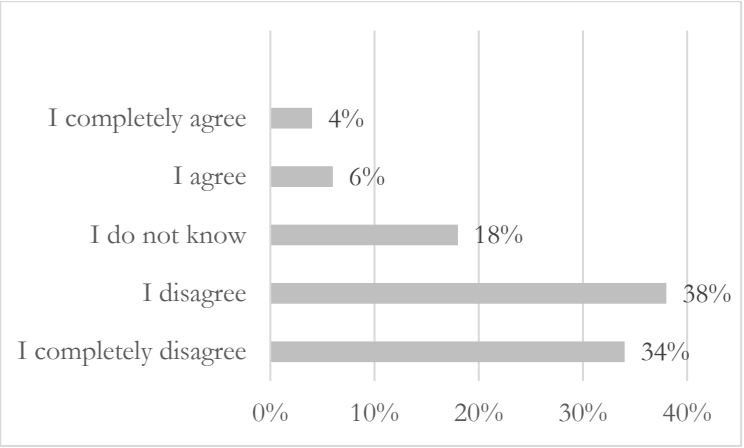


Figure 3: Students' interest in ICT tools
Source: Own edition, 2020

There was a statement in the quetionnaire, that the students' interest is not influenced by the usage of the ICT tools during the lesson.
10% of respondents agreed with this statement, but 72% believe that teaching based on ICT tools is more successful among students
Here is the next statement: "Students also often find it difficult to use ICT tools in their learning because of their inadequate level of computer and IT skills."

41% of respondents agreed with this statement, but 30% completely refused this. And 29% chose the 'I don't know category'.
In the following sentence, I assumed that, "Students benefit from the usage of computers and ICT tools."
75% of respondents agreed with this statement, and only 10% refused this.
The upcoming statement said:
"Modern age requires knowledge of the use of computers and IT tools in education." 100% of respondents agreed with this statement, 1% completely refused this. And 3% chose the 'I don't know category'.
So, we can conclude that in the 21st century the knowledge of the ICT tools in education is essential.
And in my last statement I supposed that the more active usage of the IT tools in education, would increase the effectiveness of the teaching-learning process.
87% of respondents 'agreed' or 'completely agreed' with this statement, and only 5% refused this. 8% chose the 'I don't know category'.
Summarizing the answers were given to the 10 questions, we can assume that the teachers are clearly aware of the effectivness of those pedagogical models which are based on the IT and ICT tools. It also turned out how important and necessary the IT trainings are since the role of IT tools is growing int he teaching-learning process.

5.SUMMARY:

The rapid development of the information technology in the world is also affecting the agricultural sectors.
The introduction of the technical and technological innovations used in production, became one of the basic requirements of

innovative and at the same time economical agricultural production,
These requirements should be also taken into consideration in the agricultural vocational and secondary education, to be able to prepare students for the labor market.
The requirements of this modern era, highlight the necessity to renew the agricultural teaching activity through the usage of the ICT tools to a greater extent.
Based on the results of the research, we can clearly see that the usage of traditional pedagogical methods are still more on focus than the new innovative methods. However, the teachers also realized the importance of IT and ICT tools based education.
Due to the rapid development of technologies in agriculture, the specific needs of the sector should be taken also into account in education.
The appearance of the innovative technology in the agriculture, challange the teachers in their work.

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KÁDÁR BEÁTA, NAGY SZERÉNA: THE EFFECTS OF THE COVID-19 PANDEMIC ON THE ECONOMY AND LABOUR MARKET, WITH SPECIAL EMPHASIS ON THE AGRICULTURAL SECTOR AND AGRICULTURAL WORKFORCE

[1] *Sapientia Hungarian University of Transylvania, Department of Business Sciences, Miercurea Ciuc, email:* kadarbeata@uni.sapientia.ro
Piata Libertatii 1, 530104, Romania
[2] *University of Debrecen, Faculty of Economics, Károly Ihrig Doctoral School of Management and Business, Debrecen, email:* nagyszerena@uni.sapientia.ro

Abstract: The COVID-19 virus has caused a pandemic which had an impact on the economy, labour market, society and all other aspects of human life. Researchers all around the world are looking into the problems caused by the pandemic and are trying to examine the effects and anticipate the challenges that may come to pass. The economy and the labour market have undergone a never-before-seen set of changes, the likes of which we have not seen in years. The aim of the present paper is to examine the effects of the pandemic on the economy and the labour market, as well as the changes in agricultural input and sales.

Keywords: COVID -19, labour market, economy, agriculture, agricultural workforce
JEL: J43, A43, E20

1. Introduction

Humanity has faced several pandemics throughout history, among them were the Black Death between 1347–1352 that claimed the life of more than 75 million people around the world. This meant that the active working population experienced a steep

decline, along with a drop in average wages, and income. The Spanish flu, between 1918–1920, claimed nearly 100 million human lives, weakening the economy and having a long-lasting impact that could be felt in the '80s as well. The COVID-19 pandemic just as the pandemics mentioned before had an effect on the economy and labour market as any major global epidemic (worldbank.org). From a historical perspective the common denominator of these pandemics is that in these critical times healthcare and agriculture gain additional prominence compared to other fields since these two provide food and quality of life. During the cholera outbreak and the Spanish flu economic instability set in and the food supply chains were disrupted. Food became scarce, consequently people were starving (Butu et al., 2020). The international Food Policy Research Institute (IFPRI) estimates that the 2020 economic crisis will push about 140 million people below the poverty line, this meaning a 20% increase of people in deep poverty. This also means that food shortages will become common in many countries (Laborde et al. 2020). Maintaining the optimal performance and output on agricultural companies is an indispensable economic undertaking if we intend to keep fighting the negative effects of the pandemic.

2. Literature review

The pandemic will cause a shift in powers, economy, labour market and we expect significant changes in other aspects of life as well. The COVID-19 virus has forced society to face multiple challenges at once such as healthcare, economic and social problems. On a macroeconomic level there are several tendencies manifesting at the same time: a decline in economic performance and an increasing unemployment rate. Another question is how developed and developing countries will respond to these challenges and what kind of policy changes will they adopt to mitigate these problems (McKibbin & Roshen, 2020).

Agriculture, as a sector, has traditionally always been exposed to natural disasters, climate change and currently the effects and consequences of the COVID-19 pandemic. It is still uncertain how long the recession caused by COVID-19 will last and what will be the economic consequences on the medium term. These all depend on several factors that influence both supply and demand of agricultural output. A temporary consequence of the COVID-19 was a decline in fuel demand which has resulted in fuel price drop. Due to lower fuel prices the price of agricultural products has also dropped (Siche, 2020). Agriculture is a strategically important sector and it plays a defining role in food production, labour market, it has an impact on local ecosystems and it is an instrument of economic development for most countries. The precondition to achieving desired economic and agricultural output is a reliable workforce. The ratio of agricultural workers has been on the decline for the last 50 years in the EU. Furthermore, the predominant age cohort of agricultural workers shows us that the workforce is aging, so we are likely to face a workforce shortage. In the developed countries we can observe a year over year decline of the number of agricultural workers. (Harangi-Rákos & Szabó, 2012).

3. Concept and methodology

Several national and international scale articles, reports and studies have been carefully examined that were considered to be relevant for the present paper. Secondary sources of information were examined and data was collected in order to help analyse the effects of the COVID-19 pandemic on the labour market and agricultural sector. Quantitative data was obtained from the EUROSTAT, WORLD BANK, FAOSTAT, KSH, INS databases.

4. The effects of the Covid-19 pandemic on the economy and the labour market

The increasing unemployment rate is just one of the direct effects of the pandemic, a decrease in average income, people sinking into

poverty are all phenomena that push us toward greater inequality. Unemployment is on the rise, which will inevitably lead to a decrease in productivity and economic performance. According to the theory of human capital, education can increase cognitive ability and thereby improve efficiency and performance on the labour market. A skilled workforce is able to cope with challenges posed by the pandemic since they are better at adapting to the changing demands of employers, as well as the environment and technology (Tazeen et al., 2020). During the crisis we could observe that the income inequality between the skilled and unskilled people is on the rise. Less skilled workers will likely earn less and less over time and unemployment increases. If the income of workers with higher education studies will not be affected or it will only decrease slightly, then there is a good chance that more people will seek to obtain higher education degrees.

Another interesting phenomenon is the impact of the pandemic on different agricultural sectors and how it will affect wages in those sectors. Among the most exposed sectors are the hospitality industry, manufacturing, commerce, business and administration. 38% of people employed are currently working in one of those sectors (Csizmadia & Illéssy, 2020). ILO (International Labor Organization) keeps a close eye on the damage done by the pandemic on the labour market. According to their report in the second quarter of 2020 the global working hours fell by 6.7% which translates to the loss of roughly 195 million full time jobs (Csizmadia & Illéssy, 2020). The pandemic has also caused a shift towards a more flexible work environment. The home office concept is not new, but it has certainly made its way into organizations that did not consider it to be part of their corporate culture (Csizmadia, Illéssy 2020). The labour market is undergoing

major changes which have been partly caused by the pandemic but can be also attributed to the emergence of Industry 4.0.

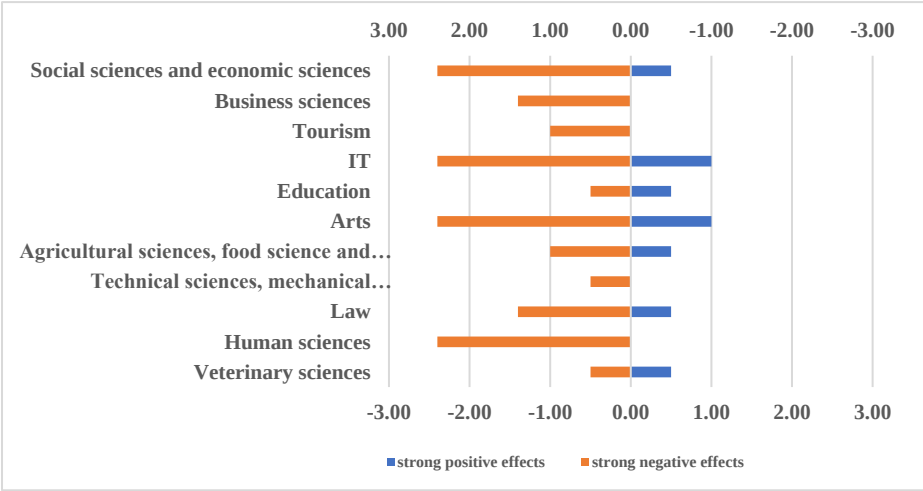


Figure 1. The positive and negative effects of the pandemic on the labour market: a breakdown by higher education specialization
Source: Authors' own elaboration based on Kádár & Nagy, 2020

The figure shows the results of a study in which university students were asked about the positive and negative effects of the pandemic on the labour market**.** Respondents believe that the current pandemic has had a strong negative impact on the labour market across all sectors and fields. Agriculture was not mentioned among the most heavily affected sectors. This study revealed that the effects of the pandemic caused significant changes and affected the labour market both on the supply and demand side. The figure below shows respondents' opinion on which sectors will be sought after in the future. 19% of respondents say that healthcare will be one of the fields that will grow after the pandemic. Agriculture (15%) and IT (11%) were also considered to be growing in size and importance.

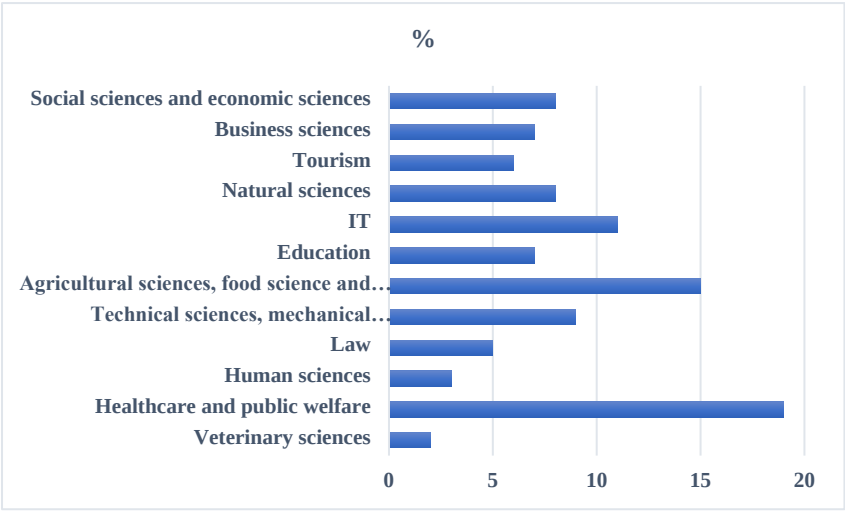


Figure 2. Successful higher education specializations after the pandemic

Source: Authors' own elaboration based on Kádár & Nagy, 2020

5. THE EFFECTS OF COVID-19 ON AGRICULTURE

In the past months we could witness a tendency that caused the global market coordination and globalization to be marginalized, we can observe a process of deglobalization (Zádori et al., 2020). The crisis made us realize the importance of decentralized models and the value of local supply chains in food production (Bhavani, & Gopinath, 2020). The crisis caused by the COVID-19 pandemic revealed that we need local manufacturing and food supply chains to work continuously, therefore there is a need to support local processing plants, cooperatives, and support is needed for the sale and marketing of local products. The COVID-19 pandemic forced humanity to rethink and redesigns food supply chains and the agricultural sector in order to build a safe reliable, egalitarian and sustainable food supply chain for everyone (Bhavani & Gopinath, 2020). The demand for food will not shrink even in the harshest

crisis, and this stable demand means a steady income for producers and stability makes for a good credit score. According to the FAO 2020 report in Romania, agriculture has been affected in several ways, the most prominent being the changes in supply and demand which are interlinked with food safety (Siche, 2020). The pandemic caused international borders to be shut down and international trade was halted or diminished as a consequence. Lockdowns and mandatory quarantines caused demand for restaurants and dining to shrink, and farmers had difficulties selling their products due to a shutdown of international trade (Stephens et al., 2020). Agricultural work is not possible from a home office, working on the fields and animal husbandry do not work over the internet. Farmers were also affected by the Covid-19 pandemic, for example they are more pessimistic compared to last year.

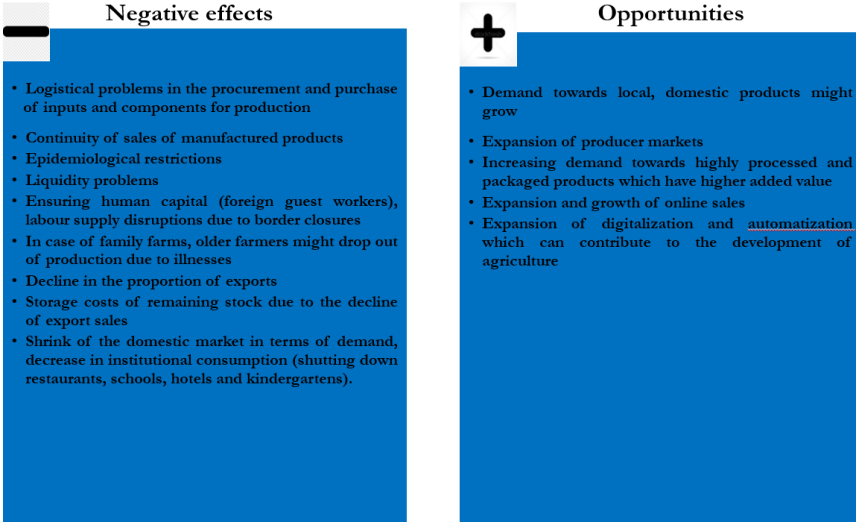


Figure 3. The negative effects of COVID-19 and rise of new opportunities in agriculture
*Source: Authors' own elaboration (*Kapronczai et al., 2020*)*

A study conducted in Italy examined a handful of farms after COVID-19. The research used a questionnaire to gain insight into farmers' opinion about the positive and negative effects of the COVID-19 pandemic. Respondents claimed that their day-to-day activities were not affected in any way, but the evolution of product sales were hurt by the pandemic. The closure of local markets, restaurants, hotels, schools, universities, also affected sales. The quarantine led to an increase of home deliveries and more farmers began to sell online, building their own webpages, getting closer to a digitalization of agriculture (Mastronardi et al., 2020).

The COVID-19 pandemic has also affected consumer behaviour. A study was conducted in Suceava county, Romania, which revealed that there is an increase in demand for fresh vegetables procured from local producers right after the national state of emergency was declared. The study revealed that consumers ordered vegetables online from producers and producers delivered these food items and vegetables to the consumers' homes. Before the pandemic only 12% of people ordered their food online, after the start of the pandemic this ratio increased to 60% who now say that they will order their vegetables and food online in the future. The study points out the necessity of developing alternative online sales channels for farmers in order to complement traditional sales channels (Butu el al.,2020). The COVID-19 pandemic has also caused a shopping frenzy, driving up demand for food on the internal and external markets as well. There was a drought in the summer of 2020 in Romania and the government banned the export of wheat. During the state of emergency, the European Commission halted exports for wheat, oats, beer barley, corn, soybeans and wheat flour outside the EU. The ban of exports caused the price of wheat on the Chicago's grain market to increase by 12% in April of 2020 compared to March 2020. In order to mitigate the negative effects of the pandemic the European Union adopted measures to support the agricultural sector. In the

frameworks of this scheme the agricultural sector of Romania was granted 1,732 billion euros (Vajd, Gy. 2020).

6. AGRICULTURAL WORKFORCE AND COVID-19

The ratio of agricultural workers in certain member states compared to the total workforce is high. According to the World Bank, in 2018, in Romania 23% of the workforce worked in agriculture, while in the EU this ratio is only 3%. Figure 4. below shows the evolution of the agricultural workforce between 2008 and 2018 in Romania and Hungary compared to the EU 28.

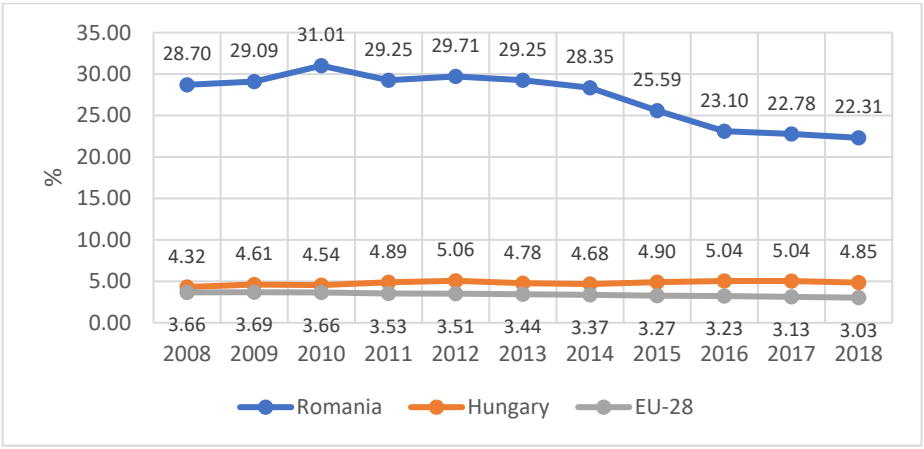


Figure 4. The ratio of legal working age people in agriculture (2008-2018, %)
Source: Authors' own elaboration based on World Bank (2018) data

Among the member states of the EU, Romania has the highest ratio of its total workforce employed in agriculture. The ratio for Romania was 23% in 2018 while in France the ratio was only 4.31%, for Germany it was 3%, Spain 4%, Poland 10% (Vasile, 2014). One of the main characteristics of agriculture is seasonality.

In the EU 28 we can observe a tendency of the workforce to migrate from developing countries to developed countries to work in agriculture (Vasile, 2014). In recent times we have witnessed a tendency of migration from rural environment towards cities. In the case of Romania, the majority of young people go and seek work abroad in hopes of higher wages and a better standard of living. As a consequence, the rural population is declining and aging since the birth rates are also low. The aforementioned factors have a great effect on the supply side of the labour market. On the upside, people currently working in agriculture are less likely to be exposed to the negative effects of the economic crisis. We can observe this tendency in countries with large agricultural lands, where production capacity exceeds internal needs and therefore are not dependent on imports. The mobility of agricultural workers is severely limited by border closures due to the COVID-19 pandemic. In the EU some member states had their agricultural production crippled due to the lack of seasonal workforce. According to data from 2016 France welcomed 532.000 (AWU 34%), Italy 932.000 (AWU 59%), and the United Kingdom 64.000 (AWU 37%) seasonal agricultural workers.
Right after COVID-19 struck, the lack of seasonal workers caused efficiency problems, vegetables, fruits were not harvested in due time or the workforce had to be replaced by automation leading to additional production costs. COVID-19 set the stage for a structural change in the agricultural workforce and accelerated automation and digitalization in agriculture (Mitaritonna & Ragot, 2020).

7. CONCLUSIONS

We can conclude that based on the above findings the global pandemic had a major impact on the economic trends, as well as the labour market, causing structural changes. The COVID-19 pandemic caused uncertainty in agriculture, especially due to

transitional acquisition costs and poor sales. We can generally conclude that overall, there have been less cases of bankruptcy in the agricultural sector compared to other sectors. Even if there is an economic crisis the demand for food tends to remain stable leading to steady incomes and reliability which is important when seeking loans. The Romanian government adopted measures meant to alleviate financial challenges that farmers had to cope with. Bad weather is not an unusual phenomenon in agriculture, therefore the effect caused by it during the pandemic were not so severe for those operating in this sector. It seems that smaller farms were more affected since they lacked capital and, in some cases, filed for bankruptcy. Some of the difficulties come from financing challenges and the inability to procure input materials (fertilizers, plant protection products, forage etc.), they don't have the financial means to stock up on these materials and they don't have reserves to survive until the delayed income paid after sold products finally arrives. The COVID-19 pandemic forced some countries (Italy, France etc.) to rethink their reliance on seasonal workers. This also means that we will experience a fast-paced modernization of the agricultural sector. Agriculture 4.0 makes farming more efficient, optimizing the use of input factors, improving production processes and working towards a sustainable high yield agricultural sector. Some EU member states and in Romania digitalization and Agriculture 4.0 is a slower process, but market forecasts claim that demand for smart precision agricultural technology will surge in the near future in Eastern European countries including Romania and Hungary as well. The economic crisis caused by COVID-19 made society aware of the importance of food supply chains and that they should increasingly rely on their own production for security and stability.

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ZSOMBOR KÁPOLNAI:
SHOPPING COMMUNITY IN HUNGARY 2020

PHD Student, Hungarian University of Agriculture and Life Sciences, Gödöllő kapolnaizsombor@gmail.com

Abstract
The year 2020 has also created a new situation for short supply chain actors as a result of the coronavirus epidemic.
Local products have become very popular in Hungary in the last 10 years. Of the parts of the short supply chain, producer markets are the most popular. In addition to markets, shoppers also want to buy a local product online. Shopping communities provide an opportunity for shoppers to buy many local products using the internet. Purchased local product can be picked up by customers once a week. Shopping communities are mainly run by non-governmental organizations in Hungary. In this study, I examine the online communication of shopping communities. The prevalence of online shopping is growing all over the world. It is important that local products are also available online.
The study attempts to define conceptually the shopping community among the novel forms (Szabó, 2014) of the short supply chain. In addition, it intends to present its operation in practice. The study primarily examines the characteristics of the shopping communities operating in Hungary, and identifies the most important steps of the evolution of these communities in Hungarian cities.
The study presents the changes in the shopping communities in Hungary in 2020.
The aim of the study is to present the impact of the coronavirus epidemic on the functioning of the shopping comminities in Hungary.

Keywords: Short food supply chain, Farmers' market, local product, coronavirus, webshop, home delivery

1.Introduction

In the last decade, one of the most important and characteristic products of the Hungarian countryside has become the local product, which has become available to a wide range of social groups as a real movement (Tóth –Kaszás et al 2017).
The emergence of direct sales with the element of trust in mind - and the growing interest of customers - was also followed by legal regulations. The Small Producers Regulation, adopted in 2010, offered a number of new opportunities for those interested in the short supply chain, allowing the short supply chain to be expanded with new elements and new actors.
An examination of the role of intermediaries in facilitating the relationship between producers and consumers in the short supply chain is not usually included in the studies, although their role is essential. The importance of local solutions is shown by the fact that a record number of orders were received in Hungary for certain forms of sales within the short supply chain in an emergency caused by the coronavirus.

In recent years, several researchers have tried to define the short supply chain in Hungary and internationally (G.Fekete, 2009, Czene-Ricz, 2010, Handlerné et al, 2012, Kápolnai 2017, Ritter – Nagy-Tóth, 2012, Helyi Termék Kézikönyv, 2015., Renting et al., 2003, p.393., Tregear, 2011, Martinez et al.,2010.).
The beginning of the short supply chain was in the first part of the 20th century, until the emergence of community-supported agriculture (CSA).
The roots of community-supported agriculture go back to the 20th century. It was first established in Western Europe, Japan, and North America. It appeared in Central and Eastern Europe in the

2000s. In Hungary, the translation of the name used in the United States and the United Kingdom has become a common name (Réthy –Dezsény, 2013).
The most influential French AMAP economy (Associations pour le maintien d'une Agriculture paysanne), which managed to organize a network at international level in addition to France. AMAP has member organizations in many countries around the world. A farmer or community using the AMAP farming form can be said to be widespread. In the case of an AMAP farm, the farm undertakes to comply with the following principles:
small-scale production respecting natural processes; maintaining transparency from the beginning to the end of the food chain; direct relationship between producer and consumer without intermediaries; long-term commitment of consumers to producers (even through contracts), thus ensuring the sharing of production risks.

Figure 1 Community-supported agriculture around the world.

Country	**Name**	**Beginnig**
Germany	Solidarische Landwirtschaft	1920s
Japan	Teike	1960s
United States	Community Supported Agriculture – CSA	1990s
United Kingdom	Community Supported Agriculture – CSA	2000s
France	AMAP	2001

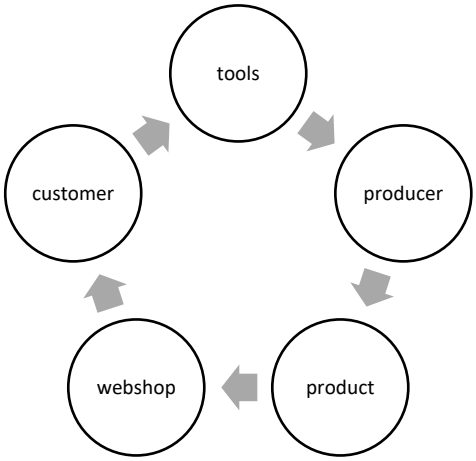
Source: (Réthy-Dezsény 2013)
Shopping communities definition

The shopping community should be defined as an organization / grouping dedicated to the development of the short supply chain that helps to connect producers and consumers through marketing and communication tools. The shopping community displays the offer and maintains a sales channel (webshop, producer market and store).

„Shopping community for us means a group of people come and cooperate together on the same goals and values and for their own demands and request they purchase food together. Members of the community can share their opinion, take part in the organizations and/or logistic task". SZATYOR Shopping Community website.

The functioning of the shopping community requires five basic factors: buyers, producer, webshop, tools, products. (figure 2).

Figure 2: Shopping communities system



Source: Shopping comunnity of Nyíregyháza

The legal framework for the operation of shopping communities is typically provided by some kind of NGO or religious organization. It is important to note that under the Small Growers Act, buyers can place a pre-order. The shopping communities website can be used to place an order. After a successful order, volunteers or employees from the shopping community forward the requested orders to the producers. Producers shall deliver the requested quantity to the place of delivery before the delivery time. The place of delivery must comply with food storage legislation, such as refrigerated storage and hygiene regulations.

Customers can usually pick up the product for 2 or 4 hours on a pre-determined time frame on the delivery day. Payment is made on site so buyers and producers have to trust each other. The lack of takeover was experienced only marginally by shopping communities.

The shopping community can take over the product from the producer as a commission, payment is on a one-week schedule.

Interestingly, the authorities Nébih, Nav staff have not yet encountered a system similar to shopping communities. It seems that over time it will be necessary for the proper functioning of shopping communities to formulate terms and operating rules that can be interpreted by the authorities (following the oral statement of Ildikó Palicz).

Volunteers from the shopping community put together a package ordered by shoppers, volunteer work in the case of shopping communities employs volunteers almost without exception.

Major products available in shopping communities: vegetables (fresh herbs, beans, sprouts, fresh vegetables, seeds, pickles), fruit (dried fruit anf fresh fruit), dairy products (yoghurt, cheese), meat (chicken, pork).

Shopping communities in Hungary operate in Budapest and populated rural cities. They work the same way.

An important part of the successful operation of shopping communities is continuous contact with customers. Currently, shopping communities can communicate with customers using facebook. Shopping communities want to get customers to order a local product from the shopping community on a weekly basis.

2. Materials and method

Shopping communities are not yet collected by official Hungarian statistics, which also shows the novelty of the phenomenon. Government bodies dealing with rural development and the agricultural economy also use a database created by a non-governmental organization, the Association of Conscious Costumers.

3. Results and discussion

The emergence of the Internet has brought a significant transformation in trade worldwide, with the role of geographical proximity being re-evaluated . The quote revaluation is also true for trade in local products, however, for producers of local products, the reduction in geographical proximity will only take place in a limited form under the legislation on sales distance (Small Producers Regulation).

The most important online interfaces for shopping communities are the webshop (website) used for shopping and social media. The existence of online interfaces in shopping communities is the basis for the functioning of communities, the results of empirical research, both content analysis and interviews confirm the statement that even if a shopping community does not have an online interface, it does not work.

In the last 12 years, 41 shopping communities have been established in Hungary. So many shopping communities have appeared on the internet. We know 2 shopping communities, you

may have a webshop, a public facebook social media group, and a facebook page. There are 23 shopping communities in Hungary that have an online interface, this is the Facebook page. I couldn't find a shopping community that has a webshop or facebook group but no facebook page. However, there is a shopping community that has a group and a webshop but no Facebook page - this is the Pécs Basket Shopping Community (Table 1.)

Table 1. Online interfaces of Hungarian shopping communities

	Webshop	**Facebook social media Group**	**Facebook social media site**
Webshop&Facebook grop& Facebook site	16	2	18
Webshop& Facebook group	2	2	
Facebook group& facebook site			
Single online interface	0	0	23
All	18	4	41

Source: Own collection

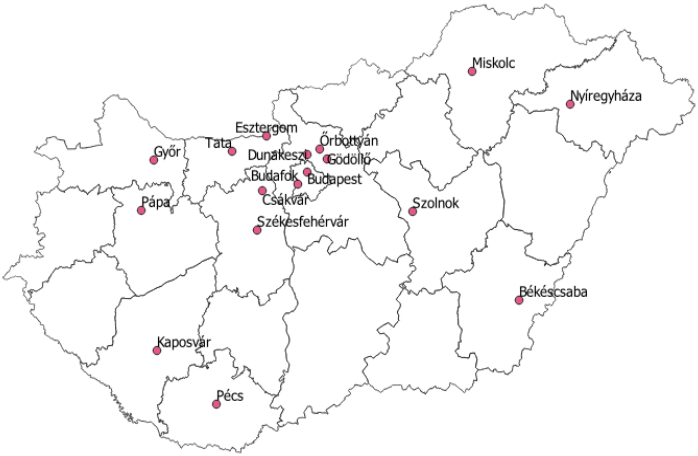
The most important infrastructural element of e-commerce is the webshop. A basic requirement for webshops is to have an online interface that is constantly accessible, transparent and has clear payment terms. With the expansion of electronic commerce, the number of related abuses and violations has also increased. In Hungary, the Consumer Protection Office deals with the elimination and prevention of abuses in electronic commerce. Given that elements of the short supply chain, including shopping

communities, are essential for the successful operation of customers to achieve a greater degree of empathy than is trusted by conventional trade players, which webshops must also reflect (against). Managing webshops on a daily basis imposes a time-consuming and proficient task on both members and volunteers of shopping communities. Presumably, this is due to the fact that several shopping communities do not or only partially operate a webshop.

The structure of the interfaces, in addition to website management and administration, is not a negligible aspect, that the operation of the webshop typically brings with it the compilation of the ordered products. This task is also a time-consuming and labor-intensive activity and requires a higher level of organization from the shopping community.
In the case of 18 of the shopping communities in Hungary, we can talk about an online ordering interface, but we can call it a webshop. At present, none of the shopping communities provides prepayment. In the following, the order surfaces of shopping communities with an online ordering interface are compared. It is possible to pre-order the products on each surface, in addition to the pre-order, the presentation of the producers is the other service provided by each surface. The introduction of the producers is typically a few sentences, where the activity carried out, the presentation of the product and, in most cases, the place of production are also described.
The map shows the location of the areas of the Hungarian shopping communities using the webshop Figure 1.

In addition to these services, the online ordering interfaces of shopping communities show differences. In addition to displaying the product list, the surfaces also contain filtering functions, the most common of which is sorting by price and filtering by allergens. The distance of the products from the center of the shopping community can only be filtered on the order surface of the Esztergom Kiskosár shopping community, however, the producers' introduction (available for all shopping communities) usually includes the place of their production

Figure 1. Shopping communities in Hungary 2020



Source: own editing

The initiative of the Nyíregyháza Basket Shopping Community is serving the general spread of webshops providing uniform services and with the same image, during which a webshop meeting the requirements of the age has been developed and adapted to the needs of members of shopping communities and customers. The

Nyíregyháza Shopping Community has made the webshop software available to other Hungarian shopping communities, so that many newly established shopping communities could have a webshop (Ildikó Palicz 2020).

The webshop interface created by the Nyíregyháza Basket Shopping Community is currently used by six other shopping communities besides Nyíregyháza. Previously, the image of the Szatyor shopping community webshop was used by several shopping communities, and that interface is currently used by three communities. There are shopping communities whose webshop has no or only a partially automatic ordering interface, such as the Pécs Basket Community and the Budafok Basket Community. The interface surfaces of the said shopping community are google forms, which, in addition to being easy to use and flexible, also mean extra work for the organizers when compiling orders. The order interface of the Tatai Source Shopping Community is a microsoft excel spreadsheet that each customer must return individually to the shopping community.

We find shopping communities in Hungary that do not operate a webshop, so it is not possible to select the product you want to buy via the Internet and then order it by placing it in a cart, but they still communicate online, but the administrative burden is passed on to producers. This system does not allow sales to typically be made within the shopping community by typically older small producers living in rural areas who are less proficient in managing online interfaces, so aspects of the shopping community related to social economic development do not appear, such as the Zugló Bread Community ordering interface.

The Rolling Basket Shopping Community does not operate a webshop. The operation of these shopping communities is similar to the operation of producer markets, customers can send their pre-orders directly to producers

The impact of the coronavirus epidemic on the functioning of shopping communities

The coronavirus epidemic has caused changes around the world. Shopping communities in Hungary also had to find a solution to the problem caused by the coronavirus epidemic.

I gathered on how shopping communities in Hungary functioned during the coronavirus epidemic. The first issue was whether the shopping community was operating during the epidemic.

The coronavirus epidemic has created a new situation for actors in the short supply chain. The popularity of the short supply chain has been growing in several European countries. Traditionally produced foods come from great distances, so supplies are more cumbersome than before due to the limitations caused by the coronavirus. As a result, there has been an increase in demand for nearby food. Crowds began to produce food for themselves. Kislépték.hu

In Europe, shopping communities are the most popular in France. The organization uniting French shopping communities is 'La Ruche qui dit oui'. The association's revenue increased by 66% two weeks after the restrictive measures introduced as a result of the coronavirus epidemic. The organization has 750 smaller communities. The communities are mainly located in the south of France. 5,000 producers and 160,000 consumers belong to the communities. The average consumer basket increased by 27%, while 30% more producers registered.

https://www.ouest-france.fr/sante/virus/coronavirus/coronavirus-vente-directe-amap-marches-le-circuit-court-s-organise-6787799

In Hungary, the coronavirus epidemic has had both negative and positive effects on actors in the short supply chain. Several actors in the short supply chain had to close down due to the coronavirus. Due to the coronavirus epidemic, there are no events attracting large crowds, educational institutions have closed, so their kitchens have not received local products either. Rural tourism came to a halt, so producers could not sell the products locally to tourists. Kislépték.hu

Between 2012 and 2020, 41 shopping communities were established in Hungary. Several shopping communities in recent years At the time of the outbreak of the coronavirus epidemic in Hungary, there were 25 shopping communities that had been operating for at least three months before March 2020. There are 25 shopping communities in Budapest and we can find them in the big cities of the countryside. During the coronavirus epidemic, several shopping communities were established in Hungary. In 2020, 5 new shopping communities started operating.

Before 2020, shopping communities in Hungary were organized exclusively in cities. In 2020, the first shopping community was formed that uses a webshop and does not operate in a city. This shopping community is located on Szentendrei Island near Budapest. The products will be handed over in a small village (Surány). (https://szigetkosara.hu/).

In order to stop the coronavirus epidemic, the government introduced restrictive measures from 11 March 2020. The restrictive measures affected the whole economy. Communities

that also shopped during the coronavirus epidemic also had to adopt innovative solutions to function.

The role of shopping communities has increased during the coronavirus epidemic. In shopping communities, shoppers can pre-order products. When making purchases, shoppers don't have to be in large crowds in one place. There were also shopping communities that temporarily ceased operations. Most shopping communities also operated during the coronavirus epidemic.

The most important innovations introduced by the shopping communities during the coronavirus epidemic were: an increase in the number of webshops, the spread of home delivery, as well as a time zone, "drive in" takeover, staff limitation (Table 2).

Table 2. Innovations introduced in shopping communities during a coronavirus epidemic

	Befeore covid 19 pandemic	During covid 19 pandemic
Webshop	12	16
Home delivery	2	10
Time zone	0	6
Drive in shopping	0	1
staff limitation	0	5

Source: own collection

Webshop

Digital commerce in Hungary is also growing year by year. In Hungary, the webshop is an essential element of the commercial activity of shopping communities. The webshop provides

customers with the ability to order from home. Before the outbreak of coronavirus 12 shopping community use webshop. Since the outbreak of the coronavirus, 16 shopping communities are already using webshops.
Before the coronavirus epidemic, it was not possible to order products for several shopping communities. These shopping communities operated similarly to producer markets. (Együnk helyit).

Home delivery
Home delivery was provided to shoppers by only two shopping communities prior to the outbreak of the coronavirus. Following the outbreak of the coronavirus epidemic, several shopping communities have introduced home delivery. There are currently 10 shopping communities using home delivery.
The shopping communities undertook to take the ordered products home to the customers. The products were mainly shipped to older customers. The delivery was done by volunteers (Sziget Kosara).

Drive in shopping
Drive-in shopping has been used by fast food restaurants in Hungary for decades. The "drive in" shopping is used by the shopping community in the city of Dunakeszi in the Budapest agglomeration. The drive in shopping in the national media was also welcomed. link Drive in handover, despite the reverberation of large media, requires a lot of space. Several shopping communities did not follow the example of the Dunakeszi Small

Market. Despite the successful operation of the model, it has not become massive.

Time zone
During the control of the coronavirus epidemic, the Hungarian State determined at what times the elderly (people over 65) and the younger (people under 65) can go shopping. Several shopping communities have used the time zone when delivering products.

4. Conclusion

The coronavirus epidemic in Hungary had a more positive effect on the functioning of shopping communities. When shopping in shopping communities, fewer shoppers stay in one place. In 2020, several new shopping communities were formed in Hungary. The number of shoppers in shopping communities has increased.

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Zsombor Kápolnai
PhD Student
kapolnaizsombor@gmail.com

KOPONICSNÉ GYÖRKE DIÁNA – HORVÁTHNÉ KOVÁCS BERNADETT – SZABÓ KINGA: YOUNG FARMER AS KEY PLAYERS IN RURAL AREAS: HOW THE EU SUPPORTS CAN CONTRIBUTE TO THE POPULATION RETENTION CAPACITY OF THE COUNTRYSIDE

[1] Department of Bionomy, Institute of Sustainable Development and Farming, Hungarian University of Agriculture and Life Sciences Kaposvár, e-mail: koponicsne.gyorke.diana@uni-mate.hu
[2] Department of Bionomy, Institute of Sustainable Development and Farming, Hungarian University of Agriculture and Life Sciences Kaposvár, e-mail: horvathne.kovacs.bernadett@uni-mate.hu
[3] Department of Bionomy, Institute of Sustainable Development and Farming, Hungarian University of Agriculture and Life Sciences Kaposvár, e-mail: szabo.kinga@uni-mate.hu

Abstract: If we want to sum up the overall aim of the Pillar II of CAP, the rural development, the main focus will be on the retention capacity of the rural areas. To make these areas at least as attractive as the more urbanized parts of a region several important things are needed: fair income opportunities, available services, convenient environment. According to Eurostat data only 11% of farmers are under 40 in the EU member states. Supporting young farmers and promoting generational change can be measures of keeping the rural population in place. In our study we introduce the development of young farmers support in Hungary and evaluate the successfulness of the objective based on empirical data. Our aim is to formulate suggestions for the next program period of rural development how to improve the number of young farmers.

Keywords: young farmers, rural development, CAP, Hungary, South Transdanubia,

1. INTORDUCTION

The overall comprehensive aim of the EU's rural development is to improve the population retention capacity of the rural areas. In many EU member states one of the countryside's most serious problem is the aging and decreasing population. These phenomena go hand in hand with the lack of employment opportunities and with insufficient services. In most of the cases it couldn't even be decided which factors were the reasons and which ones the results. As agriculture is still a dominating activity in rural areas, supporting the younger generation to start businesses in the agriculture and stay in place can be one of the solutions for the above introduced situation.

In our study we introduce the demographic situation of the EU's farmers to justify the importance of the young farmers support. In the literature review a short overview can be read about the history and development of this initiative. The paper focuses on Hungary, therefore it sums up the most important findings about the program results between 2007 and 2013. Our own analysis tries to justify or refute these results on the example of South Transdanubia NUTS2 region based on secondary data. At the end of the study we compare our own findings and suggestion with the new period's program and try to formulate some recommendation to improve the examined measure.

2. LITERATURE REVIEW

In literature review the overview of the young farmers measure's development is given from 2000 until the 2014-2020 multiannual

financial framework. We introduce the results of the program for the 2007-2013 period.

2.1. The demographic situation in agriculture

The importance of the young generation's support can be confirmed by the following data. In the EU countries 2016 there were 10.3 million people working as farm managers. 32% of them were over 65 and only 11% of the managers were under 40 which is the threshold age of the young farmers category (European Commission, 2018). According to Figure 1 there are only ten countries where the share of young farmers are higher than the EU average.

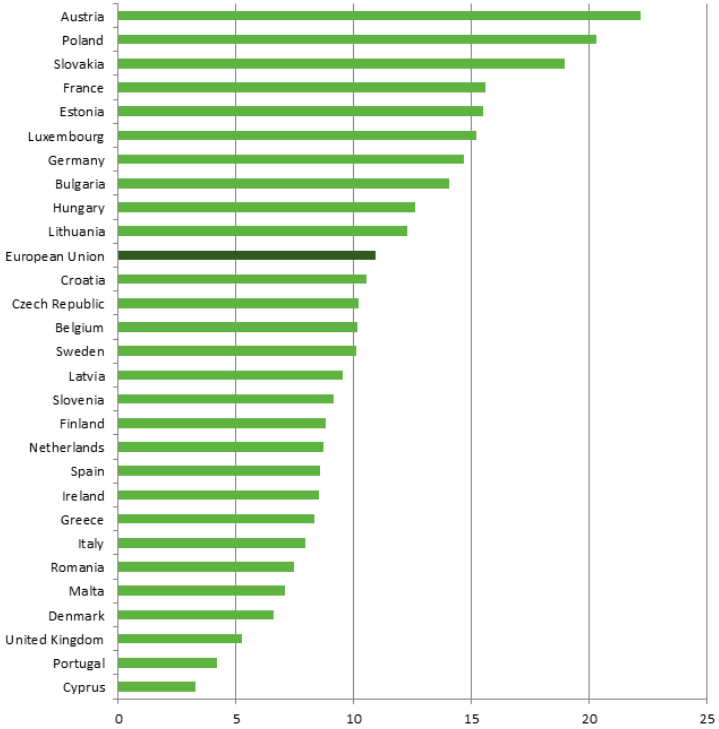


Figure 1: Proportion of farm managers under 40 years of age, 2016 (%)
Source: European Commission, 2018

The mid- and long term consequences of this trend can be analysed based on the population pyramid of the agricultural sector (see Figure 2).

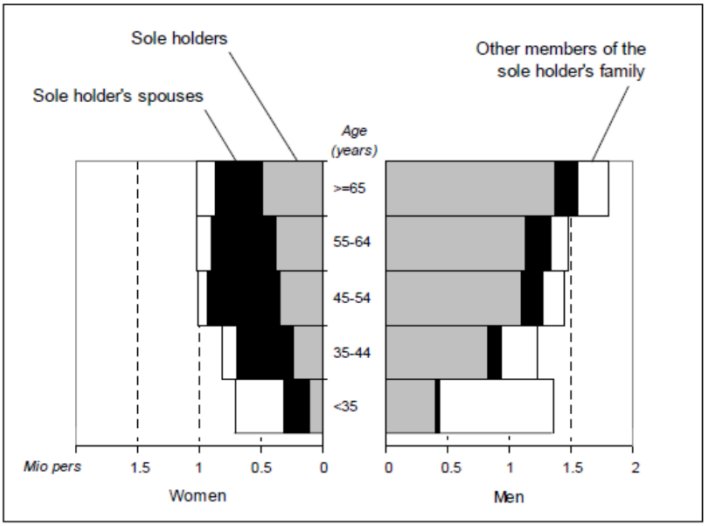


Figure 2: Population pyramid in millions of persons
Source: Charlier, 2003

This pyramid shows clearly the aging population of the agriculture both among women and men. Population is decreasing in rural areas; and agricultural sector, as one of the key players in the countryside, are not attractive enough for young persons are they have many difficulties to start their own business. These circumstances lead to the migration to the region centres or to urban areas of the country. These demographic trends are the main reasons why young farmers' support has high importance in the EU and in mainly in the rural development.

2.1. CAP measures to support population retention

To address the scarcity of young farmers in combination with the rapid ageing of the farmer population, the EU developed a specific policy that has been applied throughout the last 50 years. This

policy is based on a series of legislation actions including decisions and regulations, in an effort to thoroughly face the problem. Following those previous policies, the Common Agricultural Policy (CAP) approached this target by two different but complementary paths, (a) the early retirement and (b) the new entrant scheme (Chatzitheodoridis & Kontogeorgos, 2020). The European Community (EC) first took an initiative on farmer retirement in 1972 under Directive 72/160/EEC. This required member states to implement measures to encourage farmers aged 55-65 to retire through provision of a pension. Their land had to be made available, by sale or by lease for at least twelve years, to other farmers who would operate a development plan. At least 85 percent of the land released had to be used for the Farm Modernisation Programme or withdrawn permanently from agricultural use (Gillmor, 1999). However a study carried out in Ireland showed that there was little interest in the scheme among the farmers because they considered themselves active and able and wanted to continue farming; that a considerable proportion had a specific successor in mind rather than relinquish the land as required under the scheme; a sentimental attachment to the land and a reluctance to part with it; economic reasons, including consideration of the income under the scheme as being inadequate (Commins, 1973).

Associated with the changes under the market organisation rules contained in the 1992 McSharry Reform of the CAP, there were three Accompanying Measures relating to agri-environmental policy, afforestation and farmer retirement. Member states were entitled to introduce schemes for early retirement from farming which would be part-financed by the Guarantee Section of the European Agricultural Guidance and Guarantee Fund (EAGGF) (EEC, 1992). The objectives of the early retirement aid were specified by the EU as contributing to:

(a) providing an income for elderly farmers who decide to stop farming;
(b) encouraging the replacement of such elderly farmers by farmers able to improve the economic viability of the remaining agricultural holdings;
(c) assigning agricultural land to non-agricultural uses where it cannot be farmed under satisfactory conditions of viability (Gillmor, 1999).
After Hungary's accession to the European Union during the programming period between 2004 and 2006 the measure of early retirement was planned by the National Rural Development Plan but was not activated during the 3 years due to the lack of legislation on tax and social security. The budget was re-allocated to other measures of the program (e.g. agri-environment) (NVT, 2009)
Assistance for setting up young farmers has been available in the EU since the 1980s. The young farmers measures were fully developed in the 1990s after becoming an integral element of rural development programmes (Bika, 2007). The regulations that followed Agenda 2000 were improved in the sense of supporting young farmers, aiming to become more attractive than the previous ones. Changes made in the regulations, including the significant increase in the premium for the first establishment (from 8,000 EUR to 25,000 EUR) (Chatzitheodoridis & Kontogeorgos, 2020).
In Hungary, the regulation 1257 of 1999, implemented under the AVOP (Agricultural and Rural Development Operational Program) 2004-2006 resulted in a total of 285 young farmers beneficiaries to the measure 1.3. Young farmer start-up payment. The total allocated budget of 7,317 million EUR was spent during this programming period (AVOP, 2010)

2.2. Young farmers measure in Hungary 2007-2013

Based on the Council Regulation (EC) No 1698/2005 on support for rural development by the European Agricultural Fund for Rural Development (EAFRD) member states had the opportunity to subsidies the setting up of new farmers (EU, 2005). In the New Hungary Rural Development Program Hungary opted to grant a maximum 40,000 EUR non-refundable income support for young farmers between the ages of 18 and 40 for establishing a new own farm. From 2007 to 2015 (taking the n+2 years rule into account) 22,000 support requests was issued to the paying authority (see Figure 3) for Measure 112. Setting up young farmers.

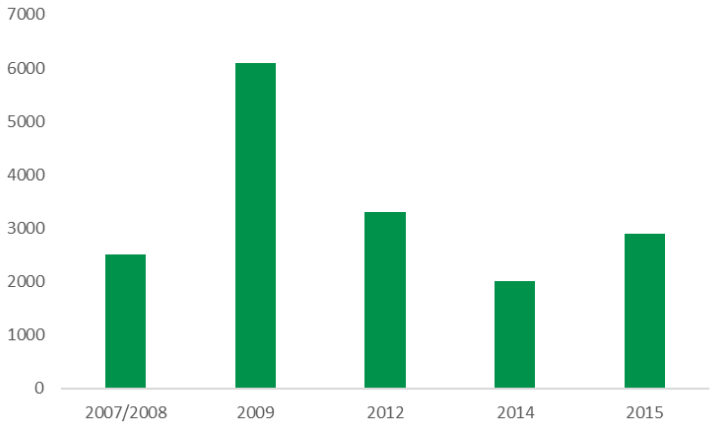


Figure 3: Number of support requests for Measure 112. Setting up young farmers
Source: based on ÚMVP, 2016

Based on the ex-post analysis of the rural development program Measure 112. was an under planned measure and there was a need for permanent re-allocation from other budget aims. At the

beginning of the period national authorities planned with 3300 supported farmers but finally 8411 applicants were financed by the program. It means that the financial resource of the measure increased from the originally planned 69 million euro to 292.8 million euro as well.
Unfortunately only 131 of these young farmers were successors of early retiring farmers (ÚMVP, 2016).

The bureaucratic regulations
A survey of the Hungarian Statistical Office in cooperation with the AGRYA (Young farmers alliance in Hungary) listed the most important obstacles for young farmers to start a business. Their results are summed up in Figure 4.

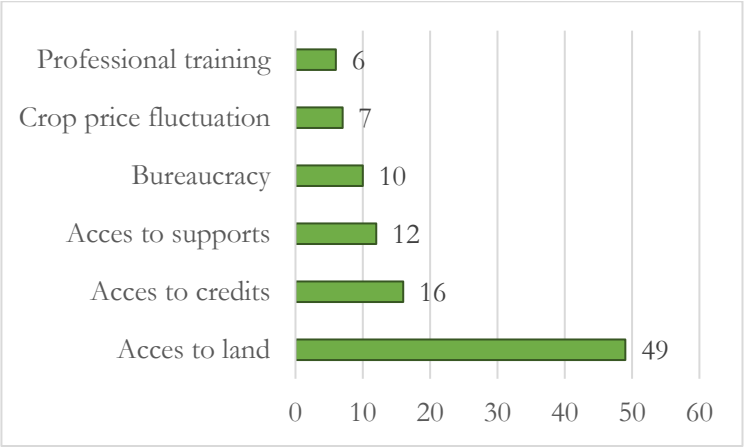


Figure 4: Obstacles of farming (%)
Source: based on KSH, 2013

Bureaucracy is a pretty serious problem for futures the young farmers. The regulation for the Measure 112 changed eight times during the seven years long period, no wonder that the highest ratio of sanctioned farmers can be found in this measure (ÚMVP,

2016). In our point of view the individual entrepreneurship as the only form of the business belongs to the category of bureaucracy as well. This form of enterprise means high tax burden and other costs and contributions for the farmers. Even if only 6% the above mentioned survey participants mentioned the lack of knowledge as an obstacle the requirement to create a business plan was a problem for many of the applicants.

Agriculture has high entry cost and young farmers creditability is not too good in Hungary. That's why EU supports play a very important role in starting a new business. On the other hand it was a main opinion that the 40,000 EUR support is not sufficient for young farmers and its purchasing power decreased during the 2007-2013 period (ÚMVP, 2016).

We can see at Figure 4 that the most expensive element at the beginning of a business is the accession to land. In the current Hungarian situation farmers should prefer renting the land instead of buying it.

To sum it up experts found that the two most important element if the success was the rational planning and the family attachment to agriculture. (KSH, 2013)

3. MATERIAL AND METHODS

Secondary data were used in the analyses. The young farmers' aid in Hungary was examined with simple descriptive methods, we indicated the level and changes of the real EUR and HUF value of the aid. The support ratio in the South Transdanubian region was compared to the national values in terms of applied, approved and paid amounts.

The spatial patterns of the number and success of applications was analysed across the region by comparing various statistics of the support in districts. The data was available at settlement level, and aggregates were created for districts. Variables of submitted,

accepted and paid amounts and ratios of support were included in the analyses; the results are shown on own made maps.

4. RESULTS AND DISCUSSION

In these chapter we introduce our results based on primary data and compare our findings with the overall Hungarian trends.

4.1. The purchasing power of the supports

As a first step we analysed the purchasing power of the maximum amount of support. Based on the regulations it was 40000 EUR We analysed the real value of this amount during the 2007-2013 period. Results can be seen on Figure 5 and 6.

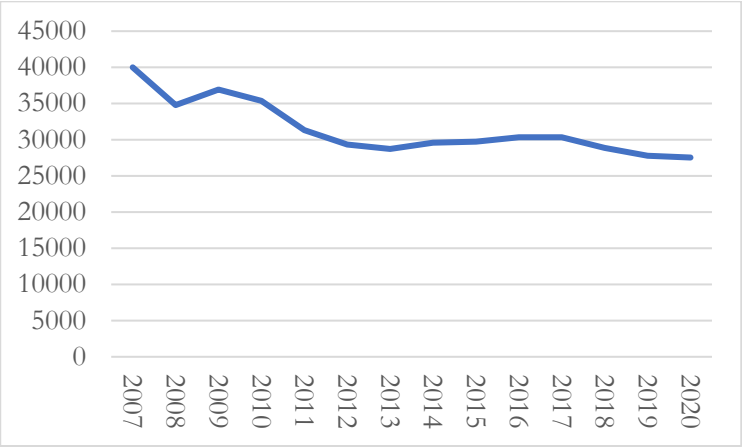


Figure 5: The real support in EUR
Source: own calculation based on (ECB, 2021) and (KSH, 2021)

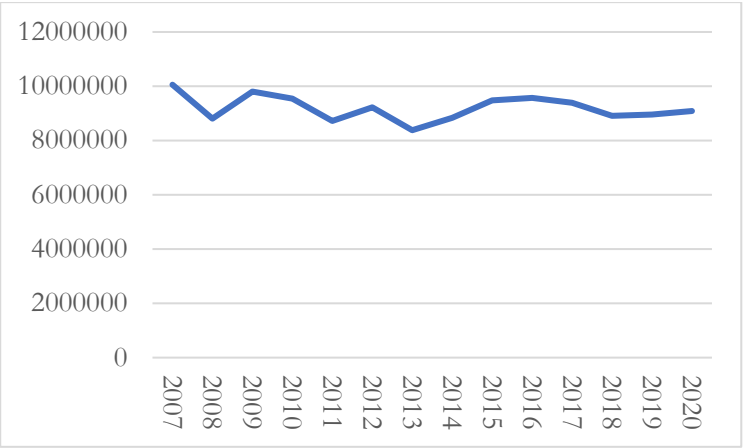


Figure 6: The real support in HUF
Source: own calculation based on (ECB, 2021) and (KSH, 2021)

To calculate the purchasing power of the starting 40,000 EUR we checked the Hungarian Statistical Office database, and took the agricultural expenditures' price indexes between 2007 and 2013. We found that the real value of the support in 2013 is only 68,8% of the support of 2007. So the purchasing power of the support lost almost 32% of its value during the examined 7 years. On the other hand we calculated the support in HUF too. According to the regulations financial support had to be transferred to HUF at the exchange rate which was determined by the ECB on 1 January of the year of disbursement. We found that in HUF the real value decrease is only 9.6%. So the devaluation of the HUF counterbalanced the decrease of the purchasing power, therefore it was not as significant as the farmers felt.

4.2. Support ratio in South Transdanubia

The overall support ratio in Hungary was 46.5% among young farmers (ÚMVP, 2016). Given the high degree of bureaucracy and

the high proportion of sanctions in this measure, we expected dropouts to be high in this support category as well. According to our calculations this decrease is higher in South Transdanubia as the Hungarian average. (see Figure 7)

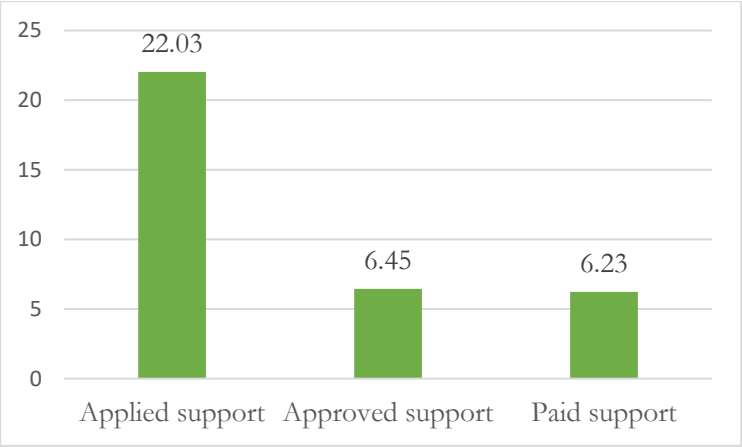


Figure 7: The amount of supports (billion HUF) in South Transdanubia
Source: based on TeIR, 2020 (MAK-MV 2007-2013 data), 2020 own calculation

Thanks to the high number of maximum support, the average support amount is almost the same as the Hungarian average, 10.46 million HUF (TeIR, 2020). According to Figure 6 only 28.37% of the applicants were supported and 29.27% of the applied sum was paid.

4.3. Spatial patterns of the supports in South Transdanubia

The spatial distribution of the young farmers supports in the South Transdanubia was analysed at district level. The Figures 8 to 9 shows the spatial distribution of a) number of submissions (pieces);

b) total amount requested (million HUF); c) total amount paid (HUF) within the period 2007-2015 (secondary data from TEIR).

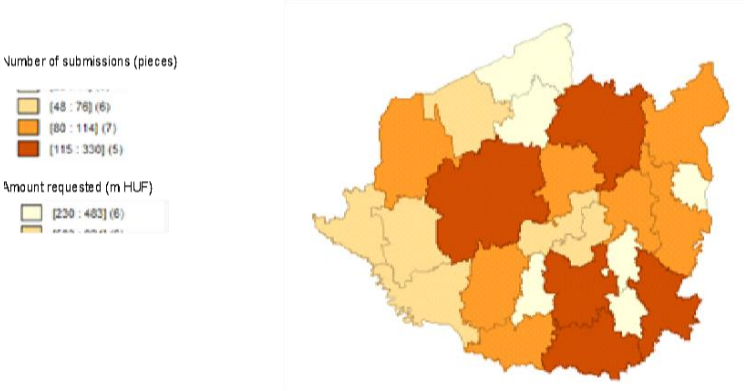


Figure 8: Number of submitted (a) and amount of requested (b) young farmers support in Southern Transdanubian districts
Source: based on (TeIR, 2020) (MAK-MV 2007-2013 data), 2020 own calculation

The spatial distribution of required support shows that most request were submitted in (certain) districts of Baranya county, around Kaposvár (centre of Somogy county) and Tamási (Tolna county).
When looking at the paid amounts during the analysed period, Marcali area and Paks area are also in the first quarter. Altogether in 6 out of 24 districts the paid amount is very low (Figure 9).

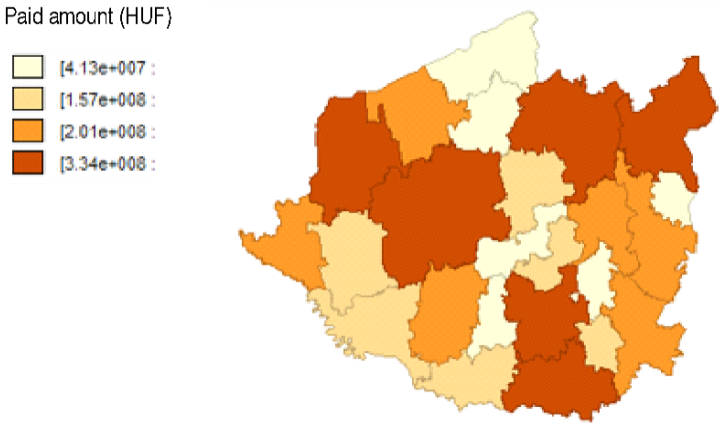


Figure 9: Amount of paid young farmers support in Southern Transdanubian districts
Source: based on (TeIR, 2020) (MAK-MV 2007-2013 data), 2020 own calculation

The spatial distribution of ratios of a) accepted and requested amount (Figure 10), of b) paid and accepted amount (Figure 11) and accepted and submitted (Figure 12) indicate the success of application and financial implementation of the projects.

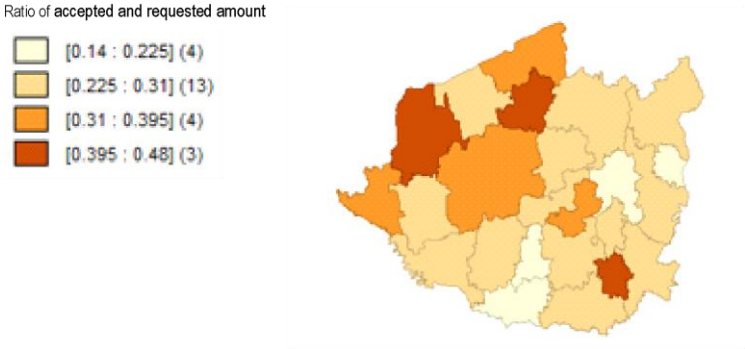


Figure 10: Ratio of accepted and requested amount of young farmers support in Southern Transdanubian districts
Source: based on (TeIR, 2020) (MAK-MV 2007-2013 data), 2020 own calculation

In the Marcali and Tab districts farmers applied most successfully and reached the highest accepted/requested ratio in the region.

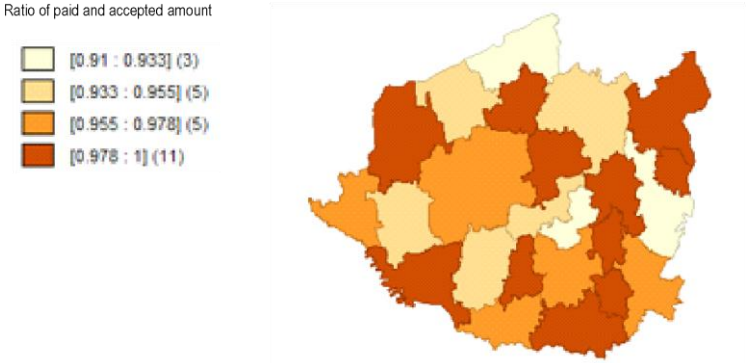


Figure 11: Ratio of paid and accepted amount of young farmers support in Southern Transdanubian districts
Source: based on (TeIR, 2020) (MAK-MV 2007-2013 data), 2020 own calculation

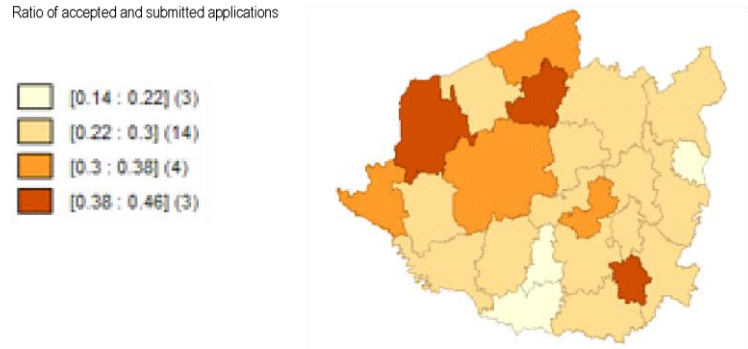


Figure 12: Ratio of accepted and submitted applications of young farmers support in Southern Transdanubian districts
Source: based on (TeIR, 2020) (MAK-MV 2007-2013 data), 2020 own calculation

Comparison of the spatial patterns seen in Figures 11 and 12 indicates that even in those districts, where the accepted ratio of requested amount is high, the number of successful applications show that high number of farmers fail their applications.

When analysing the spatial pattern, the effect of area size and population density had to be eliminated. Therefore calculated two different project densities: for 1000 heads and for settlements. Based on the results neither the number of the inhabitants nor the settlements seem not to explain the concentration.

5. CONCLUSION

Despite the fact that the measure proved to be successful the age structure has only slightly improved through the measure and further rejuvenation was needed in the sector. This was supported by the EU during the 2014-2020 programming period.
On one hand the CAP lacked any incentives for older farmers to pass their businesses to younger generations, but young farmer payment was introduced in Pillar I as a compulsory scheme for member states to subsidised farmers under 40. The top-up payment is granted for a period of maximum 5 years. Hungary had allocated 0.77% of the national envelope for this measure (European Commission, 2016). Meanwhile, based on Article 19 Regulation (EU) No 1305/2013 Hungary continued to support setting up new farms in the framework of rural development (EU, 2013). In addition to the start-up aid a sub-program was developed with a budget of 195 million EUR in the Rural Development

Program to help young farmers access other rural development measures easier.
The lesson from the analysis of young farmers' support within the period 2007-2015 was that there is a huge discrepancy in the success of applications across South Transdanubian region. Less in number but more successful farmers were found in certain districts, while in those areas where higher number of applications are submitted more of them failed. According to our view, the allocation of support shall follow the spatial patterns of potential applicants. Further focus shall be put on the support of applications. These circumstances although need more investigations.
Regarding the programming period 2021-27 generation renewal is one of the nine objectives of the new CAP. This predicts that the support of young farmers will remain in the focus of the Common Agricultural Policy after 2021. Based on the information available in April 2021 Hungary plans to continue both measures in the upcoming period, considering a supplemental 70,000 EUR to the start-up payment as maintenance support and the abolition of the territorial limit while increasing the amount of the top-up payment in Pillar I.

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PÉTER EMŐKE KATALIN: JOINING COOPERATIVES IN THE CATCHMENT AREA OF SZÉKELYKERESZTÚR

Sapientia University, Faculty of Economics, Socio-Human Sciences and Engineering,Department of Economic Sciences

The Transylvanian cooperative movement has a long history, and farmers experienced its benefits as early as the beginning of the 20th century. The strategic principle of cooperatives was the marketing of food and agricultural products through short supply chains. The income gained this way was likely to remain within the system and it contributed to establishing the conditions of the individuals' and region's prosperity.

The HANGYA Cooperative (ANT Cooperative) operating for almost half a century in the settlements populated by Hungarians all over the Carpathian Basin successfully joined together different social classes. Later on, in the second half of the 20th century, these assets were nationalized, the livestock and the land properties were taken away from the farmers, and they were declared public propriety. This act made a lasting impact on the farmers' families. Our research seeks to answer the following questions: how the farmers could cope with this negative impact, and how they can coalesce into cooperatives and work together again.

Our research is based on the qualitative and quantitative analysis of empirical surveys focusing on farmers' attitude towards cooperatives in the catchment area of Székelykeresztúr.

Our exploratory research foreshadows a significant advantage of farmers who belong to cooperatives over those who do not. We would like to offer them help by revealing the results of our member opinion survey conducted among the members of the Nagy-Küküllő Agricultural Cooperative. We are hoping that our

work can make farmers consider the option of joining a cooperative in the future even if they feel reluctant to take this step now.

Keywords: cooperative, members trust, small farms

INTRODUCTION

The predecessor of the dairy factory supplying Nagy-Küküllő Agricultural Cooperative in Székelykeresztúr was established one hundred years ago by the Hangya Cooperative to date under the name "Butter factory". The goal of the research is to examine the actual operation of the cooperative from the perspective of farmers. The research focuses on the current operation of the cooperative as well as on the relationship among the members and their attitudes towards the cooperative. The farmers' future is closely bound to the Dairy Cooperative of Székelykeresztúr. Our research explored the future prospects of the cooperative and the farmers' future plans. The research looking into the actual farmers' attitude towards the cooperative in the catchment area of Székelykeresztúr is based on qualitative and quantitative surveys. The depth interviews yield insight into the operation of the dairy factor of the Nagy-Küküllő Agricultural Cooperative. The analysis of the survey questionnaires reveals the future plans of the farmers. We are seeking to find out whether the cooperative has a future in the estimation of the members, and what kind of collaboration they envisage in the future.

LITERATURE

Agricultural cooperatives have established a significant presence in the European Union. The most widespread cooperatives are the ones operating in the fruit and vegetable sector, and the dairy sector. There is a variety of cooperatives across countries, but they all play an important role in the production, processing and marketing of agricultural products. Besides all this, they have an

essential role in rural development, landscape conservation, traditions preservation, employment, and environmental protection.
From an economic point of view, the sustainability of continuing adaptation and competitiveness is a priority. Going international has also gained a lot of attention, especially among marketing cooperatives. (Szabó G. Gábor (2011,p.47,2013)

Danish and Dutch family success stories are well-known among farmers and cooperatives. The common ground between the two countries with respect to the establishment of cooperatives is that it was a voluntary, bottom-up process guided by economic necessity. In Denmark, such cooperatives came into being at the late 19th century, as a result of a long process, undisturbed by major political events. The pioneers of Dutch cooperatives also played an important role, since – apart from economic incentives – the process needed external support coming from farmers' alliances, rural churches, and landed nobility.

At the launch of cooperatives, since their capital was invested in lands, equipment, and buildings, farmers applied to banks for money to cover the startup costs. Banks conditioned the loans to very strict rules: farmers were obliged to market their products within the cooperative, they had to pay fines in case they wanted to step out, and they bore unlimited liability for the debts of the cooperative.
Delivery obligation is still a very important factor today because dairy cooperatives require massive investments. For this reason, if a farmer steps out, the value of debt of the remaining members increases and they become unable to fully utilize the capacity.(Fertő,2016)(Bakucs, 2008)
The process of establishing the Hangya Cooperative followed a peculiar pattern. In the case of the credit unions, first the individual

units were created, then the national central unit. In the case of consumers' cooperative, the central unit was created first, which facilitated the creation of the rural units. The cooperative allowed the integration of investments, and operating sources into the household credit system. The credit union framework connected savers with small producers, a connection which regulated the acquisition price and sales price. The main aim of the Hangya Cooperative was to provide villagers with good quality and cheap goods, so as to counterweight the activity of moneylenders represented by tradesmen and innkeepers. (Ihring, 1929)

The Hangya Cooperative was established in 1898 with 29 cooperatives, and this number increased to 1969 by the year 1922 (Figure 1.), employing 1142 officials in the Hangya center. In the midst of the economic decline of the nobility, the Hangya center expected local priests and teachers to establish the local units.

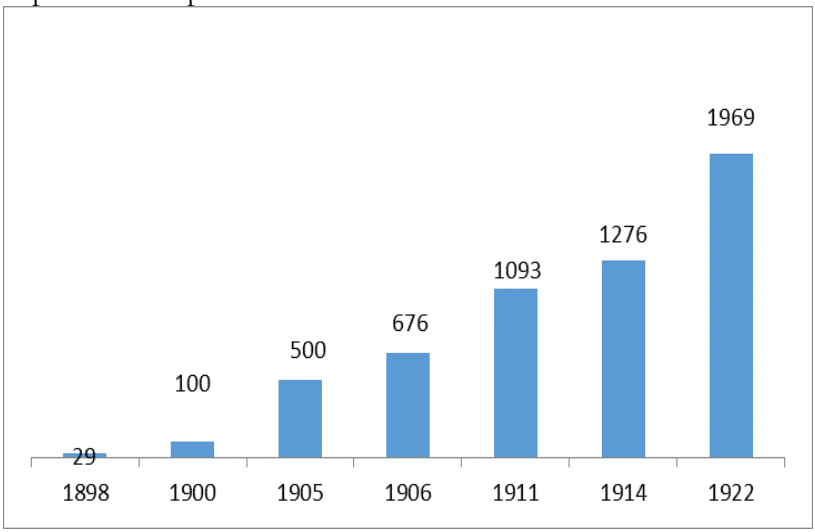


Figure 1. Quantitative evolution of Hangya Cooperatives

Source: Own elaboration, based on HANGYA Producer-marketing and consumer cooperative, The first 25 years of the Hungarian Farmers' Union, Budapest 1923

The most controversial questions of the Hangya Consumers' Cooperative regulations were those stipulating the members' exclusive acquisition from the cooperative store, and the distribution of the net income. The rule of exclusive acquisition was removed from the regulations, and the Hangya management was entrusted with the distribution of income, as well as the funding of the goals of the Hungarian Farmers' Union. In raising the capital, the main consideration was the attraction of extensive interest, but the payment of contributions wasn't going well. Apparently, the trust in the financial success of the good cause was lagging.

MATERIAL AND METHOD

The starting point of the research was the Nagy-Küküllő Agricultural Cooperative in Székelykeresztúr. The cooperative collects milk from Székelykeresztúr and the surrounding villages for the dairy factory operating in the town. The final products (pasteurized milk, butter, sour cream, etc.) are mostly marketed in local shops in Hargita county.

Our research was meant to shed light on the relationship between the cooperative and the farmers. More precisely, we wanted to find out the way the farmers assessed the collaboration, how they evaluate the future prospects of the cooperative, whether they were satisfied with the compensation they got for the milk they delivered, and how they planned to develop their farms.

The qualitative research was based on depth interviews. We interviewed the contact person between the farmers and the cooperative, as well as the manager at the headquarters of the cooperative at a previously agreed time.

The quantitative research was based on a survey carried out among the farmers. Since the research was going on at the time of COVID-19, between the months March and May, during the spring farm work, the survey was carried out via phone instead of personal discussion. Despite all obvious obstacles, the survey questionnaire was completed by 50 members. We analyzed the research data with the SPSS program.

RESULTS OF QUALITATIVE RESEARCH

The depth interview carried out within the Nagy-Küküllő Agricultural Cooperative took place at the same time with the manager of the cooperative, and Lőrinczi Árpád, who is the milk purchaser and contact person. The discussion revolved around the past and the present of the cooperative, and included aspect of the cooperation with the farmers.

The history of the Székelykeresztúr dairy factory goes back to the 1920s, when it was known as the Butter Factory. During the communist era it operated as the subsidiary Hargita Dairy Lt. (Lactate Hargita). After the communist era, it seceded from Lactate Hargita, and became part of the Primulact company. A few years later, it was purchased by the investment company belonging to the Covalact dairy factory in Sepsiszentgyörgy. This company is the owner of two more dairy factories: one in Sepsiszentgyörgy, and another one in Csíkszereda. However, the Székelykeresztúr dairy factory was soon closed down due to physical distance, outdated technology, and diverging interests. Since the remaining factories needed milk, a milk-collecting car was taking the milk to Sepsiszentgyörgy. Farms situated away from the main roads were left out of the process. 10,000 liters of milk were purchased daily in these conditions.

In 2011, they started to transport the milk to Csíkszereda. This, however, worried the Hargita County Agricultural Directorate. They were concerned about the future of farmers as the dairy factory was closed down. Political circles encouraged the establishment of a cooperative. László Nagy Varga, agricultural expert was charged with the task of organizing a cooperative and buying back the factory.
The Nagy-Küküllő Agricultural Cooperative was established in 2011 after a long series of meetings and discussions. László Nagy Varga was appointed founding director.

They bought back the dairy factory with money collected with the help of farmers and a substantial bank loan. They started to modernize the factory, as the technology had become outdated, and they could only produce cheese and butter. The factory was provided with a pasteurizing machine, cheese vets, packaging machines, dishes, and other equipment.

The newly founded Nagy-Küküllő Agricultural Cooperative was planning to pay 1,25 RON for a liter of milk to the farmers. The cooperative is not profit oriented, it only needs capital to maintain itself, and the rest of the profit is distributed among the members in the form of milk money.
As the name of the cooperative indicates, it collects milk from villages along the Nagy-Küküllő river, but more remote villages also joined: Szentegyháza, Kápolnás, Oroszhegy, Szentkirály, Nyikómente, Malomfalva and Kobátfalva. The minimum requirement for members is three cows, which back then was worth 2,400 RON. For those owning more cattle, the joining fee was 800 RON. Membership rights are transferable through the membership card in case the owner has died or he wants to hand over his share to a family member.

The main goal of the cooperative was to give an opportunity to local farmers to sell the daily milk production. At the same time, another common goal was to provide local consumers with natural products without additives and preservatives. They were aware that if they succeed, the members, their families, their friends, and acquaintances would all consume good quality, healthy products.

At the end of the first year of its existence, the cooperative was on the verge of bankruptcy. It was difficult to sell their products. The case of milk was mentioned as an example. Without preservatives, the milk went off within 2 or 3 days, which made it difficult to market it to shops in the presence of other competitors. A crisis management procedure was enacted, which prescribed members to buy products worth 0,5 – 0,10 RON after each liter of milk they provided. This helped the cooperative to emerge from bankruptcy, and it had the positive side effect of promoting the products. Although the prescription is not in place any more, many farmers still buy dairy products from the cooperative. They get these products at a reduced price, and the delivery is also solved with the milk collector vehicles, which circulate on a daily basis.

At the present moment, there are 270 cooperative members coming from farmers' associations (there is a larger one in Csekefalva pooling all the farmers from the Szentábrahám village area: Firtosmartonos, Kismedesér, Gagy, Andrásfalva, Csekefalva), compossessorates, and legal entities.
The amount of milk processed varies according to season. Seasonality comes from the disparity in feeding the cattle from season to season. During winter they process 8,000 liters of milk daily, while during summer the amount can increase to 15,000 liters.

As the name of the cooperative suggests, it manufactures dairy products. These fall into a range of categories: the fresh products category includes pasteurized milk, natural yoghurt, sana, and sour cream containing fat in different proportions. Another category is formed by spreadable products including butter with 65% or 82% fat and butter cream. The cheese category includes a range of different cheeses, such as Küküllő, Dália, Gazdasszony, a Nyikó, Pásztor and Trappista. The curd cheese category consists of two products, named Puliszkatúró és a Tehéntúró. A new category of products is that of fruit yoghurts, which come in different flavors: forest fruit, apricot, sour cherry. Two types of pudding also belong to this category: chocolate and vanilla pudding. (http://kereszturi.com/hu/products)

The main goal of the Nagy-Küküllő Agricultural Cooperative was to assure farmers providing milk to the dairy factory in the past the chance to continue their activity. At the same time, they wanted to provide natural dairy products without additives to the local residents and not only to them. The competitors sell cheaper products, but the quality is not a priority for them. This is the factor that makes the difference between the products manufactured by the cooperative from the rest of dairy products.

The cooperation with the farmers has always been good, but some of the farmers are not really satisfied with the procedures the cooperative applies. This dissatisfaction goes back to the time when the cooperative started to have difficulties in paying back the bank loan. The bank is the majority owner of the cooperative at this moment. Thus, according to the management, the cooperative cannot pay dividends to the members. Another disagreement occurred when (because of the loan) the cooperative could not pay the farmers in time last summer. There was a one- or two-month delay in the payment of the milk provided by the farmers. This

deteriorated the relationship between the cooperative and some of its members.

The cooperative gives assistance to its members in acquisition so that they can purchase the necessary materials at a lower price. They have a contract with the Harmopan company, which sells feed material to the farmers at a discount price. The price of the feed material is subsequently deducted from the price of the milk.

Results of quantitative research

The survey questionnaire was designed to gain detailed information about the farms under scrutiny, including information about the date when the farmers started their activity. The majority of farmers (Figure 2.), 16,28% of the interviewees started to work in the 1990s, but there are some who started at the beginning of the 2000s. The age of the farmers is important for our research. The youngest cooperative member is 25, the oldest one is 68, but most of them are between 36-45 and 46-55 years of age, in equal numbers.

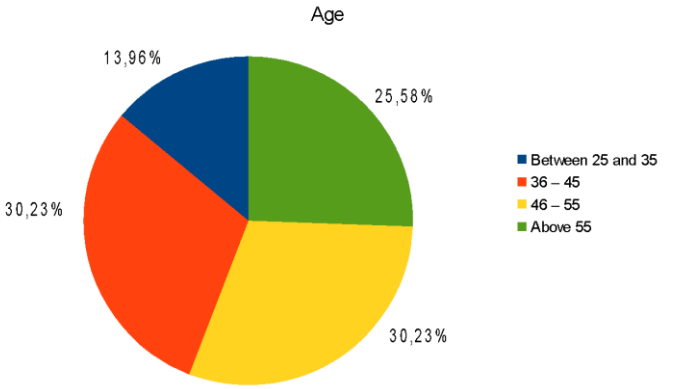


Figure 2. Age
Source: Own research

With respect to education, the majority of farmers (53,4%) attended a vocational school, 11,63% finished elementary school, 9,3% graduated college with maturity certificate, 13,95% attended university or other types of higher education (Figure 3). It is evident, that the professional qualification of the cooperative members is adequate.

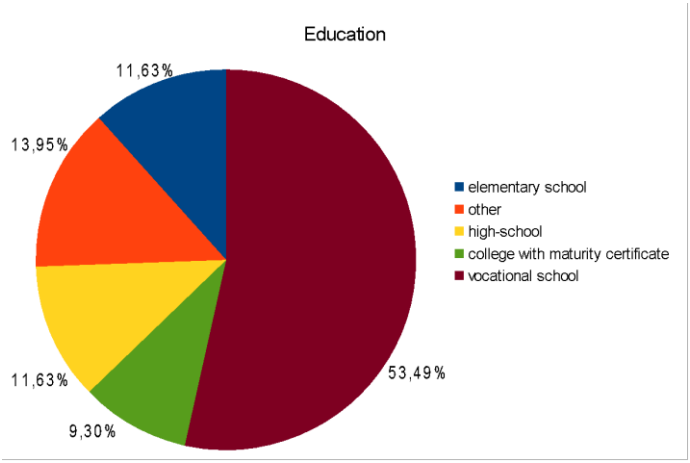


Figure 3. Education
Source: Own research

The majority of farmers cultivate 16-30 hectares of land, and only 9,3% of them cultivate more than 90 hectares, which suggests that small medium-size farms are prevalent, larger farms are exceptional (Figure 4).

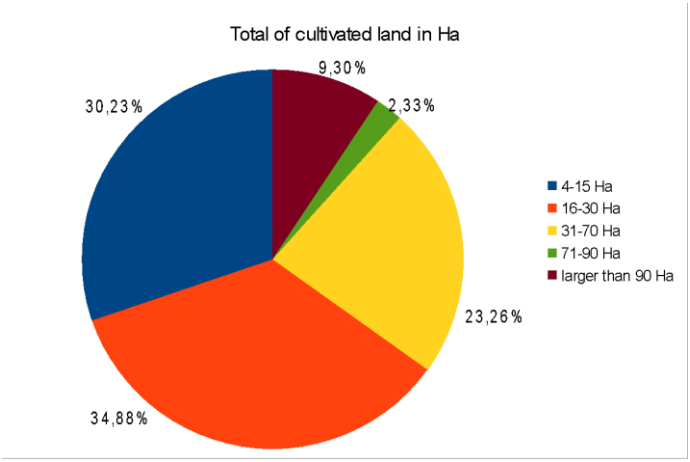


Figure 4. Total of cultivated land in Ha
Source: Own research

milk, 40% provide 101-200 liters, 10% provide 204-300 liters, and 20% provide more than 300 liters. 100% of those belonging to the 71-90 Ha category provide a daily amount of 300 liters of milk to the cooperative. 25% of the owners of lands larger than 90 Ha provide between 101-200 liters, while 75% of them provide more than 300 liters.

We may conclude, that farmers cultivating larger land parcels provide a greater amount of milk daily. At the same time is evident, that members owning small and medium-size farms (16-30 Ha and 31-70 Ha) are in the majority.
58,14% of the interviewees rent 0-10 Ha size land parcels. 6,98% rent lands larger than 60 Ha. Our research revealed that cooperative members usually do not let out land, and those who do, let out either 22 Ha or 2 Ha.

51,16% of the cooperative members who were interviewed own land between 0-10 Ha, and only 6,98% of them have more than 40 Ha. 34,88% of the farmers have between 0-15 cattle, 30,23% have between 16 and 30, 20,93% have 31-55, and 9,3% possess a number of cattle ranging between 56 and 100. Our research revealed that 4,65% of the farmers have more than 100 cattle.

The majority of the interviews (72,09%) joined the Nagy-Küküllő Agricultural Cooperative in 2011, the year when it was founded, and the process of joining went on until 2017 (Figure 5). Personal relations and reciprocal trust play an important role in the running of the cooperative, and these factors are crucial in its smooth functioning.

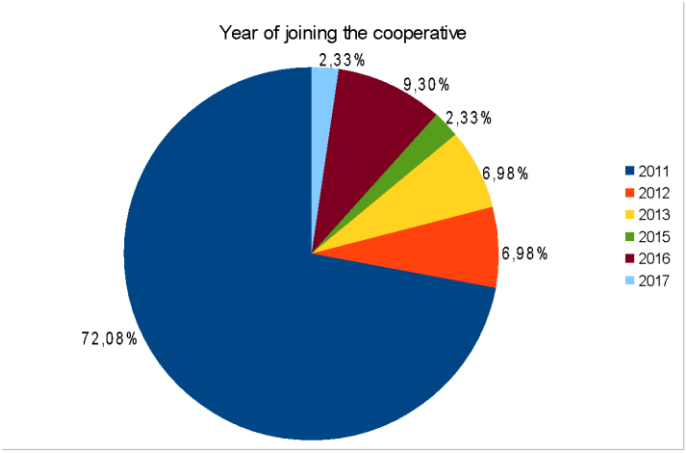


Figure 5. Year of joining the cooperative
Source: Own research

The performance of the dairy factory operated by the cooperative is determined by the amount of milk provided by the members. 44,19% of the interviewed farmers provide 0-100 liters of milk

daily (Figure 6). 37,21% of farmers provide 101-200 liters of milk, 4,65% provide 201-300 liters, and 13,95% provide more than 300 liters a day. The cross-table examination shows that 21,1% of those providing 0-100 liters of milk manufacture dairy products at home, while 78,9% do not. 18,8% of those providing 101-200 liters prepare products at home, and 81,3% do not. 100% of farmers providing 201-300 liters daily manufacture dairy products at home, while 100% of those providing more than 300 liters have not been manufacturing anything since they joined the cooperative.

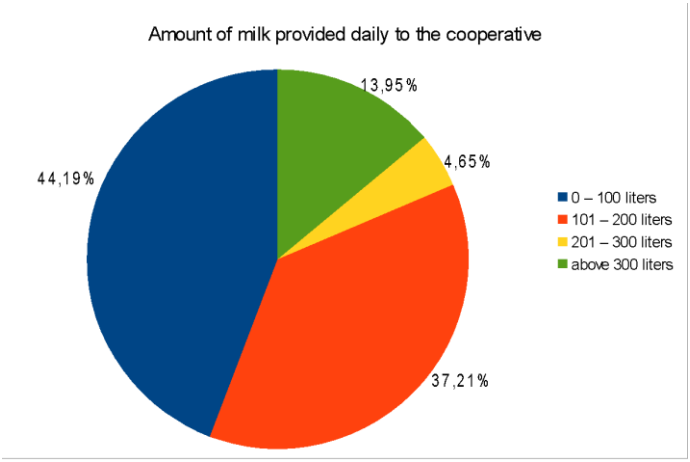


Figure 6. Amount of milk provided daily to the cooperative
Source: Own research

The close scrutiny of data reveals that the only group where the farmers manufacture dairy products at home are in majority is the one providing 201-300 liters of milk daily. Those giving a positive answer to this question could specify the product they make. All the interviewees mentioned cheese as the only product they manufacture for own consumption.

Member satisfaction among the cooperative members was analyzed according to four criteria. The first of these was profitability, the second one was satisfaction with the amount of milk bought up by the cooperative, the third one was the making of new connections, and the last one was communication.
Profitability was measured on a 1 to 5 satisfaction scale. 46,51% of the respondents chose the answer "neutral", 20,93% chose "satisfied", and 13,95% chose "entirely satisfied". At the other end of the scale, 4,65% were "entirely unsatisfied", and 13,95% were "somewhat satisfied" with profitability.

The next assessment criterion was satisfaction with the amount of milk bought up by the cooperative. 72,09% chose "neutral", 13,95% chose "satisfied", and the same percentage of the respondents chose "entirely satisfied". Nobody chose "unsatisfied" to answer this item.

The third criterion was making new connections, which was meant to measure cooperation among the members. The majority of the respondents, 62,97% chose "neutral", 18,6% were "satisfied", 13,95% were "entirely satisfied", and 4,65% "somewhat satisfied". Cross-table examination of "Year of joining the cooperative" and "New connections" reveals that 64,5% of the members joining in 2011 found considered making new connections "neutral", 19,4% of them were "satisfied", and 16,1% were "entirely satisfied" with the new connections made within the cooperative. 100% of the members joining the cooperative in 2012 were "neutral" in this respect. 66,7% of farmers joining the cooperative in 2013 were "somewhat unsatisfied", and 33,3% were "neutral". Farmers joining the cooperative in 2015 were "satisfied" in this respect in a proportion of 100%. Those joining in 2016 chose "neutral" and "satisfied" in a proportion of 50-50, while 100% of those joining the cooperative in the year 2017 chose the answer "neutral".

In summary, the majority of farmers remain neutral with respect to the new connections made within the cooperative. They cannot decide whether it is good or bad, or they consider it average. Since there were no "entirely unsatisfied" answers, we can conclude that they are satisfied with their new connections to a certain extent. We can say that there is trust among the members, although this is more cognitive than emotional. Their trust towards their peers is profit oriented, and they have never had negative experience in this respect.

Next, we analyzed the quality, speed, and method of communication among the members (Figure 7). We used a 1 to 5 satisfaction scale for this purpose. We found that 93,02% of the respondents were entirely satisfied with the quality of communication, 2,33% were satisfied, and 4,65% were neutral.

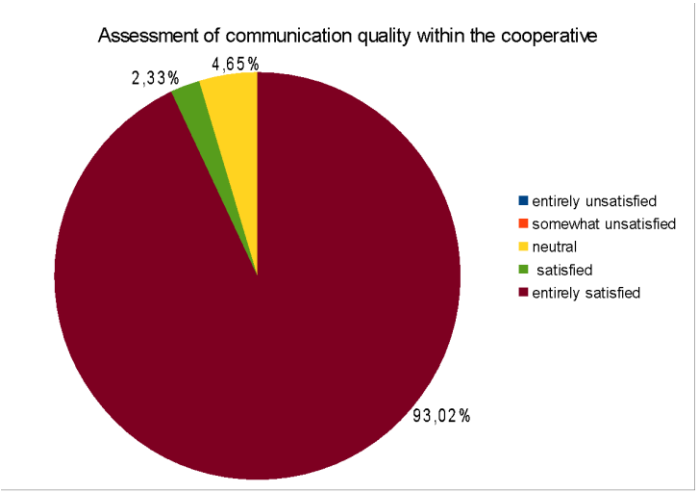


Figure 7. Assessment of communication quality within the cooperative

Source: Own research

44,19% of the respondents considered that an increase in income was not a relevant reason for joining the Nagy-Küküllő Agricultural Cooperative. 23,26% said that it was relevant, 13,95% chose "somewhat relevant", while 13,95% said it was "entirely relevant". 4,65% of the respondents do not claim at all that the main reason for their joining the cooperative was that they wanted to attain a higher income.
Another reason for joining the cooperative was to create financial stability for the family (Figure 8). 62,79% gave a neutral answer to this item, 16,28% agreed with the statement, and 16,29% entirely agreed.

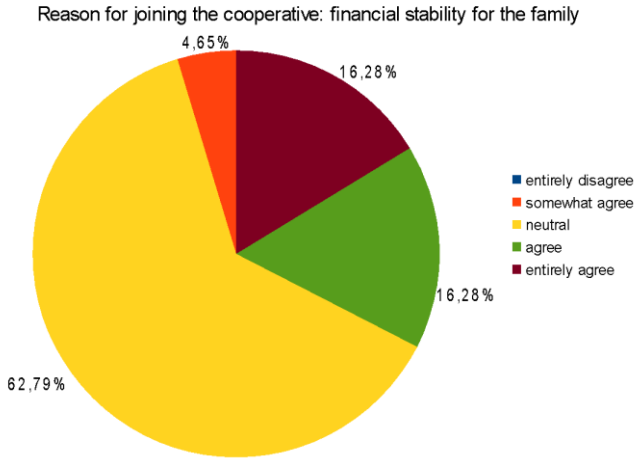


Figure 8. Reason for joining the cooperative: financial stability for the family

Source: Own research

The cooperative created numerous jobs for the family members of the farmers joining it (Figure 9). 69,77% of the respondents found this was irrelevant for joining the cooperative, 19,95% agreed with the statement, 13,95% entirely agreed, while 2,33% of them entirely disagreed with the idea that the main reason for joining the cooperative was to assure jobs for family members.

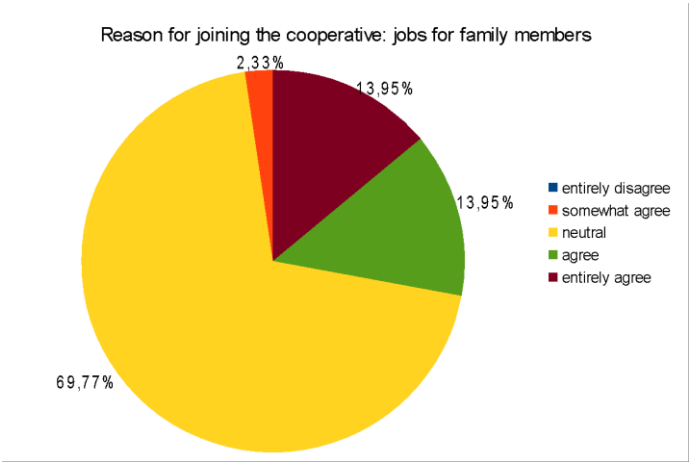


Figure 9. Reason for joining the cooperative: jobs for family members

Source: Own research

Regarding their future plans with the cooperative, 74,4% of the respondents are planning to continue activity within the cooperative and to maintain collaboration. 23,26% would like to increase, while 2,33% want to reduce their activity (Figure10).
Farmers' future plans regarding their farms are promising. 69,77% of the respondents would like to maintain their farms, and 30,23% would like to extend their farming activity.

The cross-table examination shows a significant correlation between the size of cultivated land and daily milk provision.

84,6% of members cultivating between 4-15 Ha land provide 0-100 liters of milk, while the remaining 15,4% provide 101-200 liters daily to the cooperative. 60% of those cultivating between 16-30 Ha provide 101-200, while 33,3% provide 0-100 liters daily. Out of farmers cultivating between 31-70 hectares of land, 30% provide 0-100 liters of

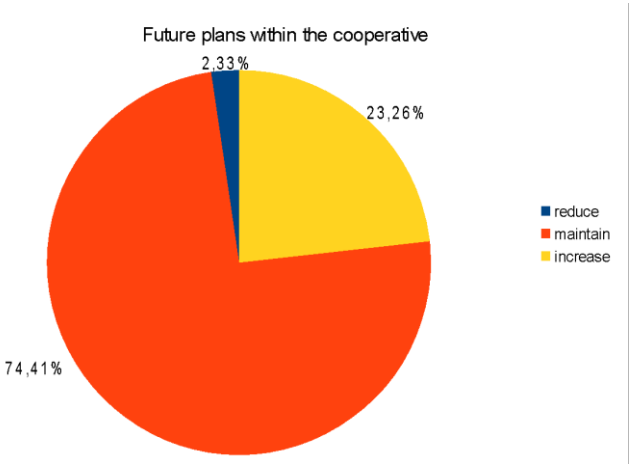


Figure 10. Future plans within the cooperative
Source: Own research

CONCLUSIONS

The research goal formulated in the introduction has been successfully attained. The analysis of the interviews and the cross-table examinations led us to the conclusion that based on the performance so far and on the members' assessment, the Nagy-Küküllő Agricultural Cooperative has a future.

As our analysis has revealed, the members joined the cooperative in order to ensure a living for their households, and it has also become evident that they are moderately satisfied. When asked why they are satisfied with the income gained from the cooperative, the farmers' off-record answer was that they couldn't get more money for the milk if they tried to sell it to other agents. This result also shows, that the majority of farmers want to continue and maintain collaboration with the cooperative instead of reducing it.

Most farmers would like to remain a member of the cooperative and continue collaboration, but only at the present level, providing the same amount of milk. Having experienced delay in payment, farmers consider that the cooperative does not function optimally, so they do not want to extend collaboration with it. All in all, it seems that these factors have a positive effect on the cooperative, and this traditional formation has a future in this region.

In conclusion, we can state that the Nagy-Küküllő Agricultural Cooperative has proved a worthy successor of the Hangya Cooperative established at the end of the 19th century. Our research confirms that it has accomplished the goals set at the time of its establishment: it ensures a living for small farmers within the catchment area of the dairy factory.

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SECTION B: Business informatics and operational research sections

PIROSKA BIRÓ – TAMÁS KÁDEK: HOW CAN THE PROGCONT SYSTEM HELP WITH PROGRAMMING EDUCATION DURING A PANDEMIC?

[1] Department of Economic Sciences, Faculty of Economics, Socio-Human Sciences and Engineering, Sapientia Hungarian University of Transylvania, Miercurea Ciuc, e-mail: biropiroska@uni.sapientia.ro
[1] Department of Information Technology, Faculty of Informatics, University of Debrecen, Debrecen
[2] Department of Computer Science, Faculty of Informatics, University of Debrecen, Debrecen, e-mail: kadek.tamas@inf.unideb.hu

Abstract: The ProgCont system has been developed by the lecturers of the University of Debrecen since 2011, initially mainly for IT competitions. Over the past decade, the system's scope has grown, with an increasing emphasis from competitions to the day-to-day tasks of programming education: use it in practice classes, examinations, at-home preparation, and further competitions. One of the most important features of the ProgCont system is that it automatically and objectively evaluates solutions for programming tasks in source code by compiling and running the source code and outputting the programs as expected output. We have been continuously thinking about integrating the system into programming education. Several examination tasks, practice tasks and adjusted web applications have been developed for the system. Due to the pandemic, such online tools have suddenly become much more valuable. In our article, we summarize past experiences and our responses to the challenges posed by a pandemic.

Keywords: ProgCont system, automatic evaluation of tasks, programming education

1. INTRODUCTION

The development of the ProgCont system was started exactly ten years ago, in 2011, by the lecturers of the Faculty of Informatics of the University of Debrecen, then it has been transformed several times, and the range of its services has been expanding year by year (Kádek 2019a, Tóth 2019). The purpose of the ProgCont system was initially to objectively and automatically evaluate the tasks of the Faculty's programming competitions. The possibility of using existing systems arose: Mookshar (Leal 2003, Rubio-Sánchez 2014), PC^2 – Programming Contest Control (PC^2 2002), UVa Online Judge (Revilla 2008, Verdú 2012, Wasik 2018), Bíró and Mester ELTE (Horváth 2017), of which perhaps PC^2 has become the most successful (PC^2 2020). They were all outstanding imaginative applications, yet they did not fit perfectly with local needs, so we decided to develop our own system.

Later, we started to use the system to organize the competitions in our everyday tasks due to the increased number of students and mass training. We thought that automatic assessment could also be useful in conducting examinations sparing the instructor from checking programming tasks one at a time. The objectivity of the assessment carried out by ProgCont is also an advantage in the case of inquiries.

We soon realized that the system cannot only evaluate students during examinations but can also help them prepare on their own if we make the assignments available during preparation as well. Over the past ten years, it has also become a collection of thousands of assignments that students use for practice and preparation. Up to now,

- 54 competition problem sets,

- 266 examination problem sets,
- 26 practice problem sets,

are available in the system with a total of 1762 tasks.
The system runs the tasks submitted in the different programming languages (C, C++, C#, Java, Pascal, Python, Racket), compiles and compares the received output with the expected, correct output, with the specified test cases. The system would accept the task as correct if it produced the correct output for each test case (Biró 2020, Kádek 2019b).
The pandemic suddenly and significantly changed the methods used in education. At first glance, the ProgCont system seems to be suitable for assisting with distance education and its self-preparation.
However, we did not recommend colleagues the sudden introduction of the system, which can be traced back to two main reasons:

- the development of the tasks set in the ProgCont system requires a large initial energy investment, for which time was not available due to the sudden changeover caused by the pandemic (a single week of spring break meant some preparation time),
- the system's feedback can be used very well to evaluate the examinations and competition tasks, but in the case of faulty programs, there is very little feedback, so it does not provide students with the help they need to move on stand-alone preparation.

For the last (autumn) semester, the challenges of distance education did not come as a surprise to us, so this semester, we could take advantage of the services provided by the system.

2. THE SAMPLE

Our study used data from ProgCont-managed programming subjects for three fall semesters to make the pre-pandemic and post-pandemic situations well comparable. The 2018/2019 academic year is also an important milestone because the students of the new course (renewed in 2017) were then able to learn about object-oriented programming languages for the first time in related subjects. The autumn semester's choice is also fortunate because there was not even a trace of the pandemic in the first two semesters, while in the last case, we planned the education completely under its influence. The spring semester of the 2019/2020 school year started according to the normal schedule and switched to distance education during the semester.
Table 1 shows the number of students in the study semesters. The number of students in the first semesters of 2018/2019 and 2020/2021 is almost the same, so it is worth comparing them later. The low number of students in the first semester of 2019/2020 can be explained by the fact that students who repeated the subject were exceptionally able to complete the subject in the first half of the year, 60 people took advantage of this opportunity, so they are missing from the 2019/2020 semester.

Table 1: The number of participants in subjects supported by ProgCont

Semester	**Subject**	**Number of students**	
2018/2019 I.	High-level programming languages 2	119	183
	Programming Languages 2	64	

2019/2020 I.	High-level programming languages 2	1	124
	Programming Languages 2	123	
2020/2021 I.	High-level programming languages 2	31	186
	Programming Languages 2	155	

Students participating in several different training forms study the subject together, possibly under different names in each course. In the curriculum valid from 2017, the subject for computer science engineering students is already listed as "Programming Languages 2", as students can enrol in the second year at the earliest, so the course started in the autumn of 2018 under this name. The subject name "High-level programming languages 2" has been retained for teacher major students, so it will never disappear.

3. RESULTS

Our study did not examine students' grades (because it would have meant only a five-point scale), but the number of successful and unsuccessful solutions submitted during each examination and practice period.

Table 2: The number of participants in subjects supported by ProgCont

Semester	Submissions	Submissions/ Students Average	Pass rate Practice	Pass rate Exam
2018/2019 I.	6 445	35	47%	32%
2019/2020 I.	7 372	59	49%	35%
2020/2021 I.	10 027	54	51%	41%

In both the practice and the exam, we find that the results improve year by year both in the examinations and practice tasks. One of

the reasons for this may be that more and more sets of tasks/practice problems are available from year to year (examinations of previous years appear as practice problem sets in later semesters.
Along with the number of possible tasks, the number of student submissions increases (Table 2).
The last semester's submission numbers are also outstanding because we intentionally worked more for the students; we organized more examinations.

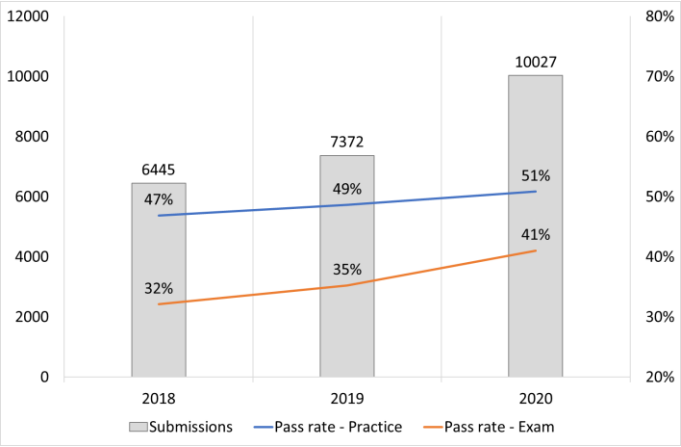


Figure 1. Submissions and pass rates. Submissions and pass rates

As shown in *Fig. 1*, an increase in the number of submissions implies an improvement in results for both exam and practice tasks. It is not necessary to solve all the tasks for a passing grade. The subject's performance is much higher than the rate of successful submissions.

3.1. Distribution by programming languages

High-level programming languages 2 students are introduced to two object-oriented languages, C# and Java. The elements of an object-oriented programming language are learned in parallel in the two languages. They must also write C# and Java code at the same time. There were fewer inquiries during the fall semester of the 2019/2020 school year, as shown in the low submission numbers shown in *Fig. 2*, so a comparison of the first semesters of 2018/2019 and 2020/2021 remains authoritative.



Figure 2. Results by programming languages

We were curious to see if there was a difference in learning effectiveness in the two different programming languages. In *Fig. 2*, we can see that, compared to how much more students practice on Java language code, they still do not perform so much better on this programming language in the examinations. The exceptionally high number of submissions in Java can be explained by the fact that the exercises are first presented in Java programming language, followed by rewriting the already completed program code in C#.

3.2. Distribution of evaluation results

The following table summarizes the six different responses returned by the ProgCont system to the submitted solutions (source code) (Table 3). In the case of a submitted solution, several semantic errors may occur, as these are evaluated separately for each test case. In this case, the higher-priority error appears as the final evaluation of the task.

Table 3: Response codes

Response code	**Description**	**Priority**	**Frequency**
Syntactic errors			
E-CMP	Compile error	5	
Semantic errors			
E-RES	Wrong answer	2	Most typical
E-RUN	Runtime error	4	↓
E-PRE	Presentation error	1	
E-TME	Timeout	3	Least typical
Positive response			
PASS	Accepted	0	

The **E-CMP (Compile error)** message indicates a translation/compile error in the uploaded solution. This error is characteristic only at the beginning of the learning process, as students can avoid these errors with the appropriate settings in the development environment and no longer upload codes with such an error. The ProgCont system returns the compiler's output in the event of a compilation error, which provides clear guidelines for repair.
The **E-RES (Wrong answer)** is the most common error type, which only says that the submitted program's output does not match the expected output, but it can mean anything from a comma error to a totally wrong solution.
The **E-RUN (Runtime error)** error indicates that an exception occurred while the program was running. The text of the exception is not returned, and so there is no information about its reason.
The **E-PRE (Presentation error)** incorporated later into the system. The idea was obtained at a competition (ECN) organized by the Faculty of Târgu Mureş of the Sapientia Hungarian University of Transylvania, based on a similar function of the system used by them in Romania. A "presentation error" is a version of the "wrong answer" feedback where the output differs from the expected output only in whitespace characters. Depending on the task, this response can be turned off, in which case the code will receive a "wrong answer" rating instead. For example, for tasks where you need to draw on the character output, we typically turn it off.
The **E-TME (Timeout)** error message occurs if the submitted solution did not run for the specified test case within the specified time frame. In this case, the problem may be solved with a different algorithm.
A **PASS (Accepted)** response is obtained if the solution is correct.
To identify the characteristic of errors, we collected the proportion of each type of error separately in the three fall semesters that were

the subject of our study. The evaluation result of the submissions chosen according to priority can be ambiguous, so it is worth analysing the test cases independently.
Examined on a case-by-case basis, of course, we will find many more positive feedbacks, as submissions will only be subject to a Pass rating if you have received one for each test case.

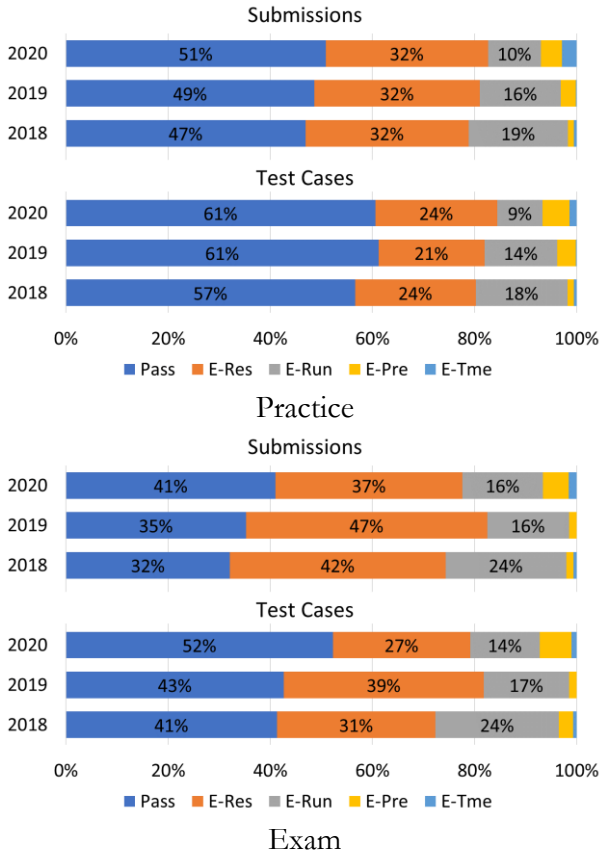


Figure 3. Error rate

Fig. 3 also compares how the rate of error messages changes during practice and for exam tasks. Either way, during the exam, the proportion of submissions that produced a "wrong answer" and a "runtime error" increased. However, it can also be observed here that student performance is improving year by year.
From the error messages sent by the ProgCont system, apart from the faulty translation programs, it is difficult (impossible) to deduce the cause of the error. For example, typing multiple indexes can result in a "runtime error", a "wrong answer", or even an infinite iteration ("timeout").

4. FUTURE WORK

Our results illustrate ProgCont's greatest weakness: the feedback of submissions that were deemed incorrect, apart from a compile error, does not reveal much about the real cause of the error. This is because originally, the system did not function to help with education but rather only supports control. Accordingly, the most important development task is to expand the scope of feedback.
It can be seen from the presented results that the results of the evaluation of the same program often differ in different test cases of a given problem. Thus, it can help detect program errors if we know (show students) how each test case differs in content (Pólya 1957).

5. CONCLUSIONS

In the last semester of distance education, we were able to apply the system successfully. Intensive use of the system results in an increasing amount of collection of tasks is available each year, and in parallel, the time spent on practice and the performance on the exam is increasing.

In the case of the programming languages taught during the examined subjects, there is no significant difference in the students' performance, so their joint teaching is still justified.
Although the frequency sequence between the different error types can be clearly established, it is impossible to deduce from the system feedback the cause of the programming error and thus find a way to correct it.

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WEBER DENNIS – HAMMERL LÁSZLÓ – TON ANH DON: BUSINESS RESILIENCE THROUGH AI EXPERTISE – AN OPPORTUNITY FOR RURAL ECONOMIES?

[1]Doctoral School of Management and Organizational Sciences, Szent István University Kaposvár Campus, Kaposvár, Hungary, e-mail: Weber.Dennis@phd.uni-szie.hu
[2]Doctoral School of Management and Organizational Sciences, Szent István University Kaposvár Campus, Kaposvár, Hungary, e-mail: Hammerl.Laszlo@phd.uni-szie.hu
[3]Doctoral School of Management and Organizational Sciences, Szent István University Kaposvár Campus, Kaposvár, Hungary, e-mail: Ton.AnhDon@phd.uni-szie.hu

Abstract: Latest developments of artificial intelligence (AI) indicate a clear trajectory: AI will impact every branch, industry, and economy. Rural economies will have their part of AI-induced economic growth.
If cloud-based AI services and resources require only knowledge and sound internet connection to impact economic growth, AI will be exceptionally suitable for rural and remote regions to improve economic growth.
The conclusion puts the recent characteristics of the Carpathian region and in relation with the AI business resilience findings of this paper. How does AI impact the resilience of businesses? AI-savviness and business modelling using AI have a positive impact on success and adaptability of businesses. Examples of AI applications demonstrate the relation between AI and business resilience. How can AI contribute to continuity and resilience of

local businesses in the Carpathian region? Is AI technology offering a disruptive opportunity for Carpathian entrepreneurs?
Keywords: AI application, AI prerequisites, industrialization, Carpathian region, business adaptability

1. Introduction

The term AI has been defined in many ways, not always including identical notions. In this article, the following definition is applied.

Artificial Intelligence (AI) refers to IT systems that sense, comprehend, act and learn. AI consists of multiple technologies that enable computers to perceive the world (such as computer vision, audio processing and sensor processing), analyze and understand the information collected (for example, natural language processing or knowledge representation), make informed decisions or recommend action (for instance, inference engines or expert systems) and learn from experience (including machine learning). Intelligent machines are computers and applications with AI embedded. Intelligent systems connect multiple machines, processes and people. (Kolbjørnsrud et al., 2017)

While a definition of AI is essential, a selection of terms needs to be delimited to put AI in the right context.

Digitization is a driving force, a megatrend towards computerization and global connection. It makes processes readable for machines, connects systems, and creates a virtual reality. While there still exist physical and virtual realities unconnected to each other, digitization pushes interconnection between physical and virtual realities. AI is part of digitization.

Big Data (BD) is referring to exponentially growing amounts of data exceeding previous understandings of stored information. While there are massive amounts of data already available, even more data is continuously collected. Big Data serves as a basis for recently popular AI technologies such as machine learning and deep learning.

The Internet of Things (IoT) refers to an ever-increasing number of devices equipped and connected to collect and share data. IoT is a source of BD.
Machine Learning (ML) is a recently popular subsection of AI. Based on large data sets, machine learning is capable of recognizing features in data.
Deep Learning (DL) uses Deep Neural Networks and is a subset of ML. Extremely popular lately, DL has pushed boundaries of what is possible with AI. DL is composed of a large number of artificial neurons, organized in layers. While each neuron is fulfilling but a single task, the interconnected mass of neurons in a possibly large number of layers creates unparalleled artificial cognitive power.
AI is part of digitization. The recently focused AI technologies ML and DL are fueled with BD. The IoT is one source of BD.

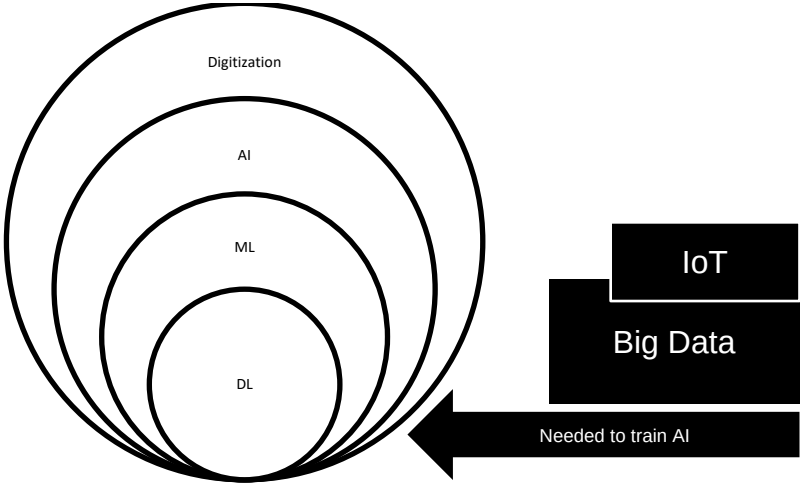


Figure 1 Systematic relation of terms used in this article

In the last decade, AI has been attributed to be a disruptive technology. AI progress manifested itself in impressive successes

like IBM Watson´s win in jeopardy, Deepmind´s AlphaGo and Alpha Zero superhumanly mastering the game "GO", and Google´s Duplex chatbot scheduling an appointment without the human identifying the bot on the phone. If AI is capable of these successes in but a decade, there are seemingly few limitations to AI´s progress. Even moderate projections of progress in AI lead to scenarios of fundamental change.

Media buzz around AI´s successes increased public awareness about AI already impacting everybody´s lives in many ways. AI decides about the content shown in social media threads, evaluates creditworthiness, drives quality of online translations, and allows language processing for human-machine interfaces using speech.

Despite the already vast landscape of AI-driven business applications, subject matter experts are forecasting massive potential of AI waiting to be lifted. E.g., Accenture forecasts doubled global economic growth and 40% increase of productivity until 2035 (Accenture, 2018), Statista forecasts an increase in global business revenues generated leveraging AI applications of 650% between 2020 and 2025 (Statista GmbH, 2019). The forecasted economic impact differs among the reporting global consultancies, yet they all see AI as a game-changing technology. A disruptive technology, with major developments still ahead.

While there are still businesses with little or no application of AI, surveys among managers as well as economic studies point towards increasing AI application. (Deloitte Touche Tohmatsu Limited, 2020) There is barely a business area left without available AI-driven applications. Industry, trade, agriculture, finance, mobility, services – AI is available for businesses of any kind, around the globe.

A few examples sketch the range of applications:

- *Industry* collects Big Data from multitudes of sensors monitoring machines. AI analyzes that data and predicts

where failure might occur. Predictive maintenance allows increased machine productivity and reduce machine downtime.

- In *agriculture*, AI-driven image recognition allows to evaluate each plant on the field instantaneously and dose the applied fertilizer accordingly. Thus, AI helps the farmer to save money, conserves resource and reduces environmental impact.
- Audio or video *streaming services* use AI to customize recommended content. Based on past customer behavior, recommendations have high accuracy. And the learning algorithms permanently optimize the accuracy of recommendations.

  The same model applies to *online retailers*. Products presented to a customer take into account the individual´s buying history and compare it to selected groups found in the total of customers.
- *Marketing* leverages AI for highly accurate hypertargeting, customizing commercials down to the individual level.

This research explores AIs impact on business resilience, identifies the prerequisites of AI application, and evaluates the potential of AI for the economy of the Carpathian region.

2. Prerequisites of AI application in business context

The initial prerequisite for AI application is educational. To leverage AI, the entrepreneur needs a basic understanding of AI. That includes knowledge about

- what is AI and what not

- the variety of technologies encompassed in AI
- terminology and definitions (AI, digitization, big data, machine learning, and more)
- how AI works and what the prerequisites are
- existing and potential use cases
- the AI service portfolio available

Since most of literature and courses about AI are produced in English, solid English language skills are essential to gain the knowledge listed above. As a side note: the second largest pool of literature and educational offers about AI is produced in China. Chinese language skills are advantageous. Because of the larger regional preference for the English language, the Chinese sources for AI education are not included further.

Vast amounts of scientific and non-scientific literature about AI is available, both online and physically. Many new or overworked introductions to AI are published every year, i.e., (Boden, 2018). These are often translated to national languages and offer a compact way to learn basics about AI. These titles can be differentiated into technical and non-technical introductions. While the technical introductions focus the highly mathematical engineering behind AI, the non-technical introductions emphasize story-based explanations. Typically, introductions to AI literature include the chapters

- What is AI?
- History of AI
- Schools of AI, e.g., symbolists, connectionists, bayesians
- Major AI technologies, e.g., convolutional neural networks, support vector machines

- Areas of AI application, e.g., computer vision, natural language processing, data analysis
- Current or popular use-case examples

Another convenient source of AI expertise is available online. A vast offer is presented on video and podcast platforms such as Youtube or Antennapod. More structured and with a teaching objective are the available MOOCs. Platforms like Coursera and Udacity offer courses of different lengths and depths. From one-hour tutorials to full-grown nanodegrees, sporting technical or non-technical approaches, any interested individual finds his or her style of education. Often free of charge or with very little fees.

Lastly, AI giants like Amazon, Google, IBM, or Microsoft offer inline education and tutoring on their internet platforms. Smart win-win situation – the providers educate people and at the same time prime them to leverage the provider´s portfolio.

3. The Carpathian region

The Carpathian region is named after the mountain range of The Carpathians. The Carpathians cover an enormous area larger than the European Alps. They extend from the Austrian-Czech border in the west to the Romanian-Serbian border in the southeast. The region covers areas of eight countries - Czech Republic, Hungary, Slovakia, Moldova, Serbia, Romania, Ukraine, Poland. The region is facing several challenges.

- Inherent weaknesses in fields such as transport, socio-economic development, innovation and energy supply,
- The remoteness combined with low population,
- Poor accessibility and connectivity,

- Lack of cohesion across the region.

The latter point has proven to pose a barrier for (sustainable) development of the region in the past. Since the countries of the region are challenged to find common positions, the individual needs remain unaddressed.

On the other hand, the Carpathian region has undisputed assets and economic potentials causing confidence for sustainable development.

- The region has unique natural and cultural assets. Its forests, biodiversity, climate, water springs, and national parks are unparalleled in central Europe. The long-term multi-ethnicity bears variety and attractivity.
- Based on the unique natural assets, the region offers opportunities for leisure industries and tourism.
- The wood industry, could become a significant factor for economic growth, if developed sustainably. Wood is experiencing an ongoing, in some regions increasing importance in the construction of buildings.
- With vast areas of fertile land, agriculture and the agri-food sector bear potential for growth.
- The region´s mining tradition holds a source of knowledge, craftsmanship, and dedicated labor.

(Carpathian Countries (Czech Republic, Hungary, Slovakia, Moldova, Serbia, Romania, Ukraine), 2018; Jourde & Lierop, 2019)

Altogether, the region has significant potential, obstructed by infrastructural deficits in both logistic accessibility and the availability of high-speed internet (connectivity). While the former challenge remains a high-investment physical task, the latter may dissolve with new technologies providing internet access via satellites, i.e., Elon Musk´s "Starlink".

4. How does AI impact business resilience in the Carpathian region?

AI in its various technologies and use cases can be applied for all business phases from modelling to liquidation. Also, it can augment any function of the enterprise along Porter´s value chain. Resilience in the context of the research is the ability of a system to absorb disturbances and still retain its basic function and structure. Zohuri and Rahmani "believe that Big Data infrastructure is the key to successful AI deployments and accurate, unbiased real-time insights. Big Data solutions have direct impact and changing the way the organization needs to work with help from AI and its components ML and DL." (Bahman Zohuri & Farhang Mossavar Rahmani, 2019)
Two tables with examples for AI application along the introduced challenges and assets of the Carpathian region allow an impression of the variety and simple multitude of opportunities to increase business resilience in the Carpathian region.

Table 1: AI applications addressing weaknesses and challenges of the Carpathian region

Weakness / Challenge	**AI applications addressing the weakness /challenge**
Transport; Socio-economic	- AI powered autonomous driving. Both individual transport as well as cargo transport can improve the region´s

development; Innovation; Energy supply	situation: autonomous vehicles can drive 24h/day, are highly predictable. The frequency of transport opportunities could be increased - AI powered health services can significantly improve the availability of medical care, thus increasing the region´s attractivity - AI powered digital education opportunities can augment the school´s learning plan, thus increasing the scope of available quality education. The internet access in school´s is easier to realize than in the remote homes. - AI monitored or powered energy grids (smart grids) help secure optimal distribution of available energies. Combined with AI powered energy production and procurement, needs and available energy can be best matched. - Innovation rates can be boosted with AI systems. Innovation management, business modelling, product development, quality management. Simulations can provide performance estimates and thus increase success rates
Remoteness; Low population	- AI augmented business modelling to identify potent business models for remote entrepreneurship; e.g., remoteness is an asset for noise-emitting industries, area consuming industries, certain scientific research, survival training and other industries

	- To prevent uneconomical distribution of services like internet access, education, language training, AI can help identify individuals and regional clusters of individuals with specific needs. - AI powered text analysis can search for examples from other region´s with comparable geography and population specifics. Leveraging AI-powered translation, the research area can potentially extend globally
Accessibility; Connectivity	- AI-powered data analysis of inhabitant registration to identify 1. The best locations for public internet access points; and 2. The ideal sequence and geographical routing of broadband expansion. - AI-augmented survey and analysis of the population´s connectivity and connectivity desires. - AI-powered analysis of 3G, 4G, (5G) coverage; data driven cooperation with providers to influence expansion in the region - AI powered identification of ideal locations for antennas, leveraging geographical, population, and traffic data.
Lack of cohesion	- While policy makers diplomacy is challenging and unpredictable, AI text and speech analysis tools could identify patterns in the rhetoric of written and

	spoken official communication concerning the region. The language barrier is overcome with AI-powered translation tools. - Legal wording is highly formalized. AI can "read" and analyze any legal document concerning the region and it´s policy implication. AI can identify potential opportunities for common initiatives.

Source: Table developed by the authors

Table 2: AI applications addressing assets and economic potentials of the Carpathian region

Assets/economic potential	**AI applications addressing the assets / potential**
Natural assets; Cultural assets	- AI based educational services can provide brought awareness among the local population for "their" natural assets in the region. - AI can help identifying developments in the ecosystem by permanently analyzing sensoric data. Data can be collected with drones, while AI calculates the ideal flight frequency and routes for best-possible data. - Cultural heritage can be conserved with AI, i.e., language recognition and translation, music recording and analysis, saving and analyzing the specifics of craftsmanship.

Leisure industry; Tourism	- AI-based hypertargeting for Marketing. AI analyses data of potential customers and identifies individuals or small target audiences for the exact touristic service offered - Remote, self-dependent travel is a niche, e.g., survival tourism, extreme sports travel, climbing. With AI, target audiences in European or even global countries can be identified, across language barriers. - AI to tackle the complexity of identifying the best locations for specific touristic offers. Geography, infrastructure, services – once all relevant factors are included, the calculation becomes challenging.
Wood industry	- AI leveraged to analyze data collected by sensors of various kinds, e.g., optical or bio-chemical sensors, metrology sensors, traffic sensors. Based on AI data analysis, optimization of various factors can be achieved: harvest and plant locations and timing, increased wood quality and quantity, pest control, game browsing, resource allocation, and others - Optimized customer targeting by leveraging AI for identification, translation, and possibly content production. - Logistics planning with AI can identify best prices for wood transport on the

	market, addressing the accessibility weakness of the Carpathian region. - Product design can be augmented with AI, for example statics calculations for furniture or building construction. - AI can determine the quality of individual logs, thus identify perfect matches for high, medium, and low performance applications
Agriculture; Agri-food sector	- In agriculture, AI can increase productivity by monitoring and quality assessing livestock and crops, possibly down to the level of each individual. Over time, the data collected offers opportunities to increase efficacy and efficiency to levels not accessible without it. Thus, AI can create a major competitive advantage. - Crops: hydration, growth, timing, color, photosynthesis, maturity level, and individual bio-chemical indicators can be under surveillance with AI powered sensors and data analysis. Results might be used to decide timings, apply fertilizers and pesticides, watering, green housing, and even harvesting. - Livestock: weight, size, temperature, injuries, bio-chemical indicators can be permanently assessed and analyzed by AI. Results might be used for food distribution, medication, timings and other.

	- AI application stretching complete value chains can revolutionize the agri-food sector. Matching and optimizing raw material with production, distribution, and consumption is almost impossible without Big Data analysis and AI. With greater efficiency, development in the region can be funded.

Source: Table developed by the authors

5. Conclusion

The challenged Carpathian region has an opportunity to leverage AI not only for business resilience, but also for economic development as a whole.

To access the potential of AI-induced development, the level of English literacy needs to be high and internet accessibility / connectivity is essential. Those entrepreneurs with sound internet access and sufficient English skills can tap the potential of AI.

With educational efforts and increased internet availability, the „AI-ready" population in the Carpathian region grows.

The examples listed in the tables above show the potential for Carpathian entrepreneurs and administrative institutions to leverage AI technology for business resilience, innovative business development, and competitive advantage.

Thus, AI is a potential disruptor for the development of businesses and industry in the Carpathian region.

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WOHLLEBE ATILLA:
MOBILE APPS IN STATIONARY RETAIL: ASSESSING THE THEORETICAL AND PRACTICAL RELEVANCE OF FEATURES AND DEVELOPING A TYPOLOGY – INSIGHTS INTO THE GERMAN MARKET

[1] MATE Hungarian University of Agriculture and Life Sciences – Kaposvár Campus, Kaposvár, Hungary, e-mail: atilla.wohllebe@gmail.com

Abstract: With the spread of smartphones, the relevance of mobile apps has also increased. More and more retailers are trying to use mobile apps for business purposes. Providing right features being relevant for the user is of great importance for the successful establishment of apps. This paper examines 25 apps from Germany's largest retailers to determine which functionalities they provide for stationary retail. Functionalities are compared with findings from scientific literature and consumer surveys. Features offering monetary benefits are very widespread. In contrast, others like in-store navigation and mobile payment are hardly used, although being relevant for many consumers. A cluster analysis of the apps reviewed provides a typology approach. Mobile apps in retail can be divided into three focus groups; money-saver apps, shopping-convenience apps and loyalty apps.

Keywords: Shopping Apps, Typology, Germany, Cluster Analysis

1. Introduction

Alongside transport and hospitality, retail is one of the most important sectors of the economy in Germany and one of the largest employers (Statistisches Bundesamt 2020a; 2021). However, while e-commerce has been growing significantly for years, brick-and-mortar retail is coming under increasing pressure; space productivity is falling and the number of retailers is decreasing (Adler and Wohllebe 2020; HDE et al. 2019; Statistisches Bundesamt 2020b). At the same time, the smartphone has become the most important companion for consumers and is also increasingly being used to prepare for or during shopping (VuMA 2017). In this respect, the smartphone can also be understood as perhaps the most visible form of retail digitization (Deckert and Wohllebe 2021); mobile shopping or mobile-supported shopping is becoming more and more the standard when shopping (Pantano and Gandini 2017). Especially in retail, but also in other areas such as education or health, mobile apps are of great relevance (BITKOM 2020a; Papadakis and Kalogiannakis 2020; Pham et al. 2016; Ross 2020). In 2020, the apps of brick-and-mortar retailers such as Lidl or IKEA were accordingly among the most popular shopping apps in the Google Play Store (Airnow 2020).

Consumer expectations of mobile apps in general and of mobile apps in retail in particular are repeatedly the subject of scientific research. Overall, many findings show that a mobile retail app must be perceived by users above all as useful and value-creating (Beeck, Kriegesmann and Toporowski 2020; Stocchi et al. 2018). This is expressed in particular in the fact that practical benefits, efficiency gains and monetary advantages contribute to a positive perception and adoption of mobile app in the retail sector (S. Kim and Baek 2018; Parker and Wang 2016; Tupikovskaja-Omovie and Tyler 2018; Wohllebe, Stoyke and Podruzsik 2020). In addition to the practical benefits, hedonic benefits also play an important role in

satisfaction with an app - the use of an app should also be associated with a certain joy so that users are satisfied (Xu, Peak and Prybutok 2015). Mobile apps in retail are installed and used in particular by consumers with a very strong brand loyalty (E. Kim, Lin and Sung 2013; Wohllebe, Ross and Podruzsik 2020; Wu 2015). This is how mobile apps can help lead to more visits from customers to the store as well (Kang 2017; Verma and Verma 2013). To this end, the literature repeatedly emphasizes that mobile apps in retail must not only be an online store, but must also be designed for shopping in stationary retail, for example as digital shopping assistants (Bodmeier, Scheck and Lieber 2019; Pantano and Gandini 2017; Shukla and Nigam 2018). However, it must also be noted here that the design of an app as a digital shopping assistant has not been conclusively researched scientifically and there is a lack in particular of the designation of concrete features (Wohllebe, Dirrler and Podruzsik 2020).

Although the scientific findings on mobile apps, also in the specific context of retail, are extensive, there are only few findings on concrete features that users expect. This is probably also due to the fact that the highly dynamic nature of development means that such findings would only be very short-lived. In addition to the scientific findings, the results of some surveys among consumers are summarized below. These surveys try to find out what features consumers want from mobile apps in retail. A comprehensive survey conducted by the German Retail Association in 2018 finds that customers particularly expect the following innovations, among others: scan purchases themselves, tips on favorable shopping opportunities and local offers, retrieval of product information, in-store navigation and mobile payment (HDE 2018). The relevance of self-scanning and payment via app is confirmed by another survey in the same year (PWC 2018). Recent data from another survey also shows the high relevance of functionalities such as in-store navigation, special offers via app, digital display of

product availability and especially customer loyalty or bonus programs via app. (BITKOM 2020b). Of great importance for customers is the possibility to collect bonus points and redeem vouchers online and offline (shoop.de 2016).
Based on the findings from science and customer surveys, this paper attempts to provide an overview of the extent to which these findings have already been taken up by retailers and implemented in mobile apps. In doing so, the data collected from 25 mobile apps in retail is also used to develop a typology of mobile apps in retail.

2. Material & Methods

The introductory review of existing literature and consumer surveys has provided indications what features users of mobile retail apps expect in the context of shopping in brick-and-mortar retail stores. Now, it is investigated which features the apps offered by retailers actually provide. Additionally, a typology of mobile apps in brick-and-mortar retail will be developed.
To determine the features offered, an analysis will be conducted in the Google Play Store in September 2020. The app marketplace will be used for this purpose in German and in Germany, so that all results of this analysis are to be primarily related to the German market. The most popular apps in the "Shopping" category are searched from top to bottom. Only apps offered by retailers with physical stores in Germany are included in the analysis. For each app, an analysis is conducted to determine which features the app contains that relate to shopping in brick-and-mortar retail stores.
To develop a typology of mobile apps in retail, the apps considered are grouped based on the features they offer for shopping in brick-and-mortar retail. Cluster analysis is used for this purpose.
The method has a long history in the social sciences and can be performed using different methods (Cattell 1943; Defays 1977; Estivill-Castro 2002; Sibson 1973). For this elaboration, Ward's

method is used to identify similarities between apps based on features and group the apps in this way (Ward 1963).

3. Results & Discussion

A total of 25 apps are analyzed. Each app has a median of eight features that relate to stationary shopping. The most popular features include the store finder and displaying the route to the store as well as a shopping list. In-store navigation, the ability to rate a store and room-based shopping are among the least popular features. In total, 17 different app features were identified in the context of brick-and-mortar retail. Figure 1 shows how frequently each feature was found in the 25 apps.

	Total
Storefinder	24
StoreRoute	24
ShoppingList	23
LoyaltyCardDeposit	17
StoreReservation	16
BonusPointLoyalyProgram	15
LocalDeals	15
ProductScan	14
FavoriteStore	14
AppExclusiveCoupons	9
SubscribeforFavoriteTopic	5
DigitalReceipt	5
SelfScanPayment	3
MobilePayment	3
InStoreNavigation	1
RateStore	1
ShopforRoom	1

Fig. 1: Number of apps per features

Based on the 25 apps and the 17 features found, an attempt is now made to group them using an analytical approach using a cluster analysis. Three clusters can identified on the basis of a dendrogram. The first cluster comprises twelve apps; the second eight apps and the third five apps.
Descriptive statistics for each cluster are shown below. In addition to feature data, the revenue of the companies in the cluster for 2019 is also shown. The differences between the clusters are elaborated and the clusters are characterized and named (cf. tbl. 1).

Tbl. 1: Descriptive data and presence of features per cluster

Feature	**Money Saver**	**Shopping Convenience**	**Loyalty**
Apps in cluster (N)	12	8	5
Revenue 2019 (m€)	22.111	19.700	13.018
Storefinder	1.000	.875	1.000
StoreRoute	1.000	.875	1.000
ShoppingList	1.000	.875	.800
LoyaltyCardDeposit	.750	.375	1.000
StoreReservation	.667	.375	1.000
BonusPointLoyaltyProgram	.833	.375	.400
LocalDeals	1.000	.375	.000
ProductScan	.417	1.000	.200
FavoriteStore	.583	.250	1.000
AppExclusiveCoupons	.500	.250	.200
SubscribeForFavoriteTopic	.000	.125	.800
DigitalReceipt	.417	.000	.000
SelfScanPayment	.000	.375	.000
MobilePayment	.167	.000	.200
InStoreNavigation	.000	.000	.200
RateStore	.000	.125	.000
ShopForRoom	.000	.125	.000

The storefinder and the route to store feature are relevant in all three clusters. The same applies to the shopping list functionality. The features for rating stores, room-based shopping, in-store navigation and mobile payment integration are practically irrelevant.
Features for app-exclusive discounts, bonus points, local deals, the digital receipt and for depositing a loyalty card are found primarily in the first cluster. In the second cluster, the self-scanning and product-scanning features are particularly important. The apps in the third cluster preferably offer the feature for depositing a loyalty card. However, the third cluster mainly offers features such as storing a favorite store, reservations in the store and subscribing to favorite topics.
In summary, three standard features can be identified: storefinder, route to store, shopping list. Furthermore, it is proposed to name and characterize the three clusters as follows:

- Money-Saver-Apps – strong focus on monetary customer benefits (cf. fig. 4)
- Shopping-Convenience-Apps – offering features to make shopping and payment more convenient (cf. fig. 5)
- Loyalty-Apps – non-monetary maintenance of customer relationships (cf. fig. 6)

The features found show a high relevance of monetary benefits (bonus point loyalty program, local deals, app exclusive coupons) or of customer loyalty (loyalty card deposit, bonus point loyalty program, favorite store). This is in line with the literature reviewed in the introduction (E. Kim, Lin and Sung 2013; S. Kim and Baek 2018; Parker and Wang 2016; Wohllebe, Ross and Podruzsik 2020; Wohllebe, Stoyke and Podruzsik 2020; Wu 2015). This also corresponds to the results from consumer surveys (BITKOM 2020b; shoop.de 2016). Nevertheless, there seems to be a large gap

in other features between the surveys considered and the features offered. Contrary to the survey results, the app as in-store navigation or as a payment tool (self-scan payment, mobile payment) does not (yet) seem to play a role in practice (BITKOM 2020b; HDE 2018; PWC 2018).
With a view to the defined clusters, there is still great development potential for the second cluster, shopping convenience apps, especially in light of the surveys. The main fields of action here are probably in-store navigation and the expansion of mobile payment.
From a scientific point of view, it should be emphasized that only 25 mobile apps in retail were analyzed for this study, which is limited to the German market. It is also not clear whether and, in particular, to what extent the named features have an effect on the perception of an app as a digital shopping assistant, for example. This limitation in particular calls for further research.

4. Conclusion

The aim of this study is to find out which specific features mobile apps in the German retail market offer for purchases in stationary retail stores and to what extent they correspond to the findings from literature and consumer surveys. In addition, a typology for mobile apps in retail was to be developed on the basis of the data collected.
The analysis of 25 mobile apps in retail revealed a total of 17 features related to shopping in stationary retail. Particularly in the areas of monetary added value and customer loyalty, these features largely correspond to the findings from science and current consumer surveys. At the same time, the study also shows that some features that consumers want for a convenient shopping experience have not yet been widely adopted. These include in-store navigation, mobile payment functionalities and the digital receipt.

A cluster analysis was used for the typology. This revealed a total of three types of mobile apps for in-store retail shopping; money-saver apps, shopping-convenience apps and loyalty apps. To the authors' knowledge, this is the first proposed typology of mobile apps for in-store retail.
Two directions are suggested as further research projects. First, research should be conducted on the extent to which certain features affect the perception of a mobile app from a retailer as a digital shopping assistant. Second, the typology proposed here should be validated with the help of a larger data set and expanded if necessary.

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SECTION C: Capital market, corporate finance and financial analysis

BÍRÓ BÍBORKA ESZTER, BENDE RÉKA: SNAPSHOT VIEWS ON THE IMPACT OF COVID -19 ON THE PHARMACEUTICAL INDUSTRY. THE FINANCIAL-ECONOMIC ANALYSIS OF PFIZER INC. CORPORATION

[1] PhD, university lecturer, Sapientia Hungarian University of Transylvania, Miercurea Ciuc, biroiborka@uni.sapientia.ro
[2] MsC, Sapientia Hungarian University of Transylvania, Miercurea Ciuc, bendereka@uni.sapientia.ro

Abstract: The COVID-19 pandemic has significant impacts on each sector of the economy, yet the horeca industry, and also the healthcare and pharmaceutical industries for different reasons occupy a prominent place in terms of the effects.
The aim of the present paper is to give a brief insight into the most basic impacts of the virus on the pharmaceutical industry. Afterwards it analyzes the financial-economic situation of the most avowed and often mentioned pharmaceutical company, Pfizer Inc. listed at the New York Stock Exchange. Our choice on this corporation is justified by its involvement in the development of the vaccine and by the fact that this company was the first that - in cooperation with BioNTech- launched the COVID-19 vaccine.

In the case study part, we discuss the most important indicators related to the liquidity, profitability, efficiency and indebtedness of the mentioned enterprise. The source of the data used are the quarterly reports of the company. Finally we allow an insight into the development of capital market indicators, paying special attention to the stock price, which also showed varying degrees of volatility due to the importance of the pharmaceutical sector but also due to the media circus formed around the pandemic.

Keywords: Covid-19, pharmaceutical industry, financial-economic analysis, liquidity, profitability, efficiency, indebtedness

1. INTRODUCTION

Due to the explosive spread of the virus, most pharmaceutical or chemical companies began to produce the tools and drugs needed to control COVID-19, which allowed them to reap significant returns in a short period of time. And this is only one of the earliest effects that have to be mentioned. But there are much more, such as: medication shortage due to induced demand (COVID-19 related and panic buying as well), shifts toward telemedicine, etc. Beside these short term impacts there are long term effects, like approval delays related to non-COVID products or shifts toward self sufficiency in the pharmaceutical industry.

2. COVID-19 SHORT AND LONG-TERM IMPACTS ON PHARMACEUTICAL SECTOR. GLOBAL TRENDS

"COVID-19 may be seen as a century's opportunity for pharmaceutical industry " (Ayati, et al, 2020)

Table 1 : COVID-19 short and long-term impacts on pharmaceutical sector. Global trends

Short-term	Long-term
Demand change and supply shortage ● Panic buying of different drugs ● Lack of APIs (main	Delay in approval for non-COVID-related products

suppliers being India and China) • Increased hospitalization due to COVID-19 related pneumonia and other complications	
Shifts toward tele-communication and tele-medicine (tele-health)	Moving towards self sufficiency due to export bans in India and China
R&D changes	The slow down of the sector as a consequence of the global economic slow-down, especially in "pharmerging" markets (the pharmaceutical industry of emerging markets)

Source: own edition based on N.Ayati, P.Saiyarsarai, S.Nikfar, 2020

Other possible long-term effects:

Ethical aspects - One of the long-term effects of growing clinical research related to the current pandemic is the use of poorly evidence centered therapies. Ethical issues should be considered in the use of these medicines as off-label (Shojaei A, Salari P, 2020)
Changing trends in consumption of healthcare and health-related products- There are changing habits related to consumption and refilling prescriptions, especially in chronic disease therapeutic areas (further affected by the emerging tele-medicine)

The use of anti infections and nose/mouse protection material should become a behavioral act even after the pandemic (in those countries where it is not already).

More traditional pharmaceutical processes will shift to agile models that allow for expediting processes for future emergencies. These may include simplified medical-equipment approval, quality and risk-assessment processes for new material qualification and validation, remote monitoring for site quality audits, and more rapid adoption of electronic batch records (Kelleher K, Kumar K, Patel P, et al, 2020)

Profound changes to the dynamics of healthcare are likely to ensue, leading to massive investment into disease prevention infrastructure, and the accelerated digital transformation of healthcare delivery. (Nicola et al, 2020)
Production slow-downs and limitations in supply would inadvertently lead to revenue loss.
Opportunities for companies engaged in vaccine and drug development have simultaneously emerged.
Globally, the pharmaceutical industry is continuing to manufacture medicines for the well-being of humanity. The pharmaceutical industry is in operation to save human lives. Therefore it is essential to take all necessary precautions to take care of themselves as well as others surrounding (sanitization, social distancing, use of face masks, etc.) (Barshikar, 2020)

The ability to source raw supplies, produce and deliver drugs has been limited due to rules to avoid Covid-19 outbreak from spreading. This is a huge challenge in developing and underdeveloped countries that do not have national production capacities (Almurisi et al, 2020).

3. FINANCIAL-ECONOMIC ANALYSIS OF PFIZER INC. CORPORATION

Headquartered in Manhattan, Pfizer - a multinational pharmaceutical corporation - develops and produces medicines and vaccines for a wide range of medical disciplines, including immunology, oncology, cardiology, endocrinology, and neurology.

Pfizer is listed at NYSE and was a constituent of the Dow Jones Industrial Average from 2004 to 2020, when it was announced that the company would be replaced by Amgen in the Dow Jones. The change took effect at the start of trading on August 31, 2020.

In May 2020, Pfizer began testing four different COVID-19 vaccine variations. It planned to expand human trials to thousands of test patients by September 2020. The pharmaceutical company injected doses of the potential vaccine, which was developed by the German biotechnology company BioNTech and into the first human participants in the U.S. in early May. Based on the results, Pfizer said that they expect to produce hundreds of millions of doses in 2021.

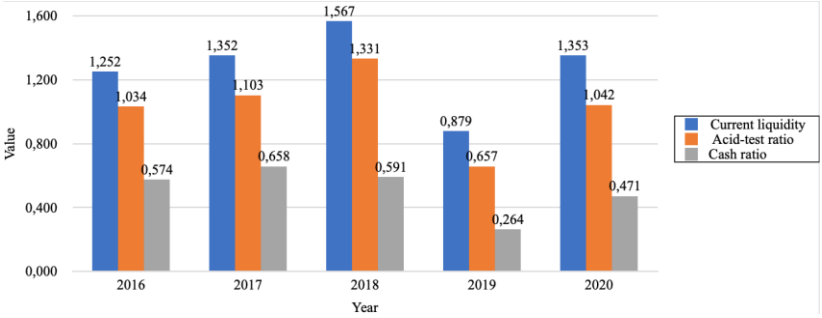
Our choice on this corporation is justified by its involvement in the development of the vaccine and by the fact that this company was the first that - in cooperation with BioNTech- launched the COVID-19 vaccine.

3.1 Liquidity analysis

If we take into account the most important liquidity ratios, we can conclude that Pfizer Inc. is able to meet its short term liabilities in most of the analysed years. 2019 has its outstandingly low values

that are corrected in 2020. Even the cash ratio approaches 0,5 in 2020 by realising a 56% increase compared to the 2019 value.

Figure 1: Liquidity indicators



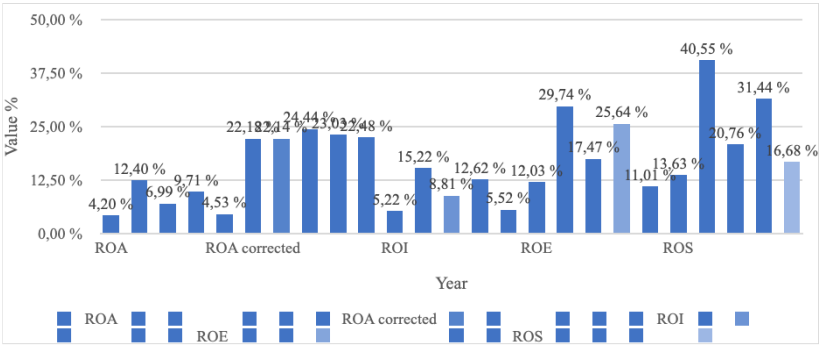
Source: own edition

3.2 Profitability analysis

Among the profitability indicators five of the most important were calculated as follows: return on assets and its' corrected version, return on investments, return on equity and return on sales.
While the ROA indicator expresses the profitability of assets using the net income as a profit category, the corrected ROA uses as a starting point the EBIT. It is clearly visible at Figure 2 that ROA values have a much higher volatility than the corrected ROA ones. This means that the company's earnings before interest and taxes have constant values, while its net income changes, realising significant increases and decreases in the analysed period.

Regarding the ROI and ROE indicators' values and the fact that neither the investment values nor the equity values haven't significantly changed in the analysed period, we can see an accentuated decrease of the net income from 2019 to 2020.

Figure 2: Profitability indicators



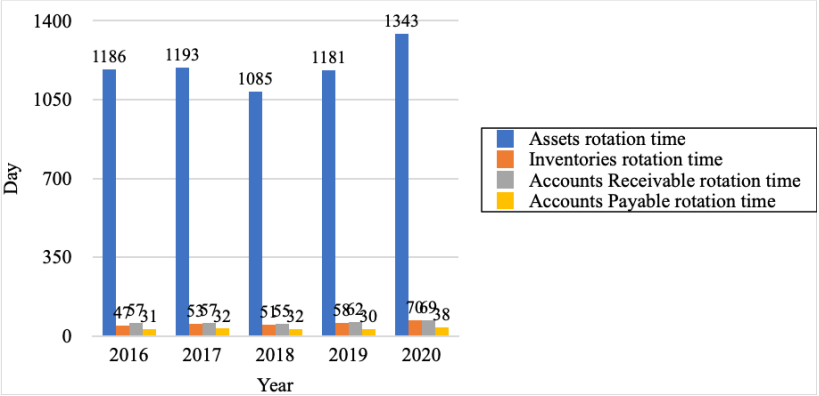
Source: own edition

The behind the decrease of the ROS indicator by 2020 a double negative aspect is hidden: on the one hand the revenue loss mentioned in the second chapter of present study can be observed with an almost 4% decrease in sales values from 2019 to 2020, which itself would lead to a higher ROS value, but on the other hand - and this has a more accentuated effect - a 35,55% decrease occurs in the value of net income.

3.3 Efficiency analysis

Analysing the efficiency indicators, i.e. the rotation times of different assets and liabilities categories, we can observe at figure 3, that there is an unfavourable trend referring to the increase of the rotation time of the assets categories.

Figure 3: Efficiency indicators (rotation times expressed in days)



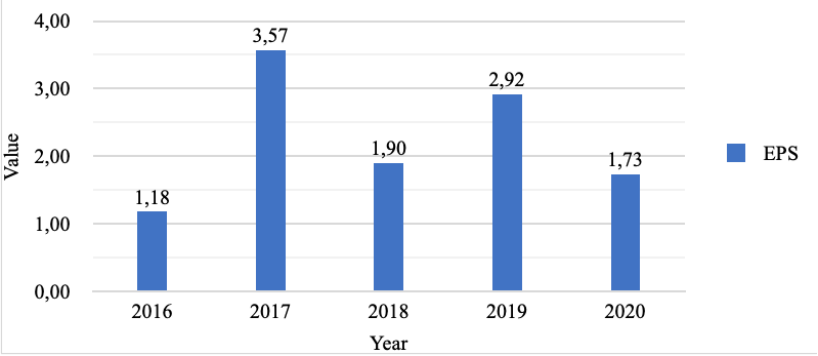
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Among the analysed efficiency indicators the rotation time of the accounts payable is the only one that reflects a somewhat constant trend, varying between 30 and 38 days.

3.4 Market indicators

The EPS indicator can be considered another kind of profitability indicator that shows the profit per share. According to Figure 4 in the case of Pfizer Inc. corporation the EPS ratio has a volatile change during the analysed period. An accentuated decrease is visible from 2019 to 2020 of almost 60% due to the decrease of all kinds of income and profit indicators of the firm.

Figure 4 : Earnings per share in the 2016-2020 period



Source: own edition

If we take into account the quarterly breakdown of the EPS indicator in 2020, we observe that it shows a decreasing tendency with the following values: 0,61 in the first trimester, 0,62 in the second trimester, 0,39 in the third trimester and only 0,11 in the fourth trimester.

Another important market indicator is the price earnings ratio that reflects how many times the EPS is paid as the price of the share by the investors. It also shows if the share is underpriced or on the contrary overpriced.

Table 2: P/E ratios

2020 Actual	15,09
2021 Estimates	10,47
2022 Estimates	10,87
2023 Estimates	10,91

Source: nasdaq.com

Taking into account the data shown by Table 2 it is important to know the average P/E value of the industry in order to be able to answer the question whether the presented values are low or high. According to Aswath Damodaran, the current PE for the US drugs (pharmaceutical) industry is 122,82, the trailing PE is 34,54 and the forward PE is 34,05. (http://pages.stern.nyu.edu/~adamodar/New_Home_Page/datafile/pedata.html).

In this context, the values of Pfizer Inc. can be considered as lower ones and Pfizer stocks as suitable for investment purposes. This last aspect is confirmed by the personal example of the authors, who purchased Pfizer stocks at the beginning of present research (prior to the conference in March 2021) and realised a stable 14% increase in three months time (until the completion of the manuscript).

4. CONCLUSIONS

It is important to make a difference between short and long term effects of the pandemic on the pharmaceutical industry. The most important short term effects are: demand change and supply shortage, lack of APIs, shift toward tele-medicine.

The long term effects are as follows: changing trends in consumption of healthcare, the use of anti infections and nose/mouse protection material should become a behavioural act even after the pandemic, traditional pharmaceutical processes will shift to agile models

The main finding regarding the financial-economic analysis of Pfizer Inc. can be summarised as follows:

- The liquidity indicators show an increase in 2020 compared to 2019, the cash ratio reaching its' highest value in the second trimester of 2020 compared to the whole analysed period
- In terms of profitability and efficiency the definite decline of 2020 compared to 2019 is characteristic. This means a decrease in profitability indicators and an increase in the rotation times as the most important efficiency indicators.
- The market indicators reflect the whole insecure situation of the capital market due to the pandemic, as the volatility of the shares' prices is higher than usual, the EPS indicator decreases in 2020 compared to 2019
- A significant decrease in P/E ratio is projected for the following period, while even the current PER indicator can be considered as a low one compared to the industrial average.

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ZOLTÁN ANDRÁS DÁNIEL: PRE-CRISIS FINANCIAL RESERVES FOR SMES OPERATING IN VULNERABLE SECTORS

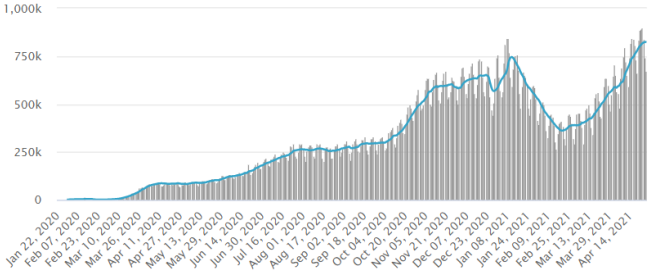
Department of Business Economics, Faculty of Economics, University of Pannonia, Veszprém, e-mail: daniel.zoltan@gtk.uni-pannon.hu

Abstract Closure is one of the most common tools of control for the COVID-19 pandemic that started in China in autumn 2019. In almost all countries around the world, minimising the number of co-occurring contacts is seen as a way to flatten the epidemic curves. However, efforts to drastically reduce the number of contacts have caused serious problems for businesses in many sectors. One of the most affected industries was tourism, with businesses in aviation, accommodation, catering, but examples could be given from other industries affected by the crisis (automotive, retail, manufacturing, textiles). In my research, I try to investigate whether micro, small and medium-sized enterprises in the most affected industries had some reserves before the crisis, and to what extent and over time these reserves ensure their survival. For this purpose, I use data from the accounts of the enterprises in my sample from the most recent years, I try to estimate the decline that occurred in their case by empirical means and through interviews, and on the basis of these data I try to estimate and quantify the reserves.

The spread of the coronavirus

The COVID-19 virus hit China's Wuhan province at the very end of 2019. Thanks to a globalised world and travel, the virus has spread rapidly around the world. (Kincses-Tóth, 2020) In the spring of 2020, the first wave of the virus swept across Europe and also caused problems worldwide. As shown in the graph, the number of new infections showed a steadily increasing trend until the end of 2020, and then, after a short period of decline, the

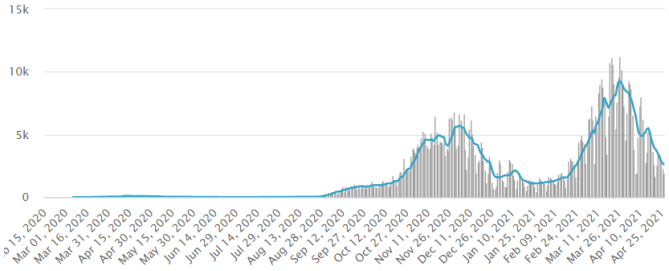
number of new infections started to rise again due to spreading virus mutations. Today, 900,000 daily infections are not uncommon due to the spike in the number of cases in India.



1. Figure: Spread of COVID-19 worldwide

source: ecdc.eu

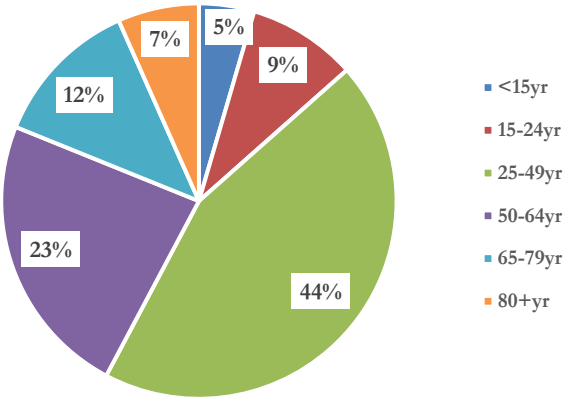
In Hungary, the first cases were recorded in spring 2020, followed by a slight increase in the number of cases by current standards, with a maximum of a few hundred cases per day. After a relatively quiet summer period, the second wave of cases reached a peak of around 8,000 new cases per day in the autumn. By early February, the number of cases had fallen, and in March 2021, in a third wave as severe as ever, daily case numbers peaked at around 12,000 and, in addition to the very high case numbers, the mortality statistics paint an alarming picture. Hungary is the worst country in the world in terms of deaths per capita (www.ourworldindata.com).



2. Figure: Spread of COVID-19 in Hungary

source: ecdc.eu

The successive waves, the response to the closures and the high number of infected people in the working age population have an impact on the overall performance of the economy. As shown in the following graph, a significant proportion of the working age population is infected. Infected persons in the 25-64 age group account for two thirds of all infected persons.



3. Figure : Age distribution of infected persons in Hungary

source: ecdc.eu

Mostly affected industries

The economic consequences of the virus are as yet unclear. All the major authorities agree that the pandemic is causing a global crisis. Last November's forecast, for example, predicted a 7.4% contraction in the EU economy as a whole compared with 2019. (Chen et al, 2020) On top of this, unemployment is expected to rise by 2% and inflation by around 1%. In Hungary, the contraction will be 6.4%, unemployment could rise to 4.4% and inflation could reach 3.4%.

If we take a closer look at the industries and areas affected by the crisis, we can see that there are some areas that have been more affected by the crisis, while others have been less affected, and what is more, there may even be industries that are able to develop and grow as a result of the crisis (Nicolaa et al, 2020).

The industry most negatively affected is tourism. Last year, there was a very serious downturn worldwide, which was only slightly helped by the summer relaxations, and the second wave will result in a more serious and more permanent downturn (Ahmad et al, 2020, Chemli et al, 2020).

There is also a downturn in the automotive sector. Sales are down by 22%, mainly due to the uncertain economic environment and the reallocation of disposable income to savings. However, the downturn in the automotive sector will bring with it a fall in consumption of raw materials and a reorganisation of supply chains, which are facing severe disruption as a result of the crisis.

Within tourism, the biggest decline last year was in air transport. The area suffered a 90% drop in the first wave of the virus and has not recovered to 2019 levels since (Czeczeli et al, 2020).

Within tourism, domestic tourism picked up globally in the summer of 2020, but autumn/winter closures again put accommodation providers and restaurants in a difficult position. For the latter, VAT cuts and home delivery options may provide

some relief, but for hotels, business travellers are not providing much revenue.
There is also a sharp decline in the clothing and textiles sector worldwide (40%) and in manufacturing (21% on average). The latter could cause further tightening of the raw materials market.
In addition to the negatively affected areas, there were and are many areas that have benefited positively from the crisis. Most notably, the digital advertising market has been able to offset the huge downturn in the film industry within the technology-media-media market. Within manufacturing, the chemical industry (disinfectants, gloves) could close on a positive note, while within textiles, the production of masks and protective equipment could strengthen (Fernandes, 2020, Cicala, 2020). Pharmaceuticals and other vitamins and nutritional supplements may also close with a profit, and this strengthening could continue on the back of news on vaccines. Moderna's share price has risen nearly eightfold and Biontech could also see similar results.

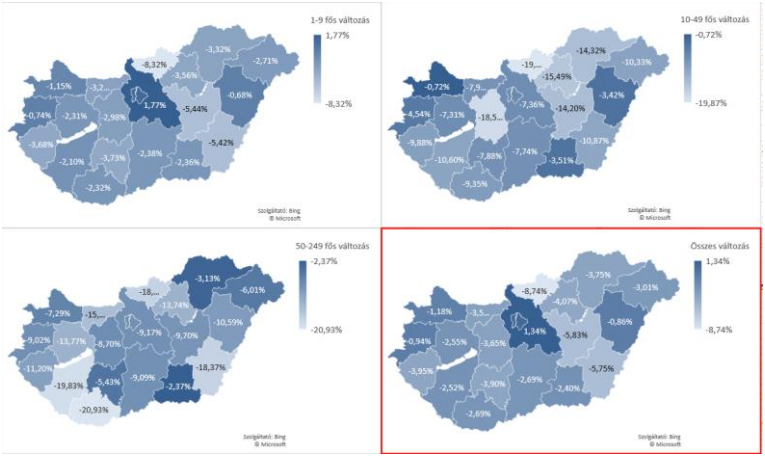
Trends

Considering the communication in the major economic newspapers in our country and worldwide, speculations about the effects and possible socio-economic consequences of a worldwide crisis are very frequent. According to the most optimistic formulations, "nothing will ever be the same", i.e. a complete transformation of social habits and relations is to be expected. Despite the globalisation that is sweeping the world, societies are expected to become more closed, with changes in travel patterns and destinations. The wearing of masks and disinfection will become commonplace and part of our daily lives, and life will become more digital in many areas (education, business meetings, administration). In commerce, supply chains will be shortened to improve safety and reduce risks.

2008/09 crisis

In my research, I try to explore how this crisis is affecting the Hungarian SME sector after the 2008/2009 crisis.

The global financial crisis has also caused significant problems for micro and medium sized enterprises in Hungary. In line with global market trends, the main problem was the fall in demand due to the shortage of money, which led to a significant drop in the turnover of businesses in the sector, causing payment problems and affecting their liquidity and solvency. Financial market developments were characterised by tightening credit sources, while the repayments of a large volume of foreign currency loans increased day by day. The scarcity of funds has made it difficult for businesses to escape the credit trap. The negative developments in the national economy have led to a decline in the number of businesses, as a result of bankruptcies and liquidation procedures. As the following graph shows, the largest change was in the number of small and medium-sized enterprises, with a smaller decrease in the number of micro-enterprises. It can be seen that the crisis affected different categories of enterprises to different degrees across geographies. Micro and small enterprises disappeared most in the counties of Nógrád and medium-sized enterprises in Somogy and Baranya. Overall, when looking at the overall county picture, the SME sector shrank mainly in the counties that were already economically more difficult, while the number of enterprises increased in the central region.

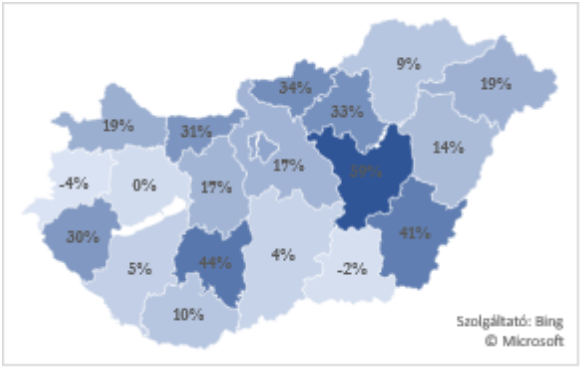


4. Figure: Companies going out of business after the 2008/09 crisis

source: CSO

Before 2020/21

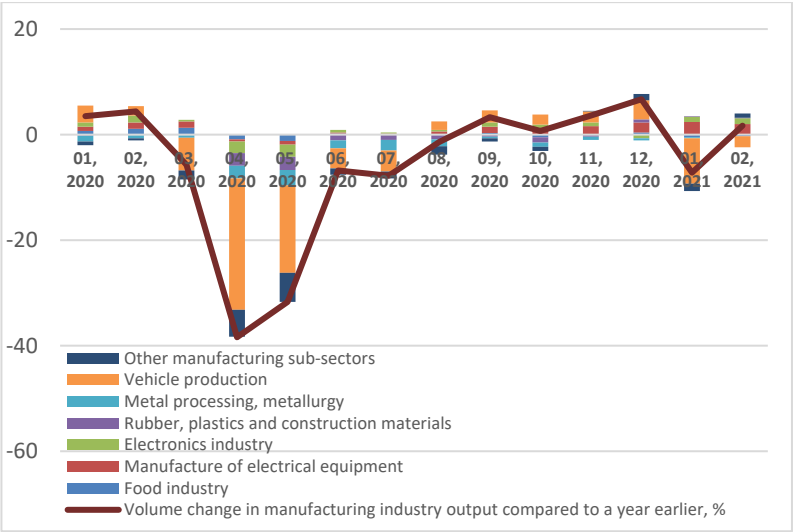
In the light of the above, I have examined whether businesses in critical sectors were in a better position before the current crisis compared to the pre-crisis period. For this analysis, I compared the average liquidity ratio for the SME sector, namely 2019 compared to 2007. I found that the average liquidity ratio increased from 1.29 in 2007 to 1.52 in 2019. In addition to being an increase of 18%, this is above the 1.3 that is considered to be the threshold in the literature. At the county level, the average liquidity ratio has increased for a significant number of counties overall, in many cases by more than 30%, with only two counties showing a decrease.



5. Figure: Change in liquidity ratio for 2019 compared to 2007

source: own editing, based on CSO, and OPTEN

I then also tried to examine how the liquidity ratios of critical industries evolved in the pre-crisis period and how the data for each sector evolved during the crisis period. The first sector examined is manufacturing. In this case, the liquidity ratio is still relatively high, with an average of 1.42 for all Hungarian SMEs in the sector. The following graph shows how the performance of the sector has evolved compared to the previous period. It can be seen that the biggest shutdown in this sector was caused by the measures introduced in the first wave, during which the drop in performance was close to 40%. In the summer period and subsequent waves, the closures affecting the sector were lower, and as a result the drop was not as large. It can also be seen from the graph that the performance of the manufacturing sector is highly dependent on the performance of the automotive and related industries.



6. Figure: Change in manufacturing turnover in % of the previous year

source: own editing, based on CSO

The next area under study is hotels and restaurants. In this area, liquidity is at a very low level, with an average aggregate value of 1.16. This value is very low even if we consider that the data are based on the end of the year, when a large part of the sector is in a lousy state due to seasonality. The following graph shows how the sector's returns have evolved compared to the previous year. It can be seen that accommodation services have suffered the largest losses, in this case the decline from last spring is almost 100%, and the sector is still in significant deficit after the summer breathing space. In the case of hospitality, it is the decline in commercial hospitality that is the larger, with only the possibility of home delivery keeping this sector alive. Work-related hospitality is significantly better off, thanks to lower closures in the second and third waves and the fact that restaurants have sought to target home school students.



7. Figure: Change in turnover in accomodation and catering %

source: own editing, based on CSO

The last sector examined is the arts, entertainment and leisure sector. This sector is the worst performer, with the lowest average liquidity ratio of all the sectors surveyed (0.78), which can only partly be explained by the small size of the stock of tangible current assets. The sector has received government assistance (garage gigs), but this has helped only a fraction of those concerned, many of whom have looked for alternative ways of raising money.

Summary

The results suggest that businesses were more prepared for the crisis than before it. This can be seen from the increase in liquidity and the size of reserves. However, it can also be said that of the sectors surveyed, tourism is in a very difficult situation and the longer the closure lasts, the more businesses will close. Not only will the timeframe eat into reserves, but it will also increase

uncertainty, which may lead to a search for more secure employment for those working in the sector, leading to a significant labour shortage in this area. It can also be concluded that the automotive sector remains the main driver of industry in Hungary.

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ISTVÁN FETTER –ANNA ÁGNES ACZKOV: HOW BANKING HAS BEEN CHANGING AS A RESPONSE TO COVID-19 - AN INTRODUCTION TO A NEW DIGITAL ERA

[1] Óbuda University, Keleti Károly Faculty of Business and Management, e-mail: fetter.istvan@cl.uni-obuda.hu
[2] e-mail: aczkovanna@gmail.com

Abstract:

This paper intends to investigate the main economic, financial and especially banking effects, which have been caused by the COVID-19 pandemic situation in 2020. As a result of the pandemic, both the consumer and corporate demand has changed a lot and corollary banking sector has to evolve rapidly with a special focus on online digitalisation in order to fulfil the altered client needs.

As the spread of the virus began to accelerate the banking sector faced a lot of challenges. The new situation forced the financial institutions to establish new systems, distribution channels and service models which contributed to a streamlined, accelerated and more cost efficient operation. Digitalisation has always played an extremely important role in the banking sector, however, the pace of it has been augmented in an unprecedented way. During the course of this investigation I am going to show the dramatic changes in the landing process, including mortgage loans, personal loans and corporate financing. Other financial services, such as savings, wealth management, cash management, treasury and insurance are all going to be covered focusing on what the new technologies can bring. In the exploration there will be a special focus on the economic downturn and the measures, which can mitigate that, such as the moratorium, crisis program and the Funding for Growth Scheme. It is vital to minimise the number of non-performing loans and in parallel to avoid the deterioration of

the company's liquidity situation. An other important aspect of the virus, which is worth to be analyzed is the operational changes within the financial institutions, including the wide-spread introduction of home office, which may also stay with us after the elimination of the virus.

An important part of the thesis covers how the banks had to reshape their strategic priorities in the new scenario. We will cover the development of an efficient multi-channel model, including branch network redesign, new client segmentation and the boost of digital customer penetration by offering a new set of state-of-the-art products and services. The development of new digital processes also includes the introduction of the digital identity to enhance sales capabilities through virtual branches.

Keywords:
Bank sector, digital channels, pandemic, finance, economy, crisis,

1. INTRODUCTION

We are all familiar with COVID-19 and its effects on our everyday lives, but not many people know about how banks – one of the most important institutions of the financial system and the economy - were affected, and how they reacted to this new situation and the many uncertainties that came with it . It is no question that a deeper examination of the banking sector becomes especially interesting in times of a crisis like this, so in this study we decided to analyze the subject and give a straight to the point understanding to the reader of how banks were actually able to maintain their activities in a way that their clients could not have a moment of doubt about whether their bank is still remains stable and reliable or not due to the specificity of the financial sector - like the importance of providing a constant service that is available in any circumstances.

2. MATERIAL AND METHODS

In this study we are looking for the answers from different sources on how the global, and how the banking sector (with the focus of Hungary) generally reacted to the COVID epidemic. After a short summary of the general effects of the pandemic we analyze how banks responded to it, and what were the short-term, mid-term and long-term banking sector responses to the situation. Then we are concentrating on risk management, and governmental programs, which were introduced to help individuals and businesses get through the difficulties which were caused by COVID-19 (for example the Hungarian National Bank's Funding for Growth Scheme or Garantiqa's crisis program). And finally, another topic we mention is the new service model of the banking sector.

Our study is primarily based on secondary analysis of existing data, but as we were – and still are – dealing with this subject daily in the banking sector, we analyze these studies and information from a point of view that is based on experience and practice.

3. RESULTS AND DISCUSSION

Covid-19 has been declared as one of the biggest epidemics so far in our new history and it quickly became clear to everyone that this is something we really have to take seriously. Even in Hungary there are already more than twenty-thousand confirmed deaths and worldwide there are more than 2.7 million deaths caused by the Coronavirus disease, and more than 120 million people have been infected. Currently there are 223 countries, areas or territories with confirmed cases (World Health Organization,2021) This is important to be highlighted because these are the short story behind the reactions of the banks and why they had to make a lot of precautionary measures.

Of course, the pandemic has a lot of impact on GDP as well and on the economy in general. Regarding the GDP, in the second half of 2020 there were already a lot of estimations on yearly GDP that were not promising as there were some serious declines in the

results of 2020 Q1 and Q2 already (Ruth Lea, 2020). Based on the latest data there was a 0.7% decrease in the euro area and 0.5% in the EU (Eurostat, 2021)

The economic consequences and especially employment have a lot of reflection on banking results too, however banks were able to achieve a good performance in 2020 despite the difficulties. For example, moratorium had actually good effects for the banking sector. Even though most crises lead to high NPL levels (Ari et al., 2020). However in this case – thanks to the moratorium - NPL was decreasing, the ratio declined to 3.5 per cent in the corporate segment and to below 4 per cent in the case of households, because it was safer for clients to go into moratorium if they had financial difficulties (MNB,2020). (In Hungary there is an opt-out system meaning that everyone is under moratorium until the client decides to opt-out). Also, the BUBOR slightly increased which had a positive effect on the banking results (especially savings) as well.

A further effect of COVID-19 is that return on equity (ROE) fell down. According to McKinsey's (2020) research in most scenarios, banks in North America would see a faster decline in ROE and a more robust recovery than banks in Europe. Also both regions, along with developed Asia, face negative ROEs in 2021.

Unfortunately, we can say that this crisis and epidemic hit practically more than 90% of different companies, in basically every industry. There were only a very few industries and companies which may have encountered this period as positive (for example those who were able to concentrate on e-commerce and national delivery) but if we look at the world's stock market even the traditionally stable sectors like pharmaceuticals lost their stock prices (Fernandes,2020).

The negative effects of the epidemic are clear and very serious, but from a financial point of view 2020 was a well performing year for banking in general and the sector remained stable in Hungary. Most probably real issues will come when the moratorium will be

over and when the pandemic effects will really show in the life of the companies, as there are a lot of companies which were able to survive in the first year, but sooner or later their reserves will be over too and then (without the moratorium and without the current extraordinary measures by the government these companies) will might go to bankruptcy. In case if we look at the banking sector outside of Hungary, we can say that banks were hit more. The reason behind this that for example they did not have the positive BUBOR effect, so they were not having this extraordinary income plus they had a different moratorium system – so clients had to opt-in mainly and not opt-out, so there were less clients staying in the moratorium, in other words the overall exposure was shrinking more than in Hungary, where the overall exposure was increasing.

When we analyze the effects of a situation like this, it is essential to consider the perspective of individuals. For this we can look at the feedback from a net promoter score point of view and see how the net promoter score was changing thanks to the pandemic. Based on Qualtrics's study (2020) where they surveyed 10 000 consumers on 20 different industries practically the net promoter scores were decreasing in every industry. In other words clients are getting more and more dissatisfied with services and the same situation happened in banks as well due to the fact that there were a lot of questions raising (for example regarding the opening hours of the banks, which conditions or safety measures were taken in the branch , which are the special credit programs, how banks handle moratorium, which are the services that can be achieved through digital channels etc.). Due to the many questions in such a situation more clients were calling the call center than usual, so the call centered was engaged several times. So there were lot of new situations and in general industries (including banks) were not able to react as quickly and as smoothly as obviously clients wanted them to, which leads to NPS fall backs.

Of course there were some steps that banks had to take immediately. In some cases, they had to shut down a few branches or shorten the opening hours, but in general physical presence have been maintained. It was necessary to introduce new safety measures, like keeping the distance, wearing the mask and using plastic glass to protect both the clients and the banking advisors. But due to the new situation banks not only had to adapt very quickly with these branch related changes but more importantly they had to come up with several digital solutions as soon as they could. For example, many banks introduced home offices for people who were working in the headquarters, and they also had to focus on digital channels more than ever. Which means they had to speed up the process and do the digital work of 3-4 years in months. From this point of view the epidemic was rather useful because the developments that were already planned were coming earlier, and it became clear that even Banking employees were able to work from home in complete working hours. This new working system has been with us now for more than a year, and based on the rather positive experiences, it will most probably stick with us in the future too (Barrero et al 2020). Of course next to the advantages (work-life balance, flexibility, work control, saving of commuting time) we can not ignore the disadvantages either, like employees missing colleagues and meeting them in person, or missing getting out of the home (Ipsen et al 2021). At the beginning of this home office period banks had to focus on digital innovations which is rather difficult if people are not able to meet in person, because we all know that the greatest ideas come in very relaxed informal meetings, where multiple people meet and there is no tight schedule and agenda. Due to COVID not only was this kind of platform not achievable, but the pressure was also significant to implement these innovations as quickly as possible.

Furthermore, beyond the operational changes the crisis situation also required an immediate response from the management side, which meant setting up a crisis management team. This team had to determine a procedure to be followed in a pandemic situation and coordinate it, just like they would in any other crisis (Vőneki, 2020).

Banks also had to concentrate on short term responses, which required them to review their digital strategy and identify which are the services that they are able to do completely digital, or half digital. After mapping this it was necessary to make a shortlist to know which are the functions that need to be developed first. For client acquisition the banks had to come up with a completely online account opening process, so they were able to acquire new clients without going to the branch. For existing clients, it was mandatory to provide a reliable online banking platform, where they can access multiple functions. Even though banks already had such platforms, now additional services were needed (e.g. bank card or insurance application with zero physical contact).

Regarding the mid-term actions - as BCG (2020) have pointed it out – it was also necessary to find a common ground with compliance, risk, internal audit, and other areas to serve the clients needs in a more efficient, but still in a safe way (for example faster; paperless service). So on the one hand banks had to think with the mind of the customer - and the customer does not only compare banks to banks, but also banks to telecommunication., banks to automotive, etc. and they want to have the same experience, the same feeling and the same frictionless service. This means that the "old type" of banking is over or getting over and for example clients do not want to go to the branches and sit down for hours and sign thousands of papers, so the service needs to be very quick and has to be customer friendly. But on the other hand it is not enough to understand the client needs, because the solutions still have to be cost-efficient and risk-cautious which is not a negligible

requirement for financial institutions when it comes to innovation or product development since this precaution is what protects the interests of both the client and the bank. Although there is a lot of potential in banking digitization, in some cases market and government developments are also needed to make them feasible such as the development of electronic identification and online contracting practices (Krakovsky et al., 2020).

In addition to the actions of commercial banks, it is also important to highlight the Hungarian Central Bank's and the government's support programs which are available both for private individuals and both for businesses to survive in this situation. One part of them is refinancing, meaning that companies can get a 0% interest rate loan and another type of it is providing collateral, which can be guarantee or insurance, and with a risk-sharing scheme the government takes one part of the risk which is very important both for the client and both for the banks. There is also a third type of regime, in which there is some sort of subsidy provided directly or through commercial banks to clients. These programs together with the epidemic related programs and the moratorium are very important both from a population point of view and both for family programs but also for helping those people and companies who are in trouble (Túróczi et al.,2020). These programs also contributed to increasing new disbursement, increasing exposure, and partly increasing profitability of the banks.

As mentioned above non-performing loans are decreasing, but this will only last until the moratorium is over. Because of this, banks have to create satisfactory provisions and potential new products, which can be useful for those companies that will face financial difficulties when the moratorium ends.

In the last years in the banking sector a new service model started to form, and some changes are partly a result of the pandemic. For example there are fewer and fewer branches all over the world and this global trend also applies to Hungarian banks. The pandemic is

likely to exacerbate this effect, as with the spread of digitization, less and less personal attendance is needed (both from the client's and both from bank's side) and consequently, fewer and fewer bank branches are necessary. In retail banking distribution acceleration of digital preferences can lead to 25 percent fewer branches (Asif et al., 2020.). Another new trend is that the branches look different than before. Now they have a modern appealing shape, there is more space and they are more comfortable so clients can negotiate and meet with relationship managers in a more open spaced environment. Of course, the epidemic situation has further strengthened the need for more free space in the branches so that clients do not have to get too close to each other. Digital devices are also used more frequently in the branches, so there is less paper, and the main goal is to have a completely paperless process where it is possible. With more digital services clients can also solve most of their issues from home and they have to go to the branch if they need some higher value-added service, or a tailor-made offer from relationship managers. Based on McKinsey' survey there is a significant evolution in retail banking preferences and up to 20 percent of clients expect to increase their use of digital channels after the COVID crisis is over (Asif et al,2020.) It is no secret that even before the pandemic, digitization was a main strategic goal of banks, so there was already a high customer demand for digital banking and branch usage was already declining before the crisis, but COVID-19 has accelerated this digital shift (Bensley et al., 2020). Before, it was moving rather slowly, as it is a strictly regulated sector where banks have to comply with a lot of legal and compliance requirements. However, the pandemic had a significant impact on this because banks had to focus on digital solutions and development of a new service model in a very short time, as banking services could not be shut down despite quarantine.

The rule of the banking sector in times of crisis

The rule of the banking sector is significantly changed compared to the previous economic crisis. As McKinsey & Company puts it: "The last time there was a global crisis, banks were widely perceived to be a big part of the problem. This time around, banks are central to the solution." (Bensley et al., April 2020, 2 p.). Back in 2008 there were a lot of capital related problems with the banks so governments and other national; international institutions had to recapitalize the banks with money that was coming from private individuals. During the coronavirus pandemic banks were not made to be recapitalized which is a huge difference. Also in 2008 there was a liquidity crisis so banks did not have the possibility for financing clients, but this time banks have sufficient liquidity and several programs were introduced by governmental agencies. Another difference is that earlier a lot of companies were going bankrupt or had a lot of immediate problems which hit in the banks, but now because of the moratorium these problems have not shown, and most probably banks will only face these difficulties later.

4. SUMMARY

The COVID epidemic has brought a difficult period for everyone. While for some sectors this meant having to suspend their activities or reducing the intensity of their operation, in the banking sector significant changes and innovations had to be solved in a very short time. Banks are not only focusing on maintaining their day-to-day operations but they are still working hard to provide a wide range of online solutions so clients can bank safely from their homes, while forming a new service model which also affects the branches. In addition to these resource- and time- consuming developments and transformations it is also very important that banks are taking on a new role in time of crisis by offering a rescue, and a solution for individuals and businesses with difficulties.

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SZTANKÓ ÉVA – SZIKSZAI SZABOLCS – NAGY ANDREA MAGDA – BOSNYÁK-SIMON NIKOLETT: FINANCIAL LITERACY AMONG UNIVERSITY STUDENTS

[1] Department of Finances, Faculty of Business and Economics, University of Pannonia, e-mail: sztanko.eva@gtk.uni-pannon.hu
[2] Department of Economics, Faculty of Business and Economics, University of Pannonia, e-mail: szikszai.szabolcs@gtk.uni-pannon.hu
[3]Department of Economics, Faculty of Business and Economics, University of Pannonia, e-mail: nagy.andrea@gtk.uni-pannon.hu
[4] Department of Finances, Faculty of Business and Economics, University of Pannonia, e-mail: simon.nikolett@gtk.uni-pannon.hu

Abstract
Financial literacy contributes to consumer wellbeing and helps mitigate the effects of financial and other crises. Previous studies have shown that young adults have measurable financial knowledge in almost all examined dimensions, but this knowledge is incomplete and students may not be able to apply it in practice. We conducted a questionnaire survey, in which we tried to map the factors that shape and influence financial attitudes and behavior of first-year students studying business and economics at the University of Pannonia. Our analysis shows that parental influence dominates students' financial decisions and there is a statistically significant difference between the financial knowledge of those who seek parental guidance and those who do not. Our research is the first part of a larger, international survey, in the framework of which we would like to conduct a similar survey in designated higher education institutions of the countries neighboring Hungary.

Keywords: financial knowledge, financial awareness, survey, young adults

1. INTRODUCTION

Financial awareness contributes to increasing consumer welfare and, enables more efficient use of resources and promotes sustainable development. International and national research have shown that the population's sense of financial security depends on their financial knowledge and the ability to apply this knowledge in practice. Many articles concluded that although students have measurable financial knowledge, it is incomplete and in many cases they are not able to apply it in practice.

In our research, we focused on the students of the University of Pannonia. We were curious about the level of financial awareness of first-year business and economics students. We conducted a questionnaire survey, in which we assessed the financial knowledge of the participants, and we tried to map the factors that shape and influence the financial attitudes and financial behavior of the respondents.

After a brief theoretical summary, we present in detail the database used and the main aspects of the analysis. We conclude our study by highlighting the most important results and outlining possible further research directions.

2. LITERATURE REVIEW

In spite of more than 40 years of research, financial culture has no single definition or research methodology. A great variety of publications on the topic define it based on the objective of the research. Two, not completely overlapping terms, *„financial capability"* and *„financial literacy"* are in use. *„Financial capability"* refers primarily to financial capabilities, while *„financial literacy"* means in-depth financial knowledge. *„Financial awareness"* is also often used.

Most publications are based on questionnaires. Much circumspection is needed for the evaluation of responses. Rigid patterns of thinking and behavior can have a long-term negative impact on financial decisions. Most publications deal with the level of financial information, and the ability to process financial information and to take correct financial decisions.

The OECD's definition also stresses the importance of financial decisions: "financial literacy is knowledge and understanding of financial concepts and risks, and the skills, motivation and confidence to apply such knowledge and understanding in order to make effective decisions across a range of financial contexts, to improve the financial well-being of individuals and society, and to enable participation in economic life." (OECD 2014, 33 p.)

The corresponding Hungarian definition comes from the National Bank of Hungary (2008). According to NBH, financial culture can be defined as a level of financial knowledge and skills that enables individuals to identify and interpret basic financial information which help them to make their future financial decisions (MNB 2008).

The otherwise quite different approaches overlap in terms of using financial products, collecting and using information, and making financial decisions. Therefore, financial culture cannot be narrowed down to the knowledge of these definitions. The knowledge of individual preferences and the sources of information of the target group is also necessary to analyze and understand individual choices of financial products. In our study, we review the main results of surveys and research on financial culture/awareness in Hungary over the past 10 years.

The level of Hungarian financial culture is low according to most surveys (see for example OECD 2014; OECD 2020; (Luksander *et al.* 2014); Németh-Lékó 2020). It is clear from the results that, although the knowledge is available (mainly from parents), there is no risk-taking, financial planning is lacking and the trend continues

to deteriorate. The trainings aimed to develop financial culture were mostly short, the availability of study materials were often not ensured, and the backward measurement of effectiveness was typically lacking (Vargha *et al.* 2020; Németh Vargha and Domokos 2020).

According to the *European Consumer Payment Report* by Intrum, Hungary was the 12th among 24 countries regarding the level of financial awareness. Close to 60% of Hungarian respondents were dissatisfied with the quality of financial education. Controversial opinions exist on the financial knowledge of the age group 18 to 30. Hungarian youth try to improve the quality of their own financial management, but many feel like losing control over their expenditures. The picture is made more complex by the fact that many of them do not invest their savings (Intrum 2019).

There have been three OECD projects so far on international comparisons of the financial awareness of adults, in 2010, 2015 and 2018 (see Atkinson and Messy 2012; OECD 2016, OECD 2018). The three components of the complex index measuring the level of financial culture include the level of financial knowledge, financial behavior and financial attitude. The survey of 2020 puts Hungary in the midfield among 26 countries when comparing financial knowledge, but is closer to the bottom regarding attitudes towards finances and the quality of financial decisions. This means that, as earlier, the field to be most developed is the application of existing knowledge (OECD 2020).

3. MATERIAL AND METHODS

The main objective of our research is the mapping of the financial awareness of university students. More specifically, our primary goal is to analyze and give an average numerical assessment of the financial knowledge of first-year university students of business and economic sciences. As professors active in the realm of business and economic sciences, this information is an important

input in our line of work, which includes lecturing different courses of finance. So far, we have not had any information pertaining to the level of financial knowledge of our freshmen students. As a related issue, we also investigate the existence of any relationship between the way of making financial decisions and the level of financial knowledge of said university students.

Apart from these aspects we also seek to unveil the factors determining the financial attitude and the financial behavior of university students. The question whether an adequate level of financial knowledge leads to financially aware consumer behavior is also of utmost relevance to experts in our profession. Finally, we also intend to answer the question of which aspects, factors students consider when choosing a bank. This question is important since the conscious choice of bank is one of the main aspects of financially aware consumer behavior. It is interesting to find out whether students make use of their financial knowledge acquired in school education before choosing banks or whether socialization has a stronger influence on their decisions.

In an effort to reach the above mentioned objectives we attempt to answer the following research questions:

Q1: What is the average level of financial knowledge of first-year students of business and economics?

Q2: Is there a significant relationship between the way of making financial decisions and the level of financial knowledge?

Q3: Do first-year university students make a financially conscious choice of bank or are their decisions influenced by external factors?

In order to answer this research questions, we conducted a questionnaire survey. When compiling the questionnaire we used the set of guidelines offered by OECD, which describes the methodology recommended to gauge financial knowledge (OECD 2018). We relied on this set of guidelines as a point of reference when formulating our survey questions, and we expanded the set

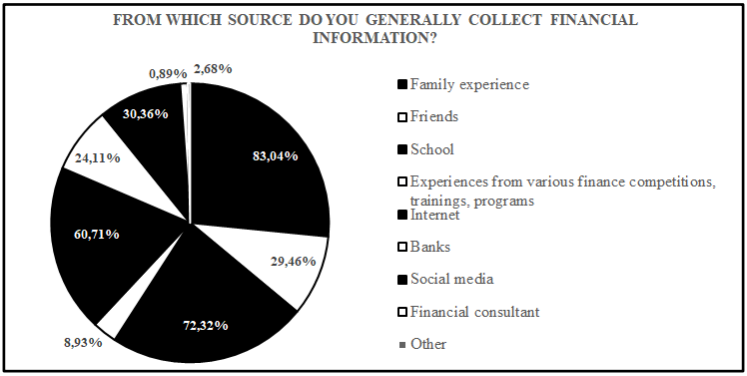
of questions inspired by the OECD guidelines by including further questions intended to unveil the factors determining bank choice as well as by adding questions on general demographic data. Thus, our questionnaire includes 27 questions altogether, which cover the following aspects of financial literacy: financial knowledge, financial attitude and behavior; factors determining bank choice, general demographic data.

Because of the restrictions due to the current pandemic, the questionnaire was distributed in the form of a hyperlink in an email message and was accessible to respondents exclusively online between October 26 and November 1, 2020.

In this research project we focus solely on the first-year students of the Faculty of Business and Economics of the University of Pannonia. Out of the 198 students, 112 filled out the questionnaire, making this our research sample.

4. RESULTS AND DISCUSSION

We use descriptive statistical methods to explore the characteristics of the research sample. At the beginning of the questionnaire we asked students in a multiple choice question which sources they used to acquire financial information.

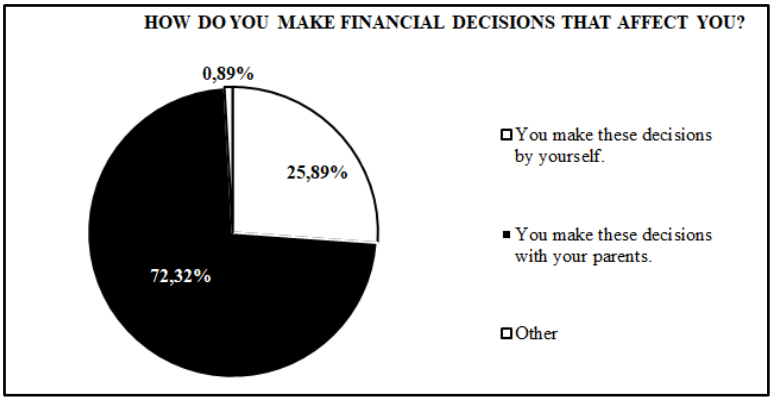


Source: own research, 2020, N=112.

Figure 1: Source of financial information

We can discern from the responses of students to this question that most of the students acquire financial information from their immediate environment, that is, family experiences. Although the influence of the social environment is strong, the fact that most students try to rely on financial knowledge gained at school supports previous research results which pointed out that members of the young generation strive to make financially conscious decisions. The internet serves as an important source of information for 60% of the respondents. It is also noteworthy that one-fourth of the respondents follow the financial information channeled by banks.

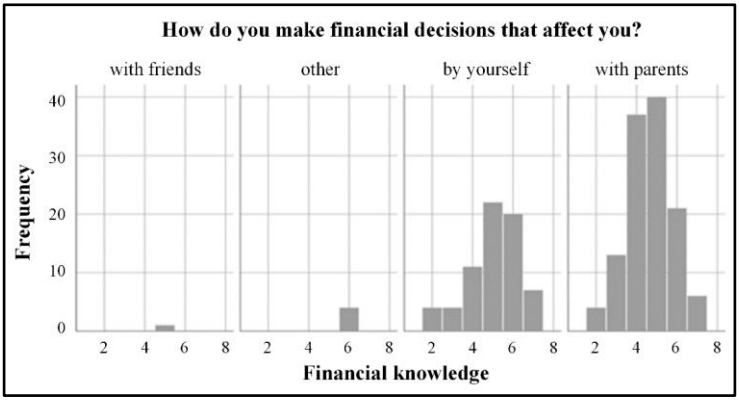
In further questions we asked students to share with us their way of making financial decisions. As shown in Figure 2, the majority (about three-fourths) of the respondents make their decisions after asking for the guidance and support of their parents and other family members. 26% of the respondents rely on their own knowledge when making financial decisions for themselves. There were only a few respondents who stated that they listened to friends and other sources.



Source: own research, 2020, N=112.

Figure 2: The way of making financial decisions

In the following set of questions we look for the existence of any links between the way of making financial decisions and the level of financial knowledge. We measure students' financial knowledge on a scale of 0 to 7, following the OECD guidance, based on their responses to the questions on financial knowledge. While this is a variable measured on an ordinal scale, the way of making decisions as an independent variable in this model is measured on a nominal scale. Given the different scales of measure we analyze the relationship between the way of making financial decisions and the level of financial knowledge by variance analysis (ANOVA), which measures the distance between the mean values of the financial knowledge scores measured in the different groups. Figure 3 shows the different levels of financial knowledge of the four groups of students.



Source: own research, 2020, N=112.

Figure 3: Levels of financial knowledge in the different groups of students

Given the number of students in the individual groups, we carry out the variance analysis on only two of the four groups: that of students making decisions on their own and that of students deciding with their parents. Our results show that students who make their own decisions wield a significantly higher level of financial knowledge (mean=5.04) than those who decide with their parents (mean=4.65). The ANOVA analysis confirms that the difference between the means of the scores these two groups is significant (Sig.=0.035).

To measure financial knowledge in our questionnaire we use questions taken from the guidelines offered by the OECD. These questions pertain to interest calculation, inflation, the connection between risk and return and portfolio management. Respondents were asked to answer 7 questions. Their score was 1 point if they answered correctly and 0 in the opposite case, for a total score of 7 points. In total, the average score of the responding students was

5.51, which is slightly higher than the average value for Hungary (4.6) measured by OECD in 2020. We found that questions on the connection between risk and return and on inflation were easily answered by the students while they found those on portfolio management to be more difficult.
Finally, as we pointed out earlier in the methodology part, we completed the questions taken from the OECD guidelines by further questions exploring the factors determining bank choice. In order to identify the factors determining the bank choice of respondents we asked the students already holding a bank account to share with us the aspects of their choice of bank. Respondents were asked to give the score of the offered alternative statements on a scale of 1 to 5. Any statement describing an aspect that had zero impact on their choice of bank was given a score of 1 while those that played a role in the decision received a score of 5. Our results clearly suggest that parents' guidance plays a decisive role in the students' choice of bank.

5. CONCLUSION

Adequate financial literacy can increase the willingness of the population to save and strengthen the forward planning of household finances. This is extremely important both at micro and macro level, as it can mitigate the effects of economic shocks (see for example the current pandemic). We conducted a questionnaire survey among the first-year business and economics students of the University of Pannonia with the aim of measuring the level of financial knowledge and financial awareness of these young adults. The results indicate that while the members of the analyzed population strive to make financially conscious decisions, the guidance and support of parents and other family members plays a crucial role in financial decision making. Interestingly, however, our results also show that students who make their own decisions

wield a significantly higher level of financial knowledge then those who seek parental guidance.
One of the local benefits of our research may be that, as lecturers at the University of Pannonia, we have the opportunity to further develop educational curricula based on the results obtained. It is also important to emphasize that the market for financial products and services is now so complex and expanding at such a pace that the existence of adequate financial knowledge and the continuous maintenance of the level of financial awareness are of crucial importance.
Our research is the first step in a larger, international survey, in the framework of which we would like to conduct a similar survey in designated higher education institutions of the countries neighboring Hungary.

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UYEN TON THANH HOANG: MONETARY POLICY EFFECTS ON STOCK MARKET LIQUIDITY DURING FINANCIAL CRISIS AND NON-CRISIS PERIOD: A LITERATURE REVIEW

[1] PhD. Candidate, Doctoral School of Management and Organizational Science, MATE Kaposvári Campus, Hungarian University of Agriculture and Life Sciences (Former: Szent István University), Hungary, e-mail: uyentt.hoang@gmail.com
[2] Faculty of Finance - Banking, University of Finance - Marketing, Ho Chi Minh City, Viet Nam

Abstract: Crises have been of serious concern to every country's economy as the world suffered from the Global Financial Crisis of 2007-2009 since the Great Depression. Over the past decade, each country faced severe economic consequences caused by crises with combinations of factors, especially the Global financial crisis. The Crisis had raised to a significant widening interest of the analysis concerning macroeconomic policies effects and responses in countries. To face crises, an increasing number of studies have pointed to the important role of macroeconomic management policies in the entire economy including the stock market. According to theoretical and empirical evidence, "the ups and downs of the stock market" are affected by macroeconomic policies and monetary policy in normal times and turbulent times with various respects.

To fully understand how a monetary affect stock market liquidity, enormous research databases were utilised through a systematic review methodology. This study systematically provides an evidence summary on the macroeconomic impact of monetary policy and its responses for stock market liquidity during Financial Crisis and Non-crisis periods. The notable major findings and

different approaches in the literature of stock market liquidity were included, by way of illustration.
Overall, this study sheds light on the crucial macroeconomic role of monetary policy as a potential determinant of stock market liquidity in times of crisis and non crisis. Accordingly, the study helps to understand the relation between macroeconomic management policies and stock market liquidity from distinct perspectives for policy makers, investors and scholars.

Keywords: Monetary policy during financial crisis and non-crisis period, stock market liquidity, effect of monetary policy on market liquidity.

1. INTRODUCTION

It is obvious that crises typically bring serious consequences for every country's economy in the short and long term. Indeed, the global financial crisis of 2007-2009, which initially emerged in the USA, led to the global recession later. This recession has made the worst scenario since the Great Depression of the 1930s, resulting in a significant plunge in every field of each country's economy around the world. Accordingly, a country's stock market, known as a crucial economic function providing large capital for an economy, suffered from a financial crisis shock. "The ups and downs of the stock market" are affected by macroeconomic policies in general and monetary policy in particular in normal times and turbulent times with various respects. Monetary policy is implemented by the country's central bank to control the money supply and to aim for the ultimate target with the purpose of economic growth and stability.
Reality shows that there were notable different opinions on the effects of monetary policy on the stock market during the global financial crisis. As a result, how monetary policy influences the stock market (especially the stock market liquidity) has become key

interest to policy makers, investors and academics during normal times and even more so during times of crisis.
The main purpose of this paper is to explore systematically the distinct effects of monetary policy on stock market liquidity during the Global Financial Crisis and Non-crisis periods. Based on theoretical and empirical studies, this research classifies and organises the literature and provides an essential review of the relation between macroeconomic management policies (monetary policy in specific) and stock market liquidity from different perspectives.
With the above brief introduction about stock market liquidity importance and crucial macroeconomic role of monetary policy in the field of financial economics, the study has had an extensive review of literature with the key focus on the concept of liquidity measurement, monetary policy measurement, and their relationships in the Global Financial Crisis and Non-crisis times.

2. STOCK MARKET MEASURES

Liquidity is considered as an essential element for well-functioning stock markets and the stability of the financial system. However, as per O'Hara (2004), "liquidity is hard to define, but easy to feel it". An early definition of liquidity can be found in Keynes (1930), who regards an asset as more liquid if it is immediately known without loss.
Liquidity is a complicated concept and has been expressed in multiple perspectives by the existing literature (e.g., Joel Hasbrouck & Schwartz 1988; Baker 1996; Sarr & Lybek 2002; Panayides, Lambertides, & Cullinane 2013; and etc.)
In financial markets, liquidity is defined as "the ease of trading" (Amihud, Mendelson, & Pedersen 2005) or "the ability to smoothly absorb the flow of buying and selling orders" (Shen & Starr, 2002), etc. Particularly, in the stock exchanges, stock market liquidity

reflects the ability of buyers and sellers of securities to perform efficient transactions.

Liquidity is a wide concept covering multiple dimensions. Due to its multidimensional nature, numerous measures have applied to examine market liquidity. First and most notably, Kyle (1985) refers to the depth, resilience and tightness of an asset. The measurements of the "depth" and "breadth" dimension has been enormously utilised in comparison with the other dimensions (Datar, Y. Naik, & Radcliffe 1998; Amihud 2002; Marshall 2006; Gregoriou & Nguyen 2010; Chai, Faff, & Gharghori 2010; Donadelli & Prosperi 2012; Choi & Cook 2013; Alzahrani, Gregoriou, & Hudson 2013). The "spread" dimension has been concerned to adequately assess liquidity measurement (Amihud & Mendelson 1986; Joel Hasbrouck & Schwartz 1988; Hasbrouck 1991; Mclnish & Wood 1992; Clarida & Gertler 1997; Holden 2009; Pan, Shi, Wu, & Zhang 2015). whereas the "immediacy" dimension is implicitly reflected by (Harris 1990; Wyss 2004; Wanzala 2018). Besides, the "resilience" dimension has been employed by (Wyss 2004; Hmaied, Grar, & Sioud 2006; Large 2007; Wanzala, Muturi, & Olweny 2018; Kim & Kim 2019). Lastly, the "diversity" dimension is investigated by (Kutas & Végh 2005; Váradi 2012). It is difficult to quantify in one measure as liquidity has multidimensional features. Thus, there are different measures of liquidity (Wyss, 2004). The results from multiple measures of liquidity can point to various conclusions (Benić & Franić, 2008). Some liquidity measures have been benchmarked using high frequency and order driven stock markets of developed countries. In emerging market economies low frequency measures can be evaluated against benchmarked measures.

3. MONETARY POLICY MEASURES

The actions of monetary policy have direct and immediate impacts on financial markets including the stock market. The linkage between monetary policy and the stock market has become a particular interest to date. To estimate the relations, different monetary policy variables being indicators of monetary policy's impact have been employed. They include overnight rate (South African Benchmark Overnight Rate) (Marozva 2020); discount rate, cash reserve ratio, liquidity ratio of deposit money banks (Kingsley, Eberechi, & Charity 2020); money supply, inflation, exchange rate, and credit to private sector (Igbinosa & Uhunmwangho 2019); monetary aggregate (reserve money growth rate), monetary stance (money rate), inflation rate, industrial production growth rate (Debata & Mahakud 2018); total asset, total credit of commercial banks, monthly FED Financial Stress indicator and 3-month T-bill rates (Ajay, Bhavik, & Ronald 2017); the announcement of monetary policy (growth of interest rate) (Herwany, Satyakti, & Wardhana 2017); monetary liquidity proxy (1-month Shanghai Interbank Offered rate – Shibor) (Xiaojun 2014); monetary aggregate (Base money), monetary stance (Euro Overnight Index Average), industrial production growth rate, inflation rate (Octavio, Martin, Martin, & Georg 2013); industrial production growth rate, inflation rate (CPI), Federal funds rate, nonborrowed reserves, extended credit rate, treasury bill rate (Goyenko & Ukhov 2009).

Generally, most of the researchers have applied several common monetary policy measures that could capture the overview of monetary policy's effect such as the interest rate, monetary aggregates, the exchange rate, the economic growth rate, the inflation rate (Consumer Price Index CPI) and the Treasury bill rate.

4. MONETARY POLICY AND STOCK MARKET LIQUIDITY

Reality shows the link of monetary policy and stock market liquidity has become one of the hot topics in financial research.

Different authors have studied the relationship between liquidity and monetary policy on the stock market through various econometric models. The mixed evidence of the impact of monetary policy on liquidity has been gathered from theoretical and empirical literature (e.g., Chordia, Sarkar, & Subrahmanyam 2001; Fujimoto & Watanabe 2004; Octavio et al. 2013; Kumar & Misra 2015; Bonner, Brouwer, & Van Lelyveld 2018; Ricardo & Shengxing 2018; Igbinosa & Uhunmwangho 2019; Kingsley et al. 2020; Marozva 2020; etc.).

Many more studies focus on specific single market (like the Netherlands, the USA, the UK, China,…) in order to measure the clear impact of monetary policy (including mainly MOP shocks, MOP adjustments, MOP announcement, transmission mechanism of MOP) on stock market (such as stock price, stock returns, stock liquidity, stock market liquidity and so on). Not only single market (e.g. Bredin, Hyde, Nitzsche, & Gerard 2007; Kurihara 2017; Bonner et al. 2018; Debata & Mahakud 2018; Ricardo & Shengxing 2018; Igbinosa & Uhunmwangho 2019; Marozva 2020; Kingsley et al. 2020) but also areas or correlated economies (e.g. Octavio et al. 2013; Chowdhury, Uddin, & Anderson 2018) are grouped together to explore the potential relation between monetary policy and stock market performance. Considering the relationship of monetary policy and stock market (especially stock market liquidity), there has been no significant timeline separation between the Global Financial Crisis period and Normal period in most studies.

4.1. Monetary policy and stock market liquidity in the Global Financial Crisis time

It can be clearly seen that almost all authors have been concerned about the effects of monetary policy on the stock market during Crisis time, especially in the Global Financial Crisis (2007-2009). The Global Financial Crisis negatively affected market liquidity and significantly raised market illiquidity. Related to the solution of this problem, numerous empirical studies indicate that monetary policy matters for stock market liquidity.

How the role of monetary policy on stock market liquidity in the crisis period. It is clear from the evidence that Marozva (2020) concluded the link between monetary policy and liquidity through the research sample on the South African stock market from 2002 to 2019, conducted by the OLS methodology. Marozva found an indication that stock market liquidity altered during the Global Financial Crisis. More specifically, liquidity depends on monetary policy adjustments.

Panel Vector Autoregressive (VAR) – Granger causality test employed by Debata & Mahakud (2018) in National Stock Exchange of India over the period from 2002 to 2015, reflects monetary policy significantly causing stock liquidity. The impact of monetary policy on liquidity of individual stocks is more prominent during the financial crisis. With stock level data from India, they also found that expansionary monetary policy is associated with positive improvement in liquidity.

Jannsen, Potjagailo, & Wolters (2019) investigated the macroeconomic effects of monetary policy during financial crises applying a Bayesian panel vector autoregressive (PVAR) model for 20 advanced economies between 1984 and 2013. The study concluded that monetary policy effects are strong during financial crises and in particular during acute phases. The authors indicated an expansionary monetary policy shock broadly and positively influences output and inflation during the acute phase of the Global Financial Crisis. These impacts are larger than those during non-crisis times.

Celebi & Hönig (2019) examined the influence of macroeconomic factors on the main German stock index by applying OLS regression in the time period from 1991 to 2018. The result indicated numerous factors and economic indicators including monetary policy have significant impacts on the stock returns in the crisis period. Specifically, in the crisis period, lagged monetary aggregates M2 and M3 had a negative effect on stocks, whereas lagged M1 implied a positive effect.

How financial crises have influenced the transmission mechanism of the country's monetary policy. Using the VAR model with a panel of 12 Euro area countries, Ciccarelli, Maddaloni, & Peydró (2013) figured out that the transmission mechanism of monetary policy has changed with the crisis, with a strong amplification effect of the credit channel in countries under sovereign stress. To be more specific, monetary policy became more effective at stimulating economic activity during the Global Financial Crisis.

One notable similarity in all those studies is that they have examined market liquidity using mainly developed stock markets (such as the USA, the UK,...). As a result of the difference between developed and emerging markets, outcomes gotten from developed markets may not be reasonably concluded for emerging markets.

Although all authors investigate the effect of monetary policy on stock market liquidity in different countries using various methods, many studies have reported that market liquidity dropped significantly during the crisis even in developed stock markets. Accordingly, monetary policy has a significant impact and plays a central role in determining stock market liquidity.
Besides, most authors implied that Central Banks should concern the combination of stock market liquidity and monetary policy implementation.

4.2. Monetary policy and stock market liquidity in the Non-Crisis time

Goyenko and Ukhov (2009) pointed out that an expansionary monetary policy fosters liquidity while contractionary monetary policy restrains liquidity in the U.S economy.
Fernández- Amador, Gächter, Larch, and Peter (2013) also find that monetary policy drives liquidity for three major stock markets in Europe.
Before the Global Financial Crisis, monetary policy in many countries (especially in developed countries) adjusted the short-term nominal interest rate to maintain price stability, sustain full employment or achieve a combination of both. Consider the science of monetary policy, Mishkin (2010) described monetary policy strategy before the Crisis including flexible inflation targeting; certainty equivalence, gradualism and risk management; dichotomy between monetary policy and financial stability policy; response of monetary policy to asset price bubbles: the "Lean" versus "Clean" debate. The general consensus before the Crisis was that Central Banks should focus on stabilizing inflation and the output gap, and ignore fluctuations in asset prices, even if the latter are realised to be driven by bubbles (e.g. Bernanke & Gertle 1999; Kohn 2009).

After the Crisis, monetary policy will never be the same (Blanchard, 2013). The Global Financial Crisis has been considered as a very challenging period for policymakers worldwide, especially for monetary authorities. Conducting surveys of central bank heads and academic economists across four themes, Blinder, Ehrmann, de Haan, & Jansen (2017) reported that the way Central banks conduct monetary policy was changed in several dimensions by the Crisis. With regard to causes of monetary policy reactions, Blinder, Ehrmann, De Haan, & Jansen (2017) concluded "due to the severity of the crisis and the need for Central Banks to act quickly, there was often little time to consider the pros and cons of the various measures". Accordingly, monetary policy effects on the stock market in general and stock market liquidity in specific have been at different levels in every country. However, most of the studies reported ineffective impacts of monetary policy on stock market liquidity after the Crisis. While Jannsen et al. (2019) was investigating the effects of monetary policy in 20 advanced economies during financial crises, the authors figured out monetary policy is mostly ineffective and even large expansionary monetary policy interventions will have no significant stimulating effects. More specific evidence, by evaluating effectiveness of monetary policy during downturns related to financial crises in the sample of 24 developed countries from the mid-1960s, Bech, Gambacorta, & Kharroubi (2014) reported monetary policy is not very effective in stimulating GDP growth during the recovery phase of a financial crisis.

It means that it is important for Central Banks to continue to place particular emphasis on managing expectations via monetary policy.

6. CONCLUSION

By using systematic literature review methodology, the study has captured various literature related to the ongoing research in the

area of liquidity in stock markets and the macroeconomic management of monetary policy.

Firstly, this study reaches a deeper understanding of liquidity and monetary policy by reviewing the existing body of theoretical and empirical research on the topic. On stock market liquidity, to summarize different characteristics and dimensions of liquidity, multiplicities of proxies (measures) have been created by many researchers. These measures have evaluated liquidity in various levels in various markets. On monetary policy, many measures with different angles have been employed to capture an overview of monetary policy's influence and Central Bank's role.

Secondly, different implementations of monetary policy affect stock market in general and stock market liquidity in specific. Based on applying various methods, most scholars demonstrate that the relationship between monetary policy and stock market liquidity variables are asymmetric. Monetary policy can have asymmetric effects due to several reasons. Besides, empirical results showed that the nature of the relationship is subject to liquidity measures used and also tend to depend on the sample of analysis.

Thirdly, in an attempt to analyze the relationship of monetary policy and stock market with timeline separation between Crisis period and Non-crisis period, although monetary policy effect varies among different countries, many researchers have the similar result on impact level.

From an overall perspective, the noticable findings given by researchers provide a panorama of a relation between monetary policy and stock market liquidity in the periods of crisis and non crisis. Hence, systematic literature review identifies directions and broadens future research.

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SECTION D: Current Issues in financial regulation

FAEYZH BARHOOM: THE GROWTH OF INCOME INEQUALITY: IS THERE A ROLE FOR BANKING CRISES?

Institute of Business Regulation and Information Management, Hungarian University of Agriculture and Life Sciences Kaposvár Campus, Kaposvár, email: f_barhoum@yahoo.com

ABSTRACT

This study explored the nature and the direction of the causality relationship between the banking crisis and inequality in Hungary, over a period (1970 - 2017). The paper employs a time series analyses approach as adopted by Toda and Yamamoto (1995) procedure for Granger non-causality test in the context of VAR model. The results show that non-existence causality running from banking crises to inequality, but the causality in the other direction is valid, thus arguably, rapid inequality growth is a strong predictor of the crisis. Also, found that both growth and inflation are matters for the inequality effect of downturns.
Keywords: Inequality, Crisis, Toda and Yamamoto approach, Hungary.

1. INTRODUCTION

The recent global crisis has sparked interest in the relationship between income inequality and financial crises, as well as income inequality became at the center stage of discussions among politicians, economists, and policymakers, in particular, with growing evidence that when be ignoring paying attention to distributional issues growth tends to be more fragile and less resilient (Rajan 2010). In context, Thomas Piketty's (2014) book 'Capital in the Twenty-First Century' has strongly revived the inequality issue into the public debate. Research highlights among

drives of incomes and wealth inequalities are, global market factors, as pointed out by the Globalization of Inequality (2017), skill-biased technological change (Esposito and Stehrer 2009), determination of wages by the modern markets, and rent-seeking (Stiglitz 2012), decrease in the bargaining power of workers (Kumhof et al. 2015), effects of tax policy shifts (Piketty 2014), financial market regulations (Atkinson et al. 2011), banking crises (Morelli 2014), unequal access to quality education (Rajan 2010). However, in this paper, we will only focus on financial crises as a driver of income inequality.

In the wake of the recent global financial crisis, several studies have looked at the effects of growing inequality on financial stability (Rajan 2010); (Stiglitz 2012), among others, higher inequality led to a "keeping up with the Joneses" effect. They explain the mortgage boom and then recession are a consequence of redistribution which motive the low-income groups to more leverage in order to maintain their consumption levels. Rajan and Stiglitz's view with other scholars has triggered a vigorous debate, as described in a recent survey by Bazillier and Hericourt (2017). For example, (Bordo and Meissner 2012) argue that credit booms heighten the probability of a banking crisis, but credit booms owing to low interest rates and strong economic growth, not for income concentration. While in their analysis of an econometric performance as determinants of credit growth (Perguni et al. 2015), carried out an opposite conclusion in which a positive link between income inequality and credit growth. However, several researchers have reported that links between inequalities and leverage are likely to be a mixture of direct and indirect causal relations, or coincident factors, (Atkinson and Morelli 2011) such as financial deregulation and the dynamics of financial transformation and monetary policy by government policies.

Similarly, in the opposite effects of the financial crises on inequality, although there is limited research that has looked at the

effects of crises on growing inequality, there is no consensus, among researchers. In addition, there is no general pattern of the distributional impact of financial crises, seem to differ across countries, that can be explained by macroeconomic aggregates may hide the massive distributional impact of financial crises Piketty and Saez (2013). Financial crises are likely to have a different impact on inequality either direct effect or indirect effect through slowed economic growth since having strong adverse consequences on output (Eichengreen and Rose 1998). Particularly, if financial development is strong, a catalytic role for crises in driving subsequent inequality, through output will have a stronger impact (Bazillier and H'ericourt 2017). Furthermore, changes in macroeconomic volatility triggered by crises, across the income distribution during the crises, are likely also to have a profound effect on income distribution. Particularly, the people at the bottom of the income distribution are likely to be more vulnerable to these negative volatilities, thus, maybe they bear the brunt. However, (Baldacci et al. (2002), find that the poor household before the crisis was not necessarily the hardest hit. More recently, (Amate- Fortes et al. 2017) did not find evidence that the global crisis has an impact on inequality during the crisis and its immediate aftermath (2008-2011) in the 27 EU countries.

Therefore, to some extent, researchers to date have tended to focus on inequality as a cause of crises, but the evidence concerning the sign of the distributional impact of financial crises don't decisive conclusions, more evidence is still required.

Consequently, this paper aims to examine whether financial crises are a precursor to income inequality in Hungary. Particularly, the financial crisis concept, is a nightmare not only in the memory of Hungarian academics and policymakers but also in memory of everyone was hit the hardest by the crisis. Furthermore, Hungary provides an ideal setting to study the consequences of banking crises for three reasons: First, in 1991 and 2008, Hungary has been

hit hard by financial crises. Second, Hungary experienced a sharp great recession after two banking crises, caused an increase in the number of households experiencing material deprivation or financial difficulties after the 2008 crisis. Third, the foreign currency debt problem is concentrated in the household sector, rather than the corporate sector, therefore, probably has more effect on the lower-income deciles. The results show that non-existence causality running from financial crises to inequality, but the causality in the other direction is valid, thus rapid inequality growth is a strong predictor of the crisis. Also, found that both growth and inflation are matters for the inequality effect of downturns.

Our contribution to filling the gap in the literature on a causal relationship between financial crisis and inequality, as well as provide new empirical evidence on the causal link between financial crises and inequality by using Hungarian data to examine whether financial crises impact the distribution of income in Hungary, with more focusing on the direction from crisis to inequality in this paper, and in the other direction be in the next paper. The results show that non-existence causality running from financial crises to inequality, and the crises did not change the direction of the trend in inequality, thus, the financial crises and increasing the inequality may be due to a third causal mechanism such as transitional process or a result of a rightward shift in political thinking, or deregulation of the financial system, consistent with the general findings in the literature.

The remainder of our paper is organized as follows. The next section provides briefly literature on the relationship between financial crisis and inequality, then the third section describes the income inequality and financial crises experience of Hungary. The model and data are described in section 4. Section5 shows the estimation methodologies and presents the empirical results. Section 6 conclusion and recommendations.

2. LITERATURE

The impact of financial crises and the subsequent economic upheavals on the inequality of resources, in principle at least, are more subject to influence by several factors such as the flexibility of the economy to absorb shocks, the policy responses of governments and monetary authorities, along with the impact of the initial crisis, and the effect channels, and whether is followed by a deep recession, the quality of both social security and labor institutions, due to those factors may work in different directions. Consequently, there is no hard and clear pattern of the distributional effects of crises on income inequality due to different crises and their different causes and outcomes, and different dimensions of economic inequality, as has been concluded by Atkinson and Morelli (2011), who analyzing both historical inequality trends, using banking crises data for 25 countries throughout a hundred years. In context, the results of previous literature, of the subsequent effect of the global crisis and Great Recession that started in 2007 show mixed effects (e.g., Jenkins et al. 2013) ;(Piketty and Saez 2013); (Amate-Fortes et al. 2017)).

Over the past decade, most research related to the distributional effects of financial crises has suggested that the impact of financial crises is likely to have stronger effects on inequality through output (Bordo and Meissner 2015), decrease employment (Ball et al. 2013), and rising unemployment, especially between the low-skilled or educated workers who are likely to be the first losers of jobs, as well as, the unemployed, suffer from declining wages and re-employment (Nichols et al., 2013). Otherwise, due to structural unemployment (Mocan 1999), financial crises may reduce labor's bargaining power, in particular, with the possibility of capital having a threat of exit from a country, thus, wage often remains to be restrictive to avoid massive layoffs, consequently, the relative share of income going to labor would be reduced (Jayadev 2007). Another channel of distributional effects of crises is cutting public

expenditures channel, in particular, usually the low-income deciles groups and unemployed are the largest beneficiaries of those expenditures (Woo et al. (2013). And also, on the nature of policy responses which may offset losses in earned employment income or the capital income (Jenkins et al. 2013). For example, the recovery mechanism is likely to influence wealth inequalities more than income inequality but not for a long time (Kuhn et al.,2018). In other words, the crisis may have disproportionately influence the income of the rich also, through losses in earned capital income, improve wealth inequality for a short time (Kuhn et al.,2018). That can be explained in several ways, on one hand, the policy responses tend to favor protecting the interest of the richer class at the expense of the interests of the other classes. Particularly, bailouts for a big institution that is owned by the richer, contrary to the wealth of other classes who often be the real estate that is hurt in the crisis, but they are less likely to receive government support due to the economic-political pressure of the richer people (Kuhn et al. 2018)). On the other hand, when the crises affect investment income more than employment income (Jenkins et al. 2013), such as a stock market crash, and asset losses can reduce the income of the well-off.

Particularly, the rich class is predominantly invested in equity, contrary to other classes, thus, their investment would be recovered quickly, while the other assets (often the wealth of the other classes) would be recovered only modestly. This view has also supported by Clifford, Catherine (2021), in Oxfam's 2021 report on global inequality, the COVID-19 pandemic has increased economic inequality substantially; wherein the wealthiest people across the globe were the quickest to recovery their fortunes, the wealth of billionaires increases by $3.9 trillion, while increased by 500 million the number of those living on less than $5.50 a day. And on the third hand, as a result of may aggravate distributional fights between labor and capital during crisis times, great

government spending tends to protect those who have more of their bargaining power. Similarly, the available empirical evidence about the impact of crises on inequality provides results mixed, for example, the financial crisis would increase inequality was concluded by (de Haan and Sturm 2016). likewise, in their review of Bazillier and H'ericourt (2017) emphasize the same findings that a majority of studies show an increase in inequality following a financial crisis. Contrary, other researchers report that the crises would reduce inequality (e.g, Agnello and Sousa 2012). While (Piketty and Saez 2013); (Atkinson and Morelli 2011) suggest that the effects of financial stability on inequality differ across countries. However, (Denk and Cournede 2015) ;(Bazillier and Najman 2017)), could not find any evidence on the impact of financial crises on inequality.

3. INEQUALITY AND BANKING CRISES IN HUNGARY

3.1. Dynamics of Inequality in Hungary

During the crisis of the 1990s, all the information on both the financial crisis and income distribution were not enough available, thus understand the facts about the trend of inequality and what the most drivers of inequality during each crisis based on the information available. Like most socialist countries, Hungary had been characterized by a relatively low level of inequality during the socialist phase with a little jump in 1970 (Mavridis and Mosberger 2017). However, income inequality (measured by the Gini index, on a scale from 0 to 100, total equality (0) or total inequality (100)) started to increase in the second half of the 1980s due to labour market policy shift and a surge both in capital and labour income components, the upward trend in inequality continued to a peak in middle 1990s (Mavridis and Mosberger 2017).

As pointed out by previous literature, the factors behind this increasing inequality, resulting from, systemic change and the prevailing macroeconomic conditions, which is usefully

summarized in a recent study by Tóth (2017), such as, external country's trade collapse with neighboring socialist countries ; the banking crisis in 1991; a deep recession and output decreasing to about (-12) in 1991, with the collapse of the main sectors, caused the unemployment rate peaked (11.3 per cent) in 1993 as we see in figure 1. In the following years, raising inequality as a consequence of changes social and economic policies (Perugini and Pompei (2015) taken towards privatization and opening economy, dismantle socialist enterprises, as well as financial liberalization, hyperinflation, and their interplay. In addition, wage-setting decentralization, increasing the skill premium due to skill-biased technological change (Mavridis and Mosberger 2017); price liberalization (Flemming and Micklewright, 2000), besides introduction of austerity policies in 1995, and 1996 inorder to boost growth, but enhanced inequality also, because of decreasing pensions social transfers (Milanovic (1998, 1999).

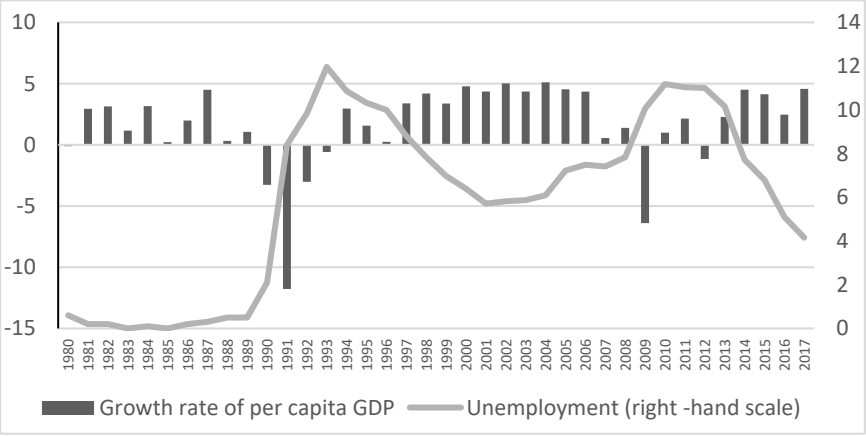


Figure 1.: Growth rate of per capita GDP and the change in unemployment.

Source: World development indicators 2021 database.

The inequality index to some extent was stagnant from1996 until 2003, was mainly driven by a gradual decline of the return on

education with an expansion of tertiary education particularly ; increasing growth ; and decreasing in the unemployment ratio, as well as, adjusting wages. And then it started to decrease from 2003 through 2007 as a consequence of the optimistic wage policy, massive welfare expansion played an important role in improving the older people's incomes, as has reported by (Hills et al., 2014), led to income inequality gradually narrowed somewhat (form 33.3 in 2005 to 24.1 in 2009) according to Hungarian Central Statistical Office (HCSO) data.

Although, the effect of the financial and economic crises on the inequalities was moderate during the first two years, at the end of 2009 inequalities raised as a result of the crisis management way and follow-up policies, which have reflected in rising unemployment (Brzezinski, 2018), in the private sector especially; at the same time, cuts in unemployment benefits, and decline in the real wages by around 3.4 percent during the economic crisis (Toth, 2017), despite inflation did not rise significantly. It's worth mentioning, government actions were primarily aimed at keeping employment and creating socially useful jobs, but the wages have been adjusted and the abolition of the thirteenth-month payment (Köllő, 2011).

Furthermore, the decline in the role of institutions of tripartite social dialogue, and the communist trade unions as well. However, some categories of employees have been hit more than others, for example, the youth unemployment rate grew more, in particular, among those with less education and training, was marked due to their lower bargaining power and mostly involvement in temporary or agency contracts, low pay (Vaughan-Whitehead, 2015), and among those not in employment. Likewise, the old-age group is likely to be affected more by pension reforms and unemployment. Also, contrary to other European countries, the Hungarian government intervention associated with austerity policy and reforms boosted the inequality in both crises either in the 1990s or

2010, in particular, the major beneficiaries of these policies have been the people in the top decile, either by the introduction of social benefits constraint or the introduction of a flat income tax which was the major factor responsible for the growth of income inequality during the crisis (Brzezinski, 2018), the generous parental leave benefits, however, mitigate inequality somewhat.

The concentration of the foreign currency debt in the household sector significantly contributed to increase the interest payments and loans due to the depression of the exchange rates of the Hungarian forint, which reflected in raising the proportion of those who had a financial hardship to pay their obligations for public utility bills or rent a house(OECD, 2019).

However, although income inequality and poverty in Hungary lower than in the other member states in recent years, there is a strong regional element in terms of economic development, labour market, healthcare, and education outcomes, reflecting income inequality and poverty, in particular in the northern and eastern parts of the country where economic activity disappeared. In addition, the recent phase is characterized by rent-seeking became domination that has replaced profit-seeking for political reasons ((Mihályi and Szelényi, 2019).

3.2. Banking Crises

Hungary had two banking crises, started in 1991 and 2008, according to estimating of Laeven and Valencia (2013, 2020), the costs of the crisis were higher in the banking crisis in1990s, no output losses, however, are reported for this crisis. But both crisis entails long-lasting output losses related to debts accumulated, output loss, declining competitiveness, and thus, deteriorating exports and the trade balance.

The difference between the two crises can be explained by the causes and nature of the crisis, crisis management policies, and then the followed recession, for example, the first crisis resulted

from some features of the transition process to market economy in the 1980s and1990s period, while the second crisis consequences of excessive credit growth due to macroprudential policy and competition, and in foreign currency credit especially, currency mismatch, misaligned both incentives and fiscal policy. Moreover, considering the feature of availability and accuracy of data, so, often information for the more recent crisis is more complete (Lo Duca et al., 2017).

Economic inefficiencies due to low productivity of foreign debt-financed investments, in addition, the oil crisis in the 1970s and then a rapid increase in global interest rates, increased public debt considerably. Later, the so-called shock therapy approach has been applied to transition to a market economy, change the environment of companies, and trade liberalization rapidly despite the inefficiencies of a Hungarian economy and non-competitive of its exports, at the same time, loss of its East European trading partners, resulted in raising both a trade deficit and public debt led to a deep economic crisis. Furthermore, the liberalization of prices enhanced both currency depreciation and an increase in inflation expectations. As a result, enormous external debt and most loans were to state-owned companies at the onset of the economic transition, or as the preferential loans granted to some sectors or to households' loans and other. In addition, hyper-inflation, and its effect on the interest rates, which pushed some borrowers into debt spirals, in particular, the household income declined significantly.

Consequently, leading to losses for the Hungarian's banking sector reflected in liquidity problem and NPL ratio increased, so, several banks have lost capital and state funds were injected into those banks, and losses for the state budget as well. In order to restore the trust in the banking sector for preparing in order to privatization them, commenced Injection of state funds in insolvent enterprises due to insufficient capital of banks, and

restructuring the banks in 1993 -1994, resulting in raising more the share of state ownership in the banking sector to over 65% (Lo Duca et al., 2017).

While, although the fact that Hungarian banks were not involved in the so-called toxic assets business in the 2008 crisis, the high level of exposure to foreign currency mostly in Swiss francs, in the household sector particularly, resulted in banking crisis in Hungary 2008-09. Indeed, the high level of exposure to foreign currency is driven by several factors (Kolozsi et al., 2015,) such as underestimation of the exchange rate risk by economic stakeholders due to the exchange rate was relatively stable for years(Pellényi, and Bilek, (2009); high inflation compared to regional countries; low-interest-rate resulting from the risk-based competition; the motivations of the short - term incentives systems for top managers (Ongena et al., 2018) supporting by their parent banks; in addition, moral hazard phenomenon (Schneider and Tornell, 2004). Particularly, with loose foreign monetary policy, and the low level of Hungarian financial literacy (Kolozsi et al.,2015). As a result, about 70 percent of total Hungarian household debt was denominated in foreign currency in 2008, and foreign currency loans (high share real estate loans) to the corporates segment exceed 30% of GDP, while was less than 10% in other Visegrád peers (EEAG, 2012). Besides, the twin deficits (government debt and foreign debt) of the whole economy in Hungary grew simultaneously by the mid-millennium, as well as, structural weaknesses of the economy, raised the non-performing loans, which put considerable pressure on banks that faced a liquidity crisis and entering Hungary's economy in a recession phase (Lo Duca et al., 2017). Later, several measures to mitigate the exposure of households were introduced by the government, and the most important was an agreement with banks as a solution to foreign currency and foreign currency-based mortgage loans

problem, and the cost of the solution was shared by the government and the banks.

4. DATA AND METHODOLOGY

4.1. Data and Source

Following previous studies (De Haan and Sturm 2017), the study uses the Gini coefficient on market income (dependent variable) based on households' income since its better proxy than disposable income inequality. Particularly, Hungary among the countries that have built redistributive systems, which reflect in the significant different value between the values of the Gini for disposable income and for market (Fig,2)

The Gini index data from Solt's (2020) Standardized World Income Inequality Database (SWIID) since it is the most comprehensive database, provides comparable Gini indices of disposable and market income inequalities data annually, and it uses Luxembourg Income Study data serves as the standard.

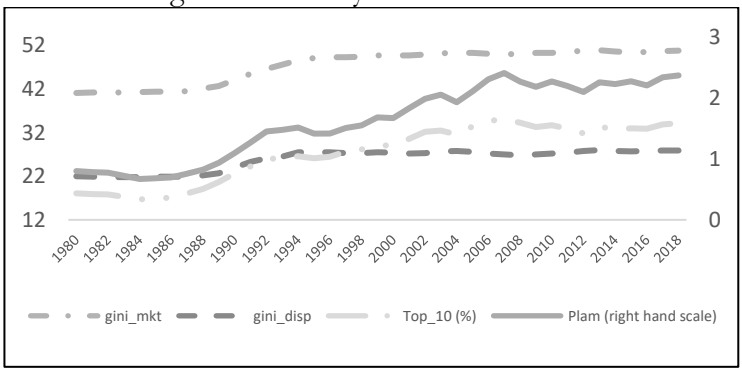


Figure 2.: Income inequality indicators

Source: data of Gini coefficients from (SWIID), and other inequality indicators from World Inequality Database (WID).

We use measures for financial crises (independent variable), following previous studies, using the database of Laeven and Valencia (2020), which identified the crises based on several criteria and provide information on the timing of systemic banking crises. This database is more reliable than competing financial crisis databases as reported by Chaudron and de Haan (2014). Another financial variable also use is private credit divided by GDP as used in the literature, since there is a correlation between the evolution of income inequality and the ratio of total private credit (Perugini et al. (2016)). However, Fig. 1 shows no correlation between the evolution of income inequality (measured alternatively by the sheer of both top 10% and top 1%) and the ratio of bank credit to the private sector to GDP.

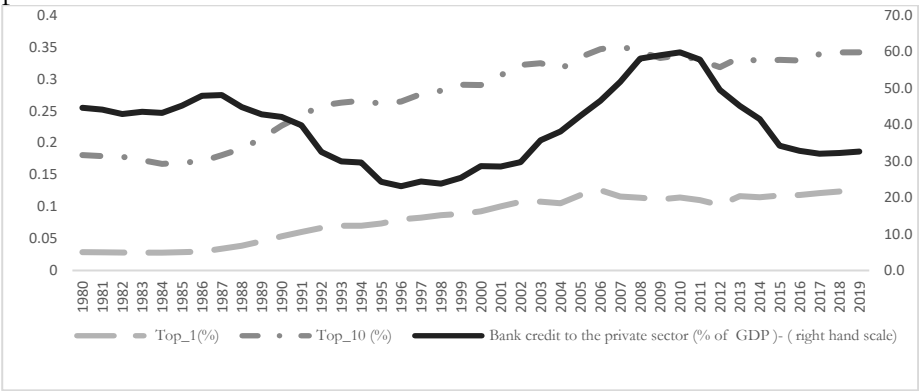


Figure 3.: The evolution of income inequality and the ratio of total private credit to GDP

Source: Data of bank credit to the private sector from world bank database, and inequality form world inequality indicators.

Similar to other empirical models, our paper assumes that income inequality (gini) depends on crises (bc), financial depth ratio (crd), the growth of real domestic growth (gdp), inflation rate (inf), trade

openness (tar), general government final consumption expenditure (gov) ratio (% GDP); and gross school enrollment tertiary ratio (se), as given in Equation 1.

$gini_t = ai + a1\ credt + a2\ bct + a3gro\ t + a4govt + a5\ inft + a6\ set + a7\ trat + \varepsilon it$

The model will be estimated using annual data for Hungary over the period 1970-2017. The finance depth data is taken from the (GDD), while other control variables are taken from the World Bank database.

4.2. Econometric methodology

Granger (1969) causality test are the most common way to test causality between the variables. The methodology of the Granger-Causal Test (GCT) was estimated through VAR methodology, which allows us to determine the direction of the relationship between two variables. The GCT depends on the two following equations:

$$(2) \quad X_t = \beta 0 + \Sigma_{k=1} B_k X t- k + \Sigma e=1\ ae\ Yt- 1 + \varepsilon_1 t$$

$$(3) \quad Y_t = \gamma 0 + \Sigma_{k=1} Y_k\ Yt- k + \Sigma e=1\ \partial e\ Xt- 1 + \varepsilon_2 t$$

Where Yt and Xt represent the variables under study, and εit are error terms and are assumed to be white noise with zero mean constant variance and no autocorrelation. T reflects a time, e and k by Schwarz and Akaike standards. where we test the following hypotheses: $H0: ae = \partial e = 0.$ $H1: ae \neq 0\ et\ \partial e \neq 0.$

In the case of rejection of the two null hypotheses and accept the alternative hypothesis - we conclude a causal relationship for Granger from Y to X and vice versa, or the relationship in both directions are confirmed. However, The GCT has its conditions: First, F-statistic used to test for traditional Granger causality problem as suggested by both Toda and Yamamoto (TY) (1995)

and Gujarati (2006), explain that when the variables are integrated or cointegrated, thus, the test statistics do not have a standard distribution, and the F-test procedure will be not valid. The second condition is going to the fact that a causality test is sensitive to model specification and the number of lags has as reported by Gujarati (1995), the result of the empirical evidence of GCT is fragile by the possible specification bias problem, because of the two-variable GCT without considering the effect of other variables. But one of the most important conditions for its use is the stability of time series at the same degree and especially at the level.

For this purpose, to solve the specification bias and spurious regression limitations in Granger causality (1969) test, and based on an augmented VAR modeling by introducing a modified Wald tests (MWald) Statistique to test zero restrictions on the parameters of the original VAR (k) model, follows Chi-square ($\chi 2$) distribution asymptotically, a new approach of GCT has been developed by Toda and Yamamoto (1995) irrespective of whether the variables are integrated, cointegrated, or not.

The T Y causality essentially involves four stages: the first step is to test for the order of integration of the variables by unit root testing procedure, such as Dickey-Fuller (1981) ADF, and Phillips-Perron (1987) tests, if the integration order is same, continue on cointegration test using Johansen methodology. But if the integration order is different, we get the maximum (dmax) to use T Y approach irrespective of whether the variables have a different integration order, or not.

The second step is to determine the optimal lag length (k) in the process of the VAR in levels among the variables using Akaike Information Criterion (AIC) and Final Prediction Error (FPE), while the third step is to test the dynamic stability of the model, the fourth step is to apply the GCT for non-causality by using pairwise equations and then modified Wald procedure to test the

VAR (k+dmax) model for causality. The basic idea of the new approach is to increase the order VAR models by (k+dmax) for the implementation of the causality test. The TY causality test is set up as follows:

$$y_t = \mu_0 + \left(\sum_{i=1}^{k} \alpha_{1t} y_{t-i} + \sum_{i=k+1}^{d_{max}} \alpha_{2t} y_{t-i} \right) + \left(\sum_{i=1}^{k} \beta_{1t} x_{t-i} + \sum_{i=k+1}^{d_{max}} \beta_{2t} x_{t-i} \right) + \varepsilon_{1t} \quad (4)$$

$$x_t = \phi_0 + \left(\sum_{i=1}^{k} \gamma_{1t} x_{t-i} + \sum_{i=k+1}^{d_{max}} \gamma_{2t} x_{t-i} \right) + \left(\sum_{i=1}^{k} \delta_{1t} y_{t-i} + \sum_{i=k+1}^{d_{max}} \delta_{2t} y_{t-i} \right) + \varepsilon_{2t} \quad (5)$$

Where *Yt* and *Xt* represent the variables under study, (dmax) is the higher order of integration, and k is the optimal time lag on the first VAR model, and εit are error terms and are assumed to be white noise with zero mean constant variance and no autocorrelation.

5. EMPIRICAL RESULTS

5.1. Unit root tests

Based on the above-mentioned fifth steps to achieve the TY for Granger non-causality test: Check the properties of the time series for estimating the relationship between the variables, test the stationarity of the time series, and determine maximal order of integration (dmax), the lag length in the Augmented Dickey-Fuller (ADF) regression is selected using the Schwarz information criterion.

The null hypothesis of the existence of a unit root has been tested for all the variables, as are presented (Table 2), credit to the private sector, financial crisis and education (se) variables are found to be stationary at levels, while inequality, growth, trade openness, and government expenditure variables are non-stationary at levels, but they are stationary after first differencing, thus, the maximum order of integration for these time series is =1.

Table 2: **Augmented Dickey –Fuller (ADF) Unit Root Test**

Variable	t-statistic	Critical Value*	P-value	t-statistic	Critical Value*	P-value	Order of Integration
gini				-1.89073	-1.61232	0.0566	I (1)
gdp	-2.61116	-3.51074	0.2775	-3.56109	-2.92662	0.0105	I (1)
gov				-5.58394	-3.58115	0	I (1)
tra				-5.84884	-3.58115	0	I (1)
inf	-1.71868	-3.18423	0.7272	-6.49465	-3.58115	0	I (0)
crd	-4.57067	-3.58851	0.0006				I (0)
bc	-2.26078	-1.94798	0.0244				I (0)
se	-3.82119	-3.51074	0.0242				I (0)

Note: *, ** and *** denotes 1% and 5%, 10% significance level, respectively

The results of the above unit-root tests suggesting that, on one hand, some variables are stationary of the order I (1), and others are stationary of the order I(0), so we can't employ the Granger-causal procedures to test for causality among the variables because not all the variables are stationary of the same order. Therefore, these results give support to the use of the TY causality approach rather than one of the alternative causality tests.

5.2. Lag Length Selection

As pointed out in the unit root test, the maximum order of integration for these time series is =1, and selection for optimal lag length(k) in the VAR model (Table 3) show the order of optimal lag length is chosen from the minimum value of Akaike Information Criterion, HQC: Hannan- Quinn criteria, hat indicates is (k=3).

Table 3: Lag Length Selection

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-762.655	NA	103606.4	34.25131	34.5725	34.37105

1	-302.859	735.6728	0.002481	16.6604	19.55106*	17.73801
2	-183.9	148.0373	0.000283	14.2178	19.67793	16.25328
3	-77.015	95.00927*	9.53e-05*	12.31178*	20.34139	15.30514*

* Indicates lag order selected by the criterion.
LR: sequential modified LR test statistic (each test at 5% level). FPE: Final prediction error. AIC: Akaike information criterion. SC: Schwarz information criterion. HQ: Hannan-Quinn information criterion.

5.3. Testing Stability in VAR

It was necessary, after estimate a model Var (2), dmax =1, k=3, and before proceeding to causality must ensure the stability of the model. Figure 4 shows the result of the dynamic stability of the model, indicate all roots are inside the unit circle, thus the stability of the model is valid.

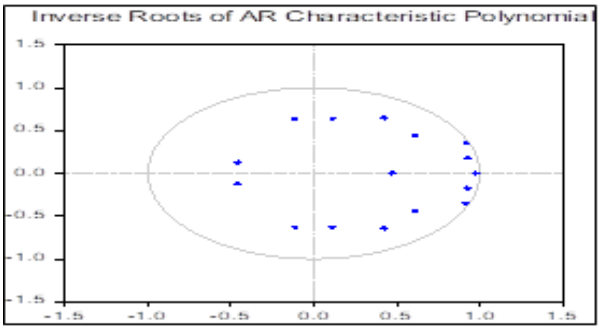


Figure 4.: Testing stability

5.5. Toda-Yamamoto causality (Modified Wald) test

The last step in our work is to test the causality relationship between the eight variables, and as the variables are cointegrated, we use the GCT based on the VAR model of TY causality is estimated through the MWALD test rather than the traditional GCT (1969). From unit root tests (dmax= 1), and in lag length

selection, the optimum lag length (k=3), thus, estimate at first the VAR (2) model (2: K=3 + dmax =1).

It is clear from the empirical results of the GCT based on the VAR model of T Y (1995) causality is estimated through the MWALD test in table 4, that a bidirectional causality exists between inequality and both real GDP and consumer price index, imply that the distributional impact of the crises depends on if it followed by recession and increase in a consumer price index.

While a one-way causality exists from the inequality to the government-consumption-to-GDP ratio that can be explained by the study use the Gini coefficient on market income that is measures inequality in income without considering the effect of taxes and social spending already in place in Hungary. Similarly, there is a one-way causality exists from the inequality to gross of schooling, this result corresponds to what concluded by Róbert (2019), that concluded a strong correlation between the educational attainment of parents and their children in Hungary, and even stronger due to the Great Recession, in particular, the educational system is selective somewhat. The results show also that non-existence causality running from financial crises to inequality, but the causality in the other direction is valid, thus arguably, rapid inequality growth is a strong predictor of the crisis. The result further reveals the existence of causality exists only from the inequality index both trade openness at the 5% level, and the ratio of the private domestic credit from financial institutions at 10% level.

Table 4: Toda-Yamamoto causality (Modified Wald) test results.

Null Hypothesis	Chi-sq	Prob.	Granger Causality
bc does not Granger cause gini	2.199384	0.333	No causality
gini does not granger cause bc	17.04531	0.0002*	gini to bc

crd does not Granger cause gini	0.781932	0.6764	No causality
ginidoes not Granger cause crd	5.69979	0.0579***	gini to crd
gov does not Granger cause gini	0.547419	0.7606	No causality
gini does not Granger cause gov	6.056121	0.0484**	gini to gov
inf does not Granger cause gini	6.65296	0.0359	Bidirectional
gini does not Granger cause inf	34.50875	0*	
gdp does not Granger cause gini	16.40859	0.0003*	Bidirectional
gini does not Granger cause gdp	4.882866	0.087***	
se does not Granger cause gini	2.702725	0.2589	No causality
gini does not Granger cause se	7.222351	0.027**	gini to se
tar does not Granger cause gini	0.051504	0.9746	No causality
gini does not Granger cause tar	6.320674	0.0424**	gini to tar

Note: *, ** and *** denotes 1% and 5%, 10% significance level, respectively. EViews 10.0 was used for all computations.

6. CONCLUSION

This study explored the nature and the direction of the causality relationship between the financial crisis and inequality in Hungary. The analysis extends over a period (1970- 2017), In our study, we use the Gini coefficient as our dependent variable, and the probability of a banking crisis as a function of change in Gini index, change in financial depth, and other control variables including real GDP, gross of schooling, trade openness, consumer price index inflation, government-consumption-to-GDP ratio. The paper employs a time series analysis approach as adopted by T Y procedure for Granger non-causality test in the context of VAR model. The results show that non-existence causality running from

financial crises to inequality, but the causality in the other direction is valid, thus arguably, rapid inequality growth is a strong predictor of the crisis. And emphases that the banking crisis and inequality may be due to other mechanisms like transitional process and reforms, or shift in political thinking, as has been argued by Krugman (2010) and Acemoglu (2011).
Also, found that both growth and inflation are matters for the inequality effect of downturns, thus, follow appropriate policies for income distribution of declining inequality in income and wealth would be through strong economic growth and low inflation level. However, we found a one-way causality exists from the inequality to trade openness, gross of schooling, and the government-consumption-to-GDP ratio that can be explained by the study use the Gini coefficient on market income.

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KOVÁCS-RUMP HENETTA – MENICH-JÓNÁS JUDIT: INTRODUCTION OF IFRS IN UKRAINE AND HUNGARY: A COMPARATIVE ANALYSIS

[1] Hungarian University of Agricultural and Life Sciences, Doctoral School of Economic and Regional Sciences; Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education , Department of Accounting and Auditing, email: henetta.kovacs@gmail.com
[2] Hungarian University of Agricultural and Life Sciences, Doctoral School of Economic and Regional Sciences, email: jonas.judit4@gmail.com

Abstract

As a result of globalization, international harmonization of accounting has become increasingly important over the past 50 years. Among different international accounting systems, IFRS have gained the most ground in Europe. As an EU member state, Hungary could not be left out of the harmonization process either, so the introduction of IFRS brought significant changes in the national accounting regulations. Many European countries, despite not being members of the European Union, have also decided to introduce IFRS due to the significant intensification of trade relations. An example of this is Ukraine, where, despite the country's short history, the need to apply an international accounting system has also been recognized. Hungary and Ukraine are closely linked. On an annual basis, a significant amount of direct capital investment arrives from Hungary to Ukraine. In our research, we examine how IFRS have been introduced in a Member state of the European Union and in a European but non-EU country.

Key words: globalization, accounting, harmonization, European integration

Introduction

The globalization of the world economy has led to a number of problems with the international standardization of accounting and financial reporting. Nowadays, the need for harmonization of accounting at the international level has become clear. Issues of harmonization in the field of accounting are particularly relevant for Ukraine taking into consideration Ukraine's accession to the WTO and the existence of an association agreement with the EU. The political part of the agreement was signed on 21 March 2014 and the economic part on 27 June 2014. It envisages deep economic integration between Ukraine and the EU and the establishment of a deep and comprehensive free trade area. Hungary, which is a neighbor of Ukraine, has been a member of the European Union since 2004, so it has committed itself to the international harmonization of accounting. Although the two countries are separated by only one border, they are on a different path towards international harmonization of accounting, but both countries have decided to introduce IFRS. V.Yu. Svitlichna and S.M. Malik (2011), Ukrainian accounting professionals, emphasize that the main task of harmonizing accounting is to align Ukraine's accounting regulatory framework with EU legislation and IFRS requirements. With this endeavor, too, they are one step closer to joining the Union. Based on the experience of each country, it is possible to determine what preconditions need to be created for the successful implementation of IFRS. As Ukraine is an independent country, not a member of the European Union, it relied mostly on the opinion of its own experts in the implementation process and, although efforts were made to summarize the European experience and take action in this field, in the end nothing happened. According to Ukrainian accountants O.G. Chepets and O.M. Gubarik (2012), in the process of harmonizing national accounting and financial reporting with international standards, an appropriate system of measures should

be ensured, and a legal framework for the regulation of accounting and financial reporting should be developed; new methodological approaches to accounting and financial reporting need to be defined; the organizational aspects of accounting and reporting regulation need to be improved. The harmonization of accounting and financial reporting should, in the opinion of the authors, be determined by the following components: a theoretical and methodological framework (including harmonization of principles and methodological provisions (standards)) and practical tools for harmonizing accounting practices. As an EU member state, Hungary was already able to rely on the experiences of countries in the implementation process. The aim of our research is to explore how the process of introducing IFRS took place in Ukraine and Hungary and to compare the problems faced by the two countries during the implementation.

Results and Discussion

1. ECONOMIC RELATION BETWEEN UKRAINE AND HUNGARY

Creating favorable conditions for the development of the Ukrainian business climate remains one of the most important issues in the Ukrainian economy. Nevertheless, Ukraine has permanent and stable partners, such as Hungary. Figure 1 shows the development of trade between Ukraine and Hungary between 2015 and 2019. The ratio of exports and imports of products and services shows a changing trend between the two countries. In addition, the two countries continue to provide each other with different rates of foreign direct investment. In this respect, a very large amount of foreign direct investments in Hungary, exactly USD 380.9 million, arrived in Ukraine in 2018. The amount of foreign direct investment from Ukraine to Hungary is much smaller, only USD 16.1 million. These figures are extremely important for research, as it is clear that the two countries have an

economic relationship with each other, which anticipates the need for comparison of accounting information, and thus the application of international accounting standards.

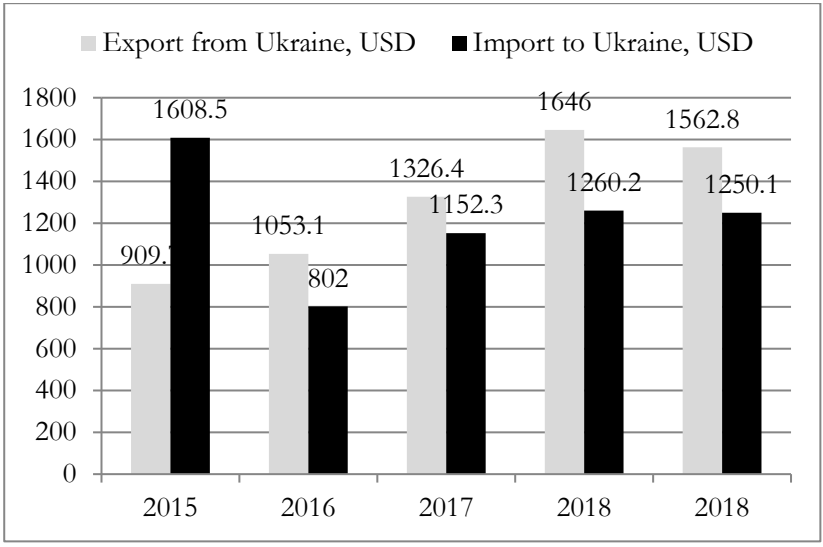


Fig. 1.: Development of Ukrainian and Hungarian trade turnover between 2015-2019

Source: own editing based on UNB data

The two countries examined had already decided to adopt IFRS years earlier, applying different trends in the implementation process. We consider it important to emphasize that since one of the two countries examined has been a member of the European Union for several years (Hungary), for the the other it remains an important aim to join as soon as possible (Ukraine). In other words, despite the fact that Ukraine is not currently a member of the European Union, European integration efforts have already been the basis for the process of introducing IFRS. In order to observe the common problems faced by each country in the implementation process and to separate them from national

specificities, we use the Ukrainian and Hungarian experiences regarding the introduction of IFRS.

2. INTRODUCTION OF IFRS IN UKRAINE

One of the main preconditions for Ukraine's accession to the EU is to bring its national legal system, including common principles, values and legal culture, into line with the EU legal system. Alignment of Ukrainian legislation with that of the European Union is a foreign policy commitment made by Ukraine in accordance with the Partnership Agreement concluded with the Member States of the European Community on 14 June 1994.
One of the key areas of adaptation is accounting legislation. In the field of accounting, the urgency of harmonization is growing with the enlargement of the European Union, which opens up new prospects for partnership, economic integration and cooperation between Ukraine and the European Union. Specific actions in this direction are set out in the EU-Ukraine Action Plan of 21 February 2005.
Accounting reform in Ukraine began with the approval of Resolution №1706 1996-XIV "On Accounting and Financial Reporting in Ukraine" of the Council of Ministers of Ukraine of 28.10.1998., which was executed through the law №996-XIV "On Accounting and Financial Reporting in Ukraine" 16.07.1999. The next step in the accounting reform was the entry into force of Regulation №911 "On the Approval of the Strategy for the Application of International Financial Reporting Standards in Ukraine" approved on 24.10.2007 (the "Strategy"), which aims to improve the accounting and financial reporting system in Ukraine, taking into account the requirements of international standards and European Union legislation. The Strategy sets out a set of tasks that had to be completed by the date of first application of IFRS in order to successfully implement and apply IFRS. As Table 1 shows, several tasks were only partially or in many cases not

performed at all. In our opinion, despite the drafts developed, the accounting profession was unprepared during the transition period.

Table 1: Analysis of the implementation of some strategic steps for the introduction of IFRS in Ukraine

Content of the measure	*Planned duration of implementation*	*Status of implementation*
Preparation of proposals to amend the Law on Accounting and Financial Reporting in Ukraine in order to facilitate the procedure for the application of international standards	2007	achieved
Official translation of international standards	2007-2008	achieved
Official publication of international standards in order to make it easier for businesses to create the conditions for free access to them	2008-2009	achieved
Establish an information and analysis basis on issues related to the application of international standards, in order to give economic	2008-2010	achieved partially

entities free access to educational materials, professional publications, information on practical application		
Further training of accountants, provision of accounting specialists	2008-2010	not achieved
Hold annual international scientific and practical conferences on problematic issues related to the implementation and application of international standards.	2008-2010	achieved partially
Summary of the European Union's experience with international standards	2007-2008	not achieved
Develop organizational and methodological approaches for submitting financial statements electronically	2008-2010	not achieved
Improvement and amendment of national accounting regulations (standards) in connection with amendments in line	2007-2010	achieved partially

with international standards.		
Adoption of accounting provisions for business transactions not clearly defined in international standards.	2007-2010	not achieved
Develop methodological support for the application of national accounting provisions (standards)	2007-2010	achieved partially
Ensure that the Ministry of Finance cooperates with the International Financial Reporting Standards Committee	2007-2010	achieved partially
Preparation of proposals for accounting legislation to ensure that all entities submit accounts on the same methodological basis	2008-2009	achieved partially
Prepare proposals for accounting legislation to simplify the clearing process	2008-2010	achieved partially

Align the national regulatory framework for small businesses with international standards	2008-2010	not achieved

Source: Chudovets (2012), 62 p.

As a result, 2012 was the year when IFRS were already mandatory for some businesses in practice.

From 1 January 2012, public limited companies, banks, insurance companies and companies engaged in economic activities, the list of which is determined by the Council of Ministers of Ukraine, prepare their financial statements and their consolidated financial statements in accordance with international standards.

Table 2 shows that the number of users expanded continuously until 2018.

Table 2. Range of IFRS users in Ukraine

№	*Scope of IFRS obligations*	*Year of transition*
1.	Public limited companies	2012
2.	Banks	2012
3.	Insurance companies	2012
4.	Private pension funds	2012
5.	Credit unions	2015
6.	Other credit institutions	2015
7.	Wealth management companies	2015
8.	Large companies	2018
9.	Listed companies (not only Plc., but companies of any organizational and legal form)	2018
10.	Companies engaged in the extraction of mineral resources of national importance	2018

Source: Golov bukh website

Table 2 shows that in about 6 years, the number of IFRS users has increased by 2 steps. In addition, it is worth noting that private limited companies and corporations can voluntarily decide to switch.

There were several problems with the migration process, such as:

- regulations or decisions issued by institutional bodies that ensure the application of IFRS and monitor compliance with them are in many cases contradictory or unclear;
- the regulations and explanations adopted on the introduction and application of IFRS have proved ineffective (as evidenced by the postponement of the implementation deadline from 2010 to 2012 due to the failure to implement the measures envisaged in the Strategy in accordance with the Regulation of the Council of Ministers of Ukraine of 17 March 2011 ;
- inadequacies in the translation of IFRS, the problem of content distortion of international standards;
- lack of methodological development of the transition to international standards and practical training programs;
- lack of trained professionals who would be able to transform reports or compile them in accordance with international standards;
- high costs of transition to IFRS, including changes and maintenance of accounting software;
- non-governmental accounting institutes with low professional development;
- ineffective cooperation with relevant international organizations;
- insufficient public funding for the accounting system reform program.

3. INTRODUCTION OF IFRS IN HUNGARY

Since Hungary's accession to the European Union in 2004, the obligation to harmonize has become stronger, before that steps were taken towards harmonization only for the sake of the planned

accession (Vajay, 2015). In 2002, it was decided that listed companies in the Member States of the European Union would be required to publish IFRS financial statements from 2005 onwards (Bruce, 2011).

As a result of two years of preparatory work, in 2015 the new accounting regulations in accordance with IFRS were introduced. One of the most significant milestones is undoubtedly 1387/2015, published in the 80th issue of the Hungarian Gazette on 12 June 2015. (VI.12.) Government Decision on the Application of International Financial Reporting Standards for Individual Reporting Purposes. In it, the government approved the introduction of IFRS for specific reporting purposes and its timing. In order to make the implementation process as efficient as possible, the changeover was not made mandatory for entities immediately, but the schedule was divided into several parts. With this multi-stage introduction, the aim was to provide sufficient preparation time for the farmers and the authorities. The planned transition schedule is shown in Table 3.

Table 3. IFRS transition schedule for separate financial statements

№	*Type of business*	*Planned year of transition*		
		2016	*2017*	*2018*
1.	Credit institutions, financial equivalent businesses		Obligatory	Obligatory
2.	Cooperative credit institutions, smaller credit institutions			Obligatory
3.	Insurers and other financial businesses		Optional	Optional

4.	Listed companies	Optional	Obligatory	Obligatory
5.	Businesses included in IFRS consolidation	Optional	Optional	Optional
6.	Other, subject to audit companies		Optional	Optional

Source: Füredi-Fülöp Judit –Várkonyiné Juhász Mária (2018)

Through the work carried out, a bill submitted by the Minister of National Economy on 13 October 2015 was accepted to amend the domestic application of International Financial Reporting Standards for individual reporting purposes, as well as certain financial laws. The law regulates the accounting tasks arising during the transition, amends and supplements the provisions of the Accounting Act so that certain definitions and regulations can be interpreted in the case of companies applying IFRS. The laws on local taxes, special taxes and the Hungarian Chamber of Auditors will be similarly amended, and the law on credit institutions also needed to be amended. The changeover faced several difficulties in itself, including:

- there was a problem of lack of specialists;
- for some economic entities, the time allowed for the changeover was short;
- some subjects lacked resources;
- the change of attitude has caused difficulties.

Actually, the fact that Hungary has already started to apply IFRS at the level of individual reports, despite the difficulties, has made things easier for accountants, since previously they prepared their reports according to two sets of rules, Hungarian norms and international standards, now the preparation of a report is enough.

Conclusion

Tu summarize, the introduction of IFRS must be gradual and targeted. Normative legal bases and methodological approaches need to be developed for a successful implementation that will address the deficiencies of the national accounting system, improve and modernize key aspects of accounting and financial reporting. In this aspect, the two countries examined show deficiencies. As for Ukraine, the first obvious obstacle to implementation is the failure to comply with several guidelines of the Strategy. The fact that the state did not provide financial support for the training of appropriate professionals; no accounting provisions have been adopted for business transactions that are not clearly defined in international standards; they did not summarize the experiences in the European Union and, despite previous plans, they did not simplify the accounting process for small businesses, all of which show that the Ukrainian state's readiness to adopt IFRS was insufficient. On the other hand, the implementation process in Hungary has been greatly facilitated by the appropriate institutional background, so much so that since 2016, IFRS have been applied not only in the preparation of consolidated financial statements, but also in the case of individual financial statements for some types of companies. This change greatly undurdens the accountants involved, as compared to the previous two reports, presently, only one needs to be prepared, of course this also involves some need for a change of approach, which in many cases is not easy.

We consider it important to emphasize that the reason for Ukraine's backwardness in terms of the wider application of international accounting standards can be explained on the one hand by the fact that Hungary has about 7 years of advantage and experience in this issue. The introduction of IFRS at the level of individual reports was not a smooth process in Hungary, just as in Ukraine, there is a deficiency of professionals in Hungary, as well,

who are able to apply IFRS. In our opinion, the high cost of training in both countries is an obstacle to the creation of the right accounting professional background.

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LŐRINCZ ANNAMÁRIA: FORECASTS REGARDING ON THE SUSTAINABILITY OF THE ROMANIAN PENSION SYSTEM

[1] Department of Economic Sciences, Faculty of Economics, Socio- Human Sciences and Engineering, Sapientia-Hungarian University of Transylvania, Miercurea Ciuc, e-mail: lorinczannamaria@sapientia.ro

Abstract: The pension system and its sustainability raise serious economic, social, political and financial issues. We examined the revenue and expenditure side of the state pension system implemented through the redistributive function of public finances over the past 10 years, and we forecast their development over the next 40 years, while maintaining it in real terms in 2018. Based on our results, 79% of the income from the obligors of the state pension system will cover the total expenditure by 2030, but it will decrease linearly by 2060, covering only 53% of it. The COVID-19 economic recession will, in the short term, exacerbate the financially unsustainable public pension system from 2030 onwards.

Keywords: Pay–As–You–Go pension scheme, financial sustainability, social security contribution, budget contribution, COVID-19

Introduction

The operation of the pension system is realized through the redistributive function of state activity within the social security system. The pension system, and the pension it pays, compensates the inactive population for an already lower income level in the old

age, so that it can ensure a similar level of consumption over the previous life cycle.

An aging society, demographic change, rising life expectancy and declining birth rates are problems at EU level, as it is in Romania as well, which is supported by the aging index, the old-age dependency ratio, but also by the shape of the age pyramid itself. Beneficiaries of the pension system currently make up 25.65% of the country's population, but this number is set to rise sharply as a result of the Decree nr. 770 of 1966, at the retirement of the population born before the change of regime in 1966-1989, with a retirement age of 65 in the period 2031-2054. So the problem of the pension system will affect a growing section of society, jeopardizing their well-being, and it will also endanger the creation and provision of the public good in the wording of Aristotle, the fulfillment of the main task of the state. The demographic problem is further exacerbated by current political interest decisions rather than focusing on long-term sustainability, as well as the country's economic situation.

In this dissertation, I examine the long-term financial sustainability of the pension system, while maintaining pensions at the real level in 2018, protecting the beneficiaries of the system from impoverishment resulting from the decline in purchasing power due to inflation. (Simonovits, 2016). My hypothesis is, H1: The current pension system cannot be sustained in the long run by increasing public contributions alone, leading to public indebtedness. Romania has a mixed type of system, consisting of three pillars. In our sustainability study, we touch on Pillar I of the scheme, as it is of the utmost importance, and its revenues go to the state pension fund and will be paid to pensioners.

The pension system can be interpreted as a complex structure, since in its examination we had to take into account several components, including the already mentioned demographic situation, aging index, old age dependency ratio, age, life

expectancyOn the other hand, the real sustainability situation of the pension system is determined by the ratio of the number of employed retirees, the economic, legal and political environment. (Dobronogov, Murthi 2005). Following the analysis of the revenue and expenditure side of the pension system in the period of 2008-2018, we established the number of employees using the annual reports and forecasts issued by the European Commission. Respectively, in addition to the 2018 regulation and gross wages, we determined the amount of pension system contributions, and then we contrasted this with the expenditure side, thus obtaining the pension system deficit, which it pays as a state contribution and subsidy to maintain the system. Due to the current economic recession, we have revised our 2020 projections due to the COVID-19 pandemic. We have calculated the additional costs to the state budget for the pension system.

1. TODAY 'S ROMANIAN PENSION SYSTEM

Currently, the pension system is based on Act No. 263/2010, as amended and supplemented, regulating a mixed type of funding consisting of three pillarsThe first pillar forms the basis of the system, which is of the greatest importance even today, due to its Pay–As–You–Go schemeIt is based on intergenerational solidarity and operates on the principle of additionality, on the basis of which social security funds and pension funds are created from the contributions to be paid by natural and legal persons participating in the state system. Payments make you eligible for annuities in the system (MMUNCII1 2019). So the current contributions cover the current payments, which is why it would be appropriate to call it a current-funded system (Németh 2009). In 2007, Romania followed the international practice and introduced the private pension scheme, the mandatory private pension funds (Pillar II) and the optional private pension funds (Pillar III). (APAPR1 2019), on the recommendation and under the supervision of the World Bank and the European Union. The purpose of their introduction was

to achieve pressure on the state budget (Balteş et al., 2018) and to stimulate the economy through investments. Both Pillar II and III financing methods are capital-backed.

2. FORECASTS REGARDING ON THE FINANCIAL SUSTAINABILITY OF THE PENSION SCHEME

In the most ideal case of the pay-as-you-go pension system, a reserve can be formed from the contributions of the current participants in addition to economic and population growth. However, this will not be the case for the last 10 years, nor the next 40. Nor can we talk about sustainability in terms of the balance of payments and disbursements, so we have to examine the size of the deficit between payments and disbursements in the next 40 years and the amount of state contribution and subsidy that will make up the resulting deficit. An important question is what value and ratio can be the deficit of the pension fund, which the state is still able to guarantee.

(1) Revenue side = x_i*ti*Qi*12

Meaning of the markings: x_i the gross real national average wage in the i-th year, t_i the contribution rate applied in the i-th year, and Q_i means the number of active contributing employees in the i-th year. In the forecast model, the value of x_i means maintaining the real gross wage level in 2018, so in real terms it is 4488 lei each year. t_i=25%, so we assume that it will remain unchanged in the coming years, The value of Q_i is given by the following formula:

(2) $Q_i = P_i * E_{ri}$ i ={2020; 2030; 2040; 2050; 2060}

P_i – population between age 15-65 in the i-th year, Er_i - employment rate in the i-th year. On the expenditure side:

(3) $C_i = 12 * ci * pi$ i={2020;2030; 2040; 2050; 2060}

C_i is the pension expenditure in the i-th year, c_i the average cost per pensioner, n_i the number of the retirees

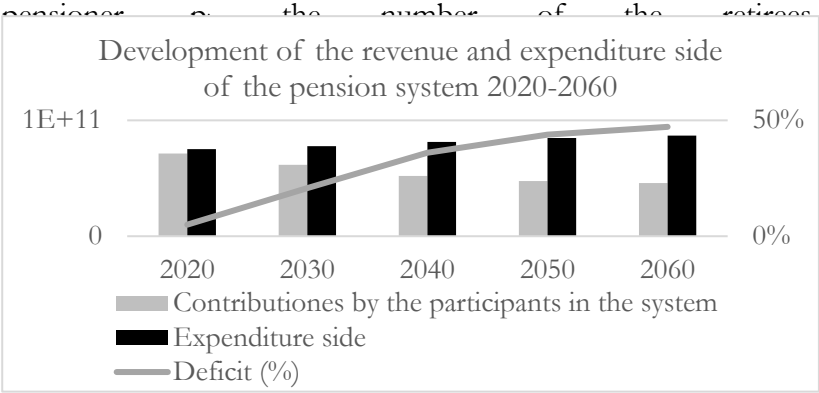


Figure 1: Development of the income and expenditure side of the pension system 2020-2060 (in lei,%)
Source: My own editing

Expenditure on the pension system increases by 3.68% on average every ten years in real terms, with a standard deviation of 0.008%, with a declining growth rate, on the other hand, the revenue side is opposite to the expenditure side, as a declining trend is observed, decreasing by an average of 10% every ten years with a standard deviation of 4.63%, with a decreasing rate of declineThe results reflect the increase in the differences between the contributions to the expected system due to demographic changes and the expenditure side, in favor of the expenditure side.

In addition to employee contributions, the income side also includes other types of income, including rest tickets and other income related to the assets it owns, provided to retirees. In the examined period of 2008-2018, its value did not reach 1% of the total expenditure, therefore we omit it. Thus, in the forecasts, the total revenue will be represented by the contributions of the participants in the scheme and the state budget contribution.

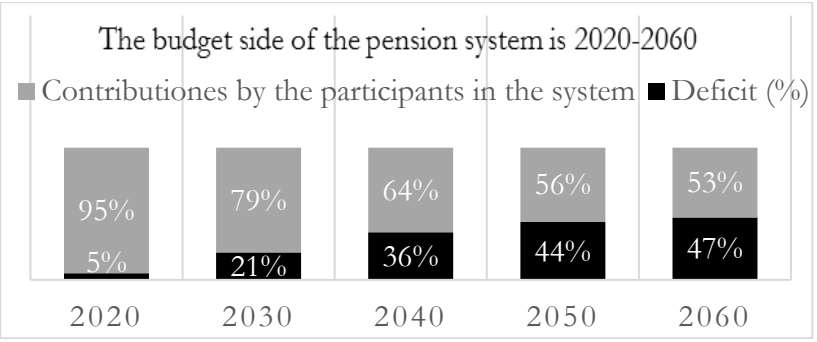


Figure 2: The budget side of the pension system is 2020-2060
Source: My own editing

The absence of the system is guaranteed by the state, with a state contribution and subsidy. Examined in its percentage composition, based on the observations so far, the state was still able to finance a subsidy level of 27%, which was guaranteed at the expense of other strategic investments and developments by increasing the public debt. According to our forecasts, the deficit rate will already be 21% of the cost structure by 2030, compared to a relatively low 5% in 2020. In 2040-2050, the size of the deficit will increase from 36% to 44%, as those born of Baby Boom will gradually leave the active labor market and, by reaching retirement age, become beneficiaries of the scheme. In 2060, only 53% of the system's expenditure will be paid by the system's obligors, while the remaining 47% should be reimbursed by the state. Obviously, after 2020, the state budget will have to reckon with this cost gradually, since by 2040 pension system expenditures will amount to 5.74% of GDP, of which 36% will have to be financed by the state for that 2.1% of GDPThis can mean a very significant increase in government debt if it is not covered by additional taxes or other sources. Thus, we have substantiated our hypothesis that the current pension system is unsustainable in the long run as a result of demographic structural change.

2.1. Impact of COVID-19 on the pension system, forecasts

The COVID-19 pandemic has had a serious impact on the health system in Romania and around the world, as well as on the economy at both micro and macro levels due to measures to slow down the virus. We examined the aspects of the economic recession that also affected the pension system, the change in GDP, the unemployment rate, the employment rate, and the gross national average wage.

According to IMF[18] forecasts, a 5% decline in real GDP is expected. In contrast, pension system expenditures will not decrease, as in the post-crisis period of 2008 the government proposed a reduction in the nominal value of pensions, but this could not be achieved as it would have been considered unconstitutional. Thus, due to the already projected cost structure and a 5% decline in real GDP, the share of the pension scheme in GDP will increase to 8.09% compared to the projected 7.43%.

Just as the whole economy operates on a coherent system, so the pension system is a reflection of the current economic, political and demographic situationA general concomitant of the recession is the increase in the unemployment rate and the decrease in the employment rate. According to IMF data, an unemployment rate of 10.1% is expected instead of 3.9% in 2019, which would have remained unchanged in 2020 as wellThe size of the employment rate and the number of employees were determined in the following figure.

(4) $U = (u_{COVID-19}-u_{2020})*P$

U- is the number of unemployed, $u_{COVID-19}$- unemployment rate COVID-19, u_{2020}- the forecasted unemployment rate by the year of 2020, before COVID-19, P-15-65 working-age population. Numerically U=519.374. Then, by reducing the number of people who became unemployed as a result of COVID-19, I reduced the

18https://www.imf.org/external/datamapper/profile/ROU/WEO

number of employees reported for the year 2020 before COVID-19, as these employees will lose their jobs as a result of the economic recession.

(5) $E_{COVID-19}=E_{2020}-U$

$E_{COVID-19}$- number of employees due to COVID-19, E_{2020}- number of employees before the recession, U- new unemployed as a result of the recession. Numerically $E_{COVID-19}=4.767.973$, which represents a huge decline of more than 0.5 million, but according to economic data provided by BBTE[19], 2020.05.29, 424,000 employment contracts have already been terminated and 598,000 Romanian citizens are on compulsory leave due to state-funded technical unemployment assistance.

(6) $Re_{covid-19}= E_{COVID-19}/P$

$Re_{covid-19}$- employment rate, projected at 60.5%.

Table 1: Change in employment level due to COVID-19

	2020	*2020 COVID-19*
Employment rate	0,633	0,57
Unemployment rate	0,039	0,101
Number of employees	5303,64	4784,266
Working - age population	8377	8377

Source: My own editing

We also mentioned the possibility of a change in the gross national average wage, because according to the equilibrium theory, if demand decreases, prices will also decrease in order to balance supply and demand. (Thaler 2016). So in a period of economic recession, a drop in labor demand should result in a reduction in wages to such an extent that everyone can keep their job (Thaler 2016). In reality, however, this is not the typical trend, which is explained by the concept of fairness, which has also been introduced into economic models. (Thaler 2016).

19 https://econ.ubbcluj.ro/coronavirus/

With an unchanged already projected cost structure, the value of contributions will decrease due to a decrease in the number of employees. Thus, compared to the projected 5% deficit by 2020, the state will have to finance a 15% deficit due to COVID-19 and 19% of the costs. This will also increase the state's annual budget deficit, which was 4.6% of GDP in 2019, to 8.9% of GDP by 2020, according to IMF forecasts.

Results

Sustainability forecasts for the state pension system confirmed our hypothesis already formulated in the introduction.

In terms of the ratio of employees to pensioners, the imbalance is becoming more and more pronounced, according to the dependency rate of pensioners, so in the local minimum point of 2018 there were 0.88 pensioners per employee, while by 2060 the local maximum point is expected to be 1.96 pensioners per employee. However, we can state that the aging of society affects several dimensions of social and economic life, including the labor market, and has a negative impact on them. (Eleftherios et al. 2019). By 2030, 21% of the budget should be financed by the state, by 2040, pension system expenditures will amount to 5.74% of GDP, and the deficit will represent 2.1% of GDP. By 2050, the pension system deficit will be 2.3% of GDP and by 2060 it will be 2.22% of GDP. A similar forecast was published in 2012 for the long-term sustainability of the Romanian pension system (Dobre et al. 2012). In the study, the calculations for the forecast were made at nominal value. The authors come to the same conclusion that after 2030, the pension system is unsustainable. Instead of the 5% budget contribution projected for 2020, COVID-19 will require the state to finance 15% of the cost side.

Conclusion

Creating sustainability in the future requires a multisectoral approach (Simonovits 2003), which must include, in addition to the social security system: tax system, education system and labor

market sector (Balteş et al. 2018). The proposals and their implications for the pension system need to be examined in the light of economic development and the well-being of citizens, and a long-term strategy needs to be developed, not based on momentary political interests (Vallasek 2018).

The weighting of the pension system as a share of GDP will decrease over the next 40 years. Despite the fact that the values of total expenditures increase every year (Dobre et al. 2012), as the GDP growth rate is much more pronounced. The reallocation of the resulting additional tax and other state revenues could create a balance, to the detriment of further strategy investments, so the pension system would not contribute to the growing indebtedness of the state. It would become sustainable at the state level, but not at the system level alone.

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MENICH-JÓNÁS JUDIT – KOVÁCS-RUMP HENETTA: PLANNING DIFFICULTIES OF HUNGARIAN MUNICIPALLY OWNED COMPANIES

[1] Hungarian University of Agricultural and Life Sciences, Doctoral School of Economic and Regional Sciences, email: jonas.judit4@gmail.com
[2] Hungarian University of Agricultural and Life Sciences, Doctoral School of Economic and Regional Sciences; Ferenc Rákóczi II Transcarpathian Hungarian College of Higher Education , Department of Accounting and Auditing, email: henetta.kovacs@gmail.com

Abstract
In this study, we present the planning difficulties of municipally owned companies in Hungary. Current legislation does not clearly define how these companies should perform their planning. In Hungary, municipally owned companies typically use public property during their operations, so transparent, well-founded and efficient planning is essential. An average of 1,900 such companies have been operating in recent years, but their number has been declining slowly over the years. The main difficulties in planning are the lack of managerial accounting and sufficient and adequate human resources. In addition, it causes difficulties for companies that there is no integrated directive, guidelines on the basis of which they would design, or they are highly dependent on the owner, as it finances their operations. The COVID-19 pandemic also had an impact on companies' planning for 2021.

Key words: changes, regulation, short-term plan, business

Introduction
In Hungary, municipally owned companies also perform public functions and manage national assets. Hungary's Constitution

stipulates that the property of local governments is national property, which is managed by both state and municipally owned companies. There is no legal obligation to make planning mandatory for them, however, a good plan facilitates the operation of the company, and managers may even be held accountable under the plan.

In Hungary, the regulation of municipally owned companies comes to the fore year by year, in 2020 the mandatory application of the regulations on the internal control system was introduced. In our opinion, planning by these companies and a deeper understanding of longer-term strategic planning is important. At the beginning of this paper, we want to explain what exactly we mean by a municipally owned company in Hungary, and why the presence of these organizations is so important. Between 2014 and 2018, the average number of municipally owned companies operating in Hungary was around 1,900, so it is extremely important that their planning have to be well-founded.

Materials and Methods

Our study focuses on municipally owned companies. The research methods used in the present study were exploratory method and document analysis within that. To implement the method in practice, we collected data and reviewed several national and international studies. The aim of the research is to explore how municipally owned companies have developed in Hungary over the years, what planning methods are used by these companies and what difficulties they encounter. Our findings are based on the database provided by the Central Statistical Office, and with the help of qualitative research we conducted interviews with the experts involved in the planning procedure.

1. WHAT KIND OF COMPANIES ARE MUNICIPALLI OWNED COMPANIES IN HUNGARY?

The definition of municipally owned companies is not clearly set out in Hungarian legislation. Act CXXII of 2009 on the More Economical Operation of Publicly Owned Companies defines a publicly owned company, according to which a publicly owned company is a company in which the Hungarian State, a local government, an association of local government with a legal personality, a national minority government, an association of national minority government with a legal personality, a budgetary body or a public foundation has a majority influence, either individually or jointly.
Local governments can perform their public tasks assigned to them through their majority-owned companies, and they generally make use of this possibility. To do this, however, they must provide assets to the companies (Lehoczki, 2019). This means that these companies manage national assets, so the principle of business continuity, efficient and effective management of public funds, is of paramount importance for these companies. (Czech - Lentner, 2020)

2. MUNICIPALLY OWNED COMPANIES IN HUNGARY BETWEEN 2014-2018

There is no publicly available list of the number of municipally owned companies in Hungary, only their business report is available. In order to be able to analyze the development of these companies, we obtained the total number of municipally owned companies operating in Hungary between 2014 and 2018 from the Central Statistical Office upon individual request. Based on the data, it can be observed that the number of municipally owned companies has been declining slightly every year since 2015, by almost 2 percent per year. Between 2014 and 2018, there were an average of 1,892 such companies operating in Hungary.

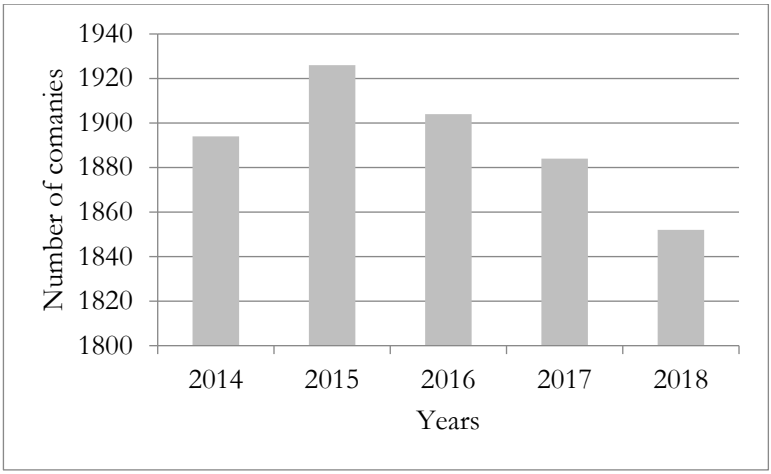


Fig. 1.: Changes in the number of municipally owned companies in Hungary

Source: Own resource based on the tabular data set of the Central Statistical Office compiled on individual request.

Figure 2. shows the development of municipally owned companies in Hungary in the years 2014-2018 according to the grouping of the public sector. It is worth highlighting the very striking change in the sectoral distribution of municipally owned companies: while the number of companies with water supply, wastewater collection and waste management has decreased by more than 30 percent since 2014, the number of companies with activities in the field of accommodation services and hospitality is more as doubled. It can be observed from Figure 2. that, in addition to water supply, wastewater collection and waste management, the majority of such companies carry out administrative and support service activities, arts, entertainment and leisure activities. Only one municipally owned company deals with mining or financial insurance activity.

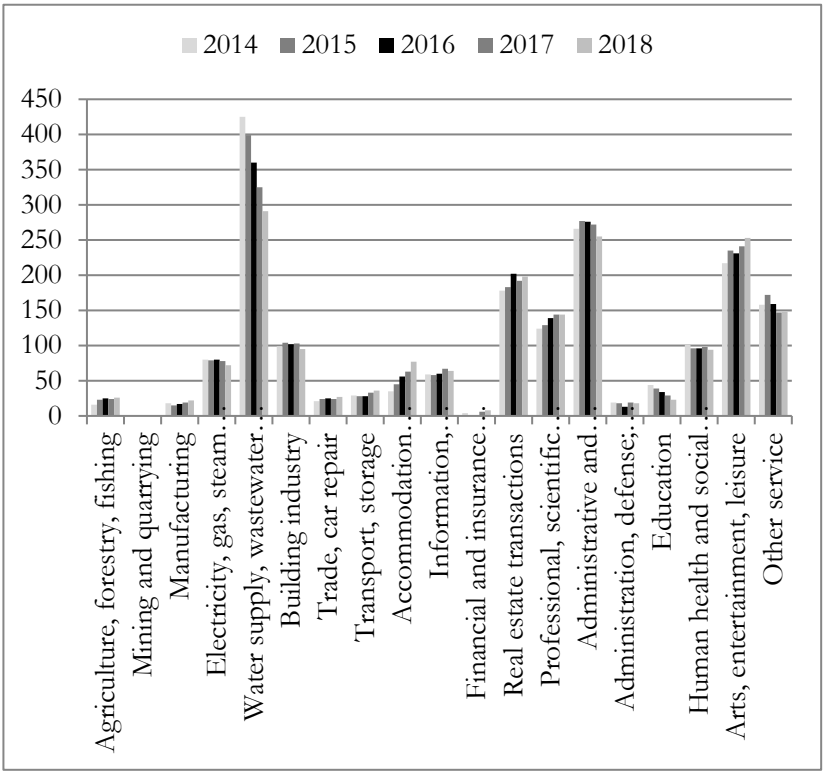


Fig. 2.: Changes in the number of municipally owned companies between 2014 and 2018 by sectoral distribution

Source: Own resource based on the tabular data set of the Central Statistical Office compiled on individual request.

3. PURPOSE AND METHODS OF CORPORATE PLANNING

The operation of any business is fundamentally influenced by the ever-changing social and economic environment.

Therefore, in order to operate successfully and sustainably, companies have to be prepared for unexpected events and

changes, which can be achieved in a long term period by planning future activities. Planning aims to create harmony between organizational objectives and concrete options (Szőllősi- Szűcs, 2015). Corporate planning is used to prepare for the implementation of the strategies formulated by the company. Most of the literature discusses business planning in relation to start-ups, in which future strategic goals appear (West, 1992). However, we consider it important to emphasize that if corporate planning is carried out year by year and is modified if it is necessary, the results to be achieved from the activities of the organization (especially the balance sheet and profit and loss plan) and the comparison of property, financial, and market situation becomes analyzable. By preparing the financial plan, it must be borne in mind that it have to be transparent, well-founded and contain all relevant information that is forward-looking in the life of the company (Nagy, 2013). The business plan, and within it the financial plan, prepared with the appropriate content, enables the annual comparability of the data of the individual business lines, thereby the transparency of the management.

Corporate planning was already present in the 20th century, it really spread in the socialist society, and nowadays it is used in many industries, including municipally owned companies. Initially, planning was informal, then in the 1960s, formal planning was formed in the developed countries (Lukács, 2005). The first manifestation of formalized planning in American and Western European companies was the simple financial planning. The essence of this planning system was the short-term approach, as well as the prescription and accountability of financial indicators (Gardner et al., 1986). Over the years, the most striking change has been the replacement of formalized short-term planning with longer-term planning, up to 5-10 years, meaning that the time horizon of planning has expanded. Among the cornerstones of

long-term planning are mentioned the production plan, the marketing and the financial plan (Barakonyi, 1999).
Hungarian municipally owned companies typically do not compile their business plans for longer term, rather annually. In this sector the law does not prescribe the formal and substantive elements of the plan approved by the owner, a financial planning model has not yet been developed for Hungarian companies performing public tasks, which would be used in connection with their business planning. If we look into what is characteristic of corporate planning, we can see that a profit and loss plan and a balance sheet plan are prepared as part of the business plan. In Hungarian practice, the balance sheet plan is not applied by municipally owned companies. In our opinion, in addition to profitability, presenting the financial situation would be very important, as it shows the process of the company's solvency and the development of its assets.
In Hungary, there is no legal obligation for companies to prepare a business plan, the Accounting Act only makes business reporting mandatory for some companies, but it does not cover planning. The business plan is able to show whether it is worthwhile to start the implementation of the given enterprise or development idea, or whether, according to the objective analysis, our enterprise can become successful. There are companies that prepare so-called "simplified" business plans, which have to be compiled e.g. to get loan or grant a tender support, however, these plans cannot always be called business plans according to their content. Even if companies are obliged to prepare a business plan, presenting the profit plan and financial plan in it separately, there is no integrated directive and methodology for compiling them, thus different plans with different structures can be created.
Perhaps the most common separation of planning and plans takes place according to their time horizon. The planning system is divided into three separate time periods, the aim of which is to

ensure the short-, medium- and long-term solvency of the company with the proper management of financial management and to maintain a balanced balance sheet structure and financing in the following years.

- short term planning is set in 1-2 years
- medium term in 3-5 years
- longer term in more than 5 years

The concretisation of plans covering a longer period is realized in the plans prepared for shorter periods, therefore the substantiation of the long-term plan is of paramount importance. The time horizon of a company's business plan can be defined in 2-3 years. A period of three years is the most often recommended in the literature as well (Kresalek, 2007).

Planning can be performed both formally and informally. Already in the second half of the 20th century, formal planning was taken into account by companies according to their own characteristics and strategy (Lukács, 2005).

By companies planning not only can be grouped by time period, but we can differentiate between operational plans, tactical plans, and strategic plans. Tactical planning means defining the objectives of each subsystem and the related planning of the resources required. Strategic planning includes long-term goals that affect the entire system of the company. The main task of strategic planning is to identify and respond to the organization's opportunities in a timely manner. We can also say that strategic planning includes large-scale changes and comprehensive goals for the future.

4. MUNICIPAL PLANNING DIFFICULTIES

As already mentioned, the average number of municipal companies operating in Hungary between 2014 and 2018 is less than 1,900. It is important for the owner local governments that their companies operate profitably and do not accumulate debt.

This requires planning in practice, in the financial areas, but also in the development of strategy and objectives. In order to take a closer look at this topic, we conducted interviews at the beginning of 2021 with municipally owned companies based in Budapest and Pest County. In the course of the 11 interviews, we were interested in what methods are used in practice by the coworkers involved in the planning process and whether they receive any guidance from the owner.

The results of our research revealed that such companies usually have annual planning, and long-term planning is not typical, although it would be forward-looking to develop strategies with a volume larger than the 5-year mandate of a manager. Within business planning, the planning of the result is currently carried out by the local governments on a base basis in practice. In addition, public task-based planning was also highlighted by the interviewees, which means that the revenues and expenditures required for a given task are summarized and the financial plan is prepared based on that. This helps the companies to a large extent to operate efficiently and effectively, as they cannot count on unnecessary expenses and the local government also provides coverage, on which in its opinion is essential for the performance of the task. The financing plan of municipally owned companies is important because local governments are also obliged to be accepted their budgets annually byf the representative body, which includes ownership support related to the operation of the companies. If the year of the municipally owned company is not financially sound, there is a risk that there will be no funds left to cover the expenses by the end of the year. The effectiveness of planning can be verified by comparing annual data and fact data, which provides information to the owner (Mansur - Tangl, 2018). It is not presented by municipally owned companies during planning.

Among the planning difficulties, interviewees mentioned that they do not receive any guidance from the owner. In addition, it was emphasized that the tactical and strategic planning used by business companies is not typical for them, only the annual operational plan have to be compiled at the request of the owner. For this reason, it is not typical for municipally owned companies to prepare their financial plan in writing for the medium or long term, as their financing depends largely on the owner. If there is no longer-term planning, the financing of longer-term investments in annual financial planning becomes unpredictable, which can affect the future operation of municipal companies. The lack of longer-term planning may also create the risk that a municipal enterprise may accumulate a significant amount of debt to ensure its liquidity. Interviewees said that the fact that there is no such person in the municipally owned companies who could professionally compile the balance sheet plan, the profit plan and the financing plan even in accordance with the accounting management methods also causes difficulties in planning.

The pandemic also brought changes and difficulties in planning, as with the COVID-19 pandemic erupted in 2020, it was necessary for companies to plan with it in 2021 as well, as several municipally owned companies were affected by the restrictions in the first quarter of this year as well. At the same time, companies can plan for 2021 by incorporating the experience gained from 2020, which significantly helps well-founded planning and it is not necessary to make changes to the plan during the year.

In Hungary, the approved plans are not usually modified, as the plans for the current year are approved together with the annual report by 05.31., so if an extraordinary event occurred in the first half of the year, the plan that has not yet been approved can be modified. We consider it important to emphasize that municipally owned companies receive the necessary resources for their operation from the owner local government, therefore there may

be a risk that the owner will limit developments in 2021 due to the reduction of resources in a pandemic situation, which must be taken into account in planning.

Conclusions

At the beginning of the study, we presented how municipally-owned enterprises developed in Hungary between 2014 and 2018 according to their number and scope of activities. While the number of these companies is declining by 2% every year, the importance of corporate planning is increasing. The number of currently operating municipal companies is still around 1,900. Long-term planning is not typical of these company's planning. In our opinion, long-term strategic and financial planning would also facilitate the efficient and effective management of companies. Municipally-owned companies also do not receive guidance in their short-term planning, which in practice makes their tasks more difficult. The situation of the managers of these companies is further complicated by the fact that they are usually not assisted by a controlling staff member who can carry out the planning in accordance with management accounting methods. The pandemic also brought changes and difficulties in planning. Based on our study, it can be stated that although in Hungary municipally owned companies have to face many difficulties in planning, corporate planning is essential for the successful, efficient and sustainable operation. The most effective way to do this would be for the owner local government to define an integrated system of criteria for the method and content of planning.

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MARIA MORARU:
THE ECONOMIC IMPACT OF COVID-19 ON ROMANIA AND OTHER EU STATES

[1]Department of Accounting and Audit, Faculty of Economics and Business Administration, West University, Timisoara, e-mail: maria.moraru@e-uvt.ro

Since its appearance for the first time and the short period in which it spread all over the world, the spread of COVID-19 has alarmed and put in guard the governments all over the world by imposing strict rules on travel and individual interactions so there won`t be any health risks.
This article is intended to present the changes that occurred from a law perspective through the enactments released by the govern and an economic impact on the companies that operate in Romania, in comparison with the measures taken by other European states. Considering the impact of COVID-19 has been presented in many researches done by survey method on multiple perspectives, with few ones managing to making the necessary connections has led us in choosing the literature review as research method.

Key words: measures, enactment, finance, economy

Introduction

As many governments around the world have put in place tough rules to restrict the movement of citizens and to close non-essential businesses, right after the declaration made by World Health Organization on COVID-19 pandemic. Shortly right after, both enterprises and workers have been financially affected due to diminishing of their revenues, respectively incomes. When International Labor Organization has called for a response in order to protect workers, support jobs and incomes and to stimulate

economy and employment, the recommended measures counted extension of social protection to persons who were affected due to the pandemic, financial and tax relief for the affected enterprises and support of employment retention.[20] Europe was one of the main cores of this pandemic, as the European Commission (2020)[21] has been seeking through its Support to mitigate Unemployment Risks in an Emergency (SURE) program, which could provide loans up to 100 billion euro to the Member States so that they can fund short-term schemes in order to protect jobs, employees and self-employed against the risk of being dismissed and loosing income.[22] Considering this funding, businesses could temporarily reduce the working hours of employees or suspend their employment entirely, as government funding would cover the hours not worked, and the ones self-employed would be able to receive temporary income replacement for their lost revenues from governments. The meaning of this temporary financial support is to protect jobs and workers harmfully affected by coronavirus pandemic, stimulating economy and supporting both jobs and incomes.

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[21] European Commission - Communication from the Commission to the European Parliament, The European Council, The Council, The European Economic and Social Committee and the Committee of the regions. (2020). Retrieved from https://ec.europa.eu/info/sites/info/files/about_the_european_commission/eu_budget/1_en_act_part1_v9.pdf

[22] International Monetary Fund - Policy responses for COVID-19. (2020). Retrieved from https://www.imf.org/en/Topics/imf-and-covid19/Policy-Responses-to-COVID-19

Literature review

As the spread of COVID-19 has become a major threat to the world, the consequences of the measures taken by governments have affected in relatively short time all world's major economies. Many productive activities were disrupted, starting from Asia and all way to Europe, from the north region of The United States of America and the rest of the world, where borders have been shut down to prevent the virus spreading. Not long after this measure has been imposed, side effects such as unemployment rate have started rising in many countries engaged in economic exchanges, without being able to cover the increasing demands in both products and services, forecasting the sharpest contraction of the global Gross Domestic Product since past century.[23]

When it comes to the impact of the current situation on volume of goods in global trade, it has been noticed, compared to the same period of the previous year, decreasing by 17,7% on May 2020, mostly impacting exports from the United States of America, Asia and European Union. [24]

When taking in discussion the labor market, in Romania, there is increasingly more difficult for the new generations to find their profession or a job, as these problems come as a result of some professions in dynamics background, these appear and others outdated by modern technology disappear, as well as the concentration of some professions, in the current conditions on this market. The migration phenomenon has its part in the decreasing of the population, confirmed by specialized studies

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[23] Bank, W. (2020). Global Economic Prospects, June 2020. Washington D.C.: World Bank. Retrieved from https://openknowledge.worldbank.org/handle/10986/33748

[24] Caribbean, D. R.-E. (2020). The effects of the coronavirus disease (COVID-19) pandemic on international trade and logistics. Retrieved from Digital Repository - Economic Comission for Latin America and the Caribbean: https://repositorio.cepal.org/bitstream/handle/11362/45878/1/S2000496_en.pdf

where it was stated that both employed and active population are influenced by the decrease of labor resources. Between years 2012 and 2016, the active population has decreased yearly,[25] which again strengthens the pre-pandemic labor market problem.[26]

One of the major challenges on the labor market due to COVID-19 pandemic is putting health professionals all over the world in an unprecedented situation, being forced in taking impossible decisions and working under extreme pressure. One of the greatest impacts on the formation of labor market is represented by the level of differentiation on labor productivity with direct impact on wages; on different economy sectors the motivation of workers can determine the orientation towards more prestigious and better paid industries, while the increasing labor productivity, mechanization, automation and digitization of the economy were considered to reduce labor as of COVID-19 pandemic has been leading paradoxically to accentuation of these factors, being the same time able to be a source of economic recovery.[27] Education is considered to another area that was strongly affected by COVID-19 pandemic as studies reflect the fact that higher levels of education could at least partially compensate the negative effects of economic crises.[28] Studies conducted right after the onset of the

[25] Nica, M. (2018, 4). Study on Labour Force in Romanian Agriculture. International Journal of Sustainable Economies Management (IJSEM), 7, 36-44. Retrieved from https://ideas.repec.org/a/igg/jsem00/v7y2018i2p36-44.html

[26] Radulescu, C. V., Ladaru, G.-R., Burlacu, S., Constantin, F., Ioanăş, C., & Petre, I. L. (2021). Impact of the COVID-19 Pandemic on the Romanian Labor Market. Sustainability, 13. doi:10.3390/su13010271

[27] Alfiya, K., Almir, A., Rasul, G., Aigul, A., & Paula, P. (2019). Differentiation of labor productivity level and wages as a basis for changes in labor market. Polish Journal of Management Studies, 20(2), 345-357. doi:10.17512/pjms.2019.20.2.29

[28] Pană, M.-C., & Fanea-Ivanovici, M. (2019). Institutional Arrangements and Overeducation: Challenges for Sustainable Growth. Evidence from the Romanian Labour Market. Sustainability, 11. doi:10.3390/su11226459

COVID-19 pandemic have provided evidence of decline in employment and revealed that around 20 million employed workers have resigned, being a very less proportional increase recorded on unemployment, which could only mean that most of the unemployed aren't really looking in finding a job.[29]

According to Eurostat estimates, in EU19 there are about 13.671 million people, which represent around 4,14% out of the total population estimated at 330 million, that were unemployed on December 2020; which means an increase of 55.000 more compared than the previous month, November 2020.

Compared to December 2019, the number of jobseekers rose by 1.951 million in the EU27 and by 1.516 million in EU19.

In December 2020, 3.138 million young people in the EU27 were unemployed, of which 2.590 million were in the EU19. The unemployment rate among those under 25 stood at 17.8% in the European Union in December and at 18.5% in the euro area compared to the previous month. Among women in the European Union, the unemployment rate was 7.9% in December, stable compared to the previous month, while among men the unemployment rate was 7.1% in December, also stable compared to the previous month.[30]

The unemployment rate scored an average of 7.5% within the European Union in December 2020 and an average of 8.3% within the Euro Area (EU19), compared to previous month, Romania ranking 4,9%, among the countries with the lowest unemployment rates. As seen on figure no 1, as of December of 2020, the highest

[29] Arthi, V., & Parman, J. (2020, 11). Disease, downturns, and wellbeing: Economic history and the long-run impacts of COVID-19. Explorations in Economic History, 79, 101381. doi:10.1016/j.eeh.2020.101381

[30] Eurostat. (2021). Euro area unemployment at 8,1%, EU at 7,3%. Retrieved March 2021, from https://ec.europa.eu/eurostat/documents/portlet_file_entry/2995521/3-04032021-AP-EN.pdf/cb6e5dd6-56c2-2196-16b7-baf811b84a4f

unemployment rate has been recorded in Spain with 16.2%, while the lowest rate has been recorded in the Czech Republic with 3.1%.

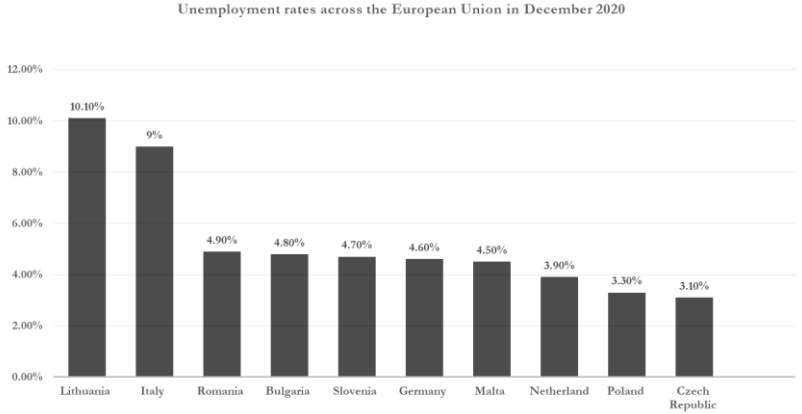


Fig. no 1 Unemployment rates across the European Union in December 2020
Source: Eurostat data

Another issue regarding the labor market is related to the undeclared economy, which by consideration of many academics and practitioners, refers to paid activities which are not declared to the authorities in the purpose of avoiding tax and social security contributions.[31] [32] The following reasons could apply in taking consideration of excluding enterprises and workers from the declared economy as they have a large proportion of the world's workers and enterprises, by 61% of workers around the world

[31] World Bank. 2019. Global Economic Prospects, January 2019: Darkening Skies. Washington, DC: World Bank. © World Bank. https://openknowledge.worldbank.org/handle/10986/31066 License: CC BY 3.0 IGO.

[32] Williams, C. C., & Horodnic, I. A. (2019). Dependent Self-Employment. Edward Elgar Publishing. Retrieved from https://ideas.repec.org/b/elg/eebook/18310.html

having their main employment in this sector.[33] As a side effect on undeclared workers which have fallen through the safety net, without any savings and a growing social unrest, it has manifested in raids on grocery stores in order to acquire food.[34] [35]
European governments should recognize the problems that enterprises and workers are having in the undeclared economy and help them identifying their prevalence, sectors and population groups involved, then one of its intentions will have been achieved. If the governments would take action, then it would encourage the feasibility of an initiative involving voluntary disclosure to declare enterprises and workers as incentive in order to bring the undeclared ones out of the shadows.[36]

[33] International Labor Organization (2018), Women and men in the informal economy: A statistical picture (third edition), Geneva, www.ilo.org/ global/publications/books/WCMS_626831/lang--en/ index.htm.

[34] Johnson, M., and Ghiglione, D. 2020. 'Pasta and beans' - Italy's shadow workers are out of the safety net. Financial Times. Retrieved from https://www.ft.com/content/08847c08-9582-4c48-9d2d-319f8593da19

[35] Reuters 2020. Amid Europe's Lockdowns, No Safety Net for Millions in Black Economy. The New York Times. Retrieved from https://uk.reuters.com/article/us-health-coronavirus-blackeconomy/amid-europes-lockdowns-no-safety-net-formillions-in-black-economy-idUKKBN21J4LS

[36] Williams, C., & Kayaoglu, A. (2020, 4). The Coronavirus Pandemic and Europe's Undeclared Economy: Impacts and a Policy Proposal. South East European Journal of Economics and Business, 15, 80-92. doi:10.2478/jeb-2020-0007

the section of estimated of risk workers was developed from the identification of the most vulnerable sectors due to severe decline in economic output as a matter of the measures taken. Starting from the real-time economic and financial data, the hardest-hit sectors were identified as being the accommodation and food services (HoReCa), manufacturing, wholesale and retail trade, and real estate and business activities. As seen on figure no 2, we could agree that the whole society economic activities have been

Reduced	Reduced-Medium	Medium	Medium-High	High
Social services & health activities	Agriculture	Construction	Art & entertainment	Accommodation and food services
Education	Animal raise	Financial activities & insurance	Recreational activities	Real estate and commercial activities
Public administration & defense	Fishing	Mining	Transport	Production and fair trading
Public Services	Forestry		Communications	Automotive reparations

disturbed from their usual course of events, affecting both general population and companies. [37]

Fig. no 2 COVID-19 impact on domains of activity

Source: International Labor Organization

On the *law framework* which concerns protection and prevention against Coronavirus, we have considered to be core for our study Law no 55/2020, not only regulates certain aspects of the main issue, but influences the way other specific legislative regulations on management, economic, health, social security and accounting,

[37] International Labor Organization Monitor: COVID-19 and the world of work. Third edition. Updated estimates and analysis, dated 29 April 2020. Retrieved from: https://www.ilo.org/wcmsp5/groups/public/---dgreports/---dcomm/documents/briefingnote/wcms_743146.pdf

relevant to present study, are applied based on extended periods or exceptions from the main law stipulations.

As of the 15th of May, under the Decision of the National Committee for Emergency Situations no. 24/2020 it has been declared the state of alert by adopting several pieces of legislation to set out the obligations to ensure that workplace activity is carried out in conditions of health and safety during the state of alert period, also to ensure safe functioning of economic activities, as well as public transportation safety. Through the Government Emergency Ordinance no 70/2020 there have been set out some social protection measures such as granting indemnity for technical unemployment.

The Romanian Parliament has adopted on the 18th of May 2020, the Law no 55/2020 on the subject concerning the measures which should prevent and control the effects of COVID-19 pandemic, by providing the legal framework considering the rules to which companies have to comply during the state of alert period. When it comes to labor and social protection, the same *Law no. 55/2020* gives an employer the possibility to decide, based on employees' consent, carrying out the activity by teleworking or remotely, so that place of work or duties could be changed. Also, the employers from the private sector with a number greater than 50 employees should establish custom working schedules without needing employees' consent, in order to ensure that there is a time limit of an hour or so between arrival and departure of employees on their working schedule, over a period of 3 hours. By Order no. 3577/2020, businesses have the possibility to organize their activity in order to comply with the measures preventing the spreading of virus SARS-CoV-2, and in the case of employer`s specific activity which requires employee physical presence, then it will be required to implement additional measures. Among them are included both the health and safety retraining of all the persons who have interrupted their work or they have worked remotely due

to state of emergency, and update of the document on risk assessment for health and safety of employees regarding the new conditions of work. There should be a person responsible for checking temperature of both employees and visitors and the rules of conduct such as hands hygiene, distance keeping and others, to be bought to acquaintance to all persons who enter the space, or by being displayed on entrances and most visible locations in the workplace. Also equipping with dispensers filled disinfectant, ensuring lanes and traffic spaces so that employees would avoid accidental groups increase, apply strips in order to mark recommended distance and do an arrange of offices for better ventilation. Also considering conditions and avoid using air conditioning system if there isn't any installation nebulization and disinfection ensured. As of *Law no. 55/2020,* the period in which collective labor agreements are valid is extended over the period of the state of alert and so for 90 days afterwards the termination of state of alert, keeping the obligation that collective negotiation is being initiated within 45 days since the state of alert has ended. [38]
The Romanian legislation had some other amendments as well considering tax measures establishment, through issue of Emergency Order no 99/2020 which brings modifications on normative documents and extends time limits due to COVID-19 context. One of the measures consisted in optional postponement on reporting deadlines by 6 months, which it has been set by European Union Directive no 822/2018, considering tax area automatic mandatory information exchange of cross-border arrangements that are subject to reporting until the beginning of year 2021.

[38] KPMG Legal – Ioncescu & asociatii - Legal newsflash. Retrieved from: https://assets.kpmg/content/dam/kpmg/ro/pdf/2020/lnf-masuri-pandemie-covid.pdf

Through the issue of Emergency Order 99/2020, important amendments have been bought to tax area such as extending some deadlines due to COVID-19. *One of them* is optional delaying of reporting deadlines with 6 months due to European Union Directive no 876/2020 through which member states could apply until the beginning of 2021. *Other measures* also covered the taxes owed by businesses from Ho(tels)Re(staurants)Ca(feterias) industry regulated by Law no 170/2006 without asking for any specific tax over a 90 days period and changing the declaration date to the 25th of October 2020. In this situation, taxpayers would need to recalculate the tax according to *Law no 170/2016*, by dividing the specific annual tax by 365 calendar days; then multiply the value with the difference between the number of 365 calendar days and the number of 90 days. Taxpayers under provisions of art. IX of *Emergency Order no. 48/2020* regarding some financial-fiscal measures, in order to recalculate specific annual tax according to the above provisions, drop the period in which activity has been discontinued in whole or in part due to the state of emergency. So, the period of 90 days of exemption from payment of the specific tax will be cumulated with the period for which the taxpayers benefit from the exemption of Emergency Order no 48/2020.
On micro-enterprise level, the taxpayers who pay the revenue tax on time could benefit of a 10% reduction on quarterly required tax or quarterly predicted payments; this measure been applicable to HoReCa industry as well. *Considering value added tax,* there will be exemption for public institutions in charge of these deliveries of masks and medical ventilators intended for use in intensive care unit as of 1st of October 2020. *In the case of foreclosure,* by establishment of seizure, by summons, capitalization of goods at auction or budgetary receivables will not start or will be suspended;

measure will be applied by credit institutions or third parties, without other formalities from tax authorities.[39]

Given the COVID-19 situation, the European Union countries` law framework has been adapted in order to support both the states and the companies to pass through the pandemic crisis, and for the purpose of current study we have chosen some examples of measures applied by other member EU countries.

In continuing of our research its worth mentioning *how other European countries have chosen to support* in implementing safety measures and economic aid for their international and local operating companies in order to pass safely the pandemic crisis and keep as much as possible of their jobs and employees.

One of the first countries mentioned is *Austria*, which has announced to implement a state aid scheme that would provide up to a total of 4 billion EUR to the companies which have reduced their revenues due to pandemic. The possibility of implementing a financing scheme for companies which have operations in Austria it was also being considered. The working hours have been reduced up to 10% than of the previous working time for up to 90% on a period of 3 months. As employees were entitled to receiving remuneration, which had an amount of 80 to 90% of the previous net remuneration, also considered as net compensation rate, which should be paid by the employer. Even though, the employer supports only the costs of actual worked hours on the short-term work period; as an example, if more than 10% of staff are working, the employer supports the costs of 10% of the net compensation rate. This amount represents the difference between the worked hours and net compensation rate, but it will be compensated by the National Labor Agency, as there is strong

[39] Deloitte – Tax & Legal Weekly Alert from 30th of June 2020. Retrieved from: https://www2.deloitte.com/content/dam/Deloitte/ro/Documents/tax/romana/TLA-30iunie2020-RO.pdf

financial support which will benefit the employer in maintaining employment contracts.

Germany has offered to provide loans of an amount up to 1 billion EURO, which could be accessed for a period over 5 years, or under, by different companies from authorized individuals up to large companies, with maximum loan equivalent to 25 % of revenues recorded in 2019 or double of staff costs, considering funding needs covering at least a period of 18 months for small and medium-sized companies and 12 months for large companies. Also, the state would provide financing up to 67% of net salary and limits are imposed to high-paid employees.

Due to pandemic, *Finland* has also announced that taxpayers could request an extension on filing income tax returns or they could access certain payment methods for related taxes. As to the measures implemented in other states, no penalties will be levied due to late submission of value added tax returns. Another important measure was considering to reduce the social contribution from the employer to a level of 2.6%, measure implemented from the 1st of June 2020 to the 31st of December 2020.

In Netherland, postponing tax payments without charging penalties for non-payment in the next period has been proposed, to some cases, late payment penalty could be reduced from 4%-8% down to 0.01%. For the companies with turnover reductions over 20%, the amount of funds offered cover up to 90% of employees' salaries. The state aid is valid for 3 months, with possibility to extend for another 3 months. The state budget has been increased from 400 million euros up to 1.5 billion EUR.

France has offered deferrals from payment of taxes and social contributions, as well as tax credits for the companies affected, as there was a further tax reduction for the directly affected companies. It also has provided sums of money for small-medium

sized enterprises and has announced and intended to ensure payments to employees who cannot work from home.
A short recap a of the measures implemented by the current law framework from *Romania* would mostly include bonuses for the advance payments on profit tax / income tax coming from micro-enterprises. There was postponement on customs duty for importers who supply test kits, medicines and protective equipment against COVID-19. Another postponing considering the deadline to pay the building tax, land tax and transport tax, as well as deadline for granting advance payment bonus up to the 30th of June 2020. For the fiscal obligations, after the entry in force of Emergency Government Ordinance no 29 of 21st of March 2020, unpaid until expiration term of 30 days from the date of cessation of the state of emergency, 16th of May 2020, no interest and delay penalties will be calculated. The modification of value of partial advance payments for taxpayers who declare the annual profit tax according to Art. VIII of the O.U.G. no. 29/2020, partial payments owed on 2020 can be made at the amount of profit calculated for the first quarter of this year. The benefits for technical unemployment will be reimbursed from the unemployment insurance budget, within the limit of 75% of the average gross salary in amount of 5,429 RON, roughly to an equivalent of 1,100 EUR, for the employers who needed to reduce or temporarily interrupt activity totally or partially during the state of emergency. Days off granted to parents so that they can supervise children, in case of temporary school closure, for all working days during the state of emergency with an allowance of 75% of the gross monthly salary, but not more than 75% of the average gross monthly salary at national level. The aid for small-medium enterprises consisted in the form of deferred payments for utility services such as electricity, water, natural gas, telephone and internet services and rent payment, as well as state guarantees for loans and other grants. Another interesting fact that has been

in the attention of the local press during the pandemic was the increase of Romania`s public debt with the equivalent of 13 billion EUR, almost 63 billion RON equivalent, in order to cover the additional budgetary deficit due to the decrease of revenue and increase of expenses.

Another country hit very hard by the pandemic, *Italy*, has authorized a moratorium on mortgages. It has been providing assistance for the payment of services and has adopted the postponement on all payments regarding utilities such as water, gas and electricity, until the 30th of April. In addition, the interest rate for small-medium sized enterprises has been reduced for 12 months, as well as the postponement of taxes payment.

Same as other mentioned countries, *Portugal* has been introducing an equivalent of 3 billion EUR credit line so that the companies which were affected by COVID-19 could access up to 1,5 million EUR. Where companies affected by the crisis, did not lay off any of their employees, can switch to a simplified dismissal, but in this case, employees will be receiving a part of 2/3 of the salary, with 70% paid by the state and another 30% paid by the employer.

Country such as *Spain* has introduced an economic plan to stimulate on a budget of 18,23 billion EUR and additionally the budgets from local administrative by 1 billion EUR and social services by 25 billion EUR. In addition, 3-month tax arrears have been introduced and a budget in amount of 400 million EUR for the tourism sector.

The last country offered as an example for the current study is, from the European Economic Area, *Norway* which has established a profit tax measure through which companies with losses from the year 2020 can offset them with the profits obtained in the past years, 2018 or 2019. Another modification concerns the postpone of the date on which the second tranche of the tax has to be paid, from the 15th of April 2020 to the 1st of September 2020 and so the payment of the social security contribution of employers from 15th

of May to 15th of August 2020. Also, a state guarantee scheme has been introduced for the new bank loans addressed to small and medium-sized enterprises which have been suffering losses as of COVID-19. When it comes to the days paid for taking care of young children, these were doubled up to 20 days, as employers would have to pay 3 days and the state will pay the rest. Other envisaged measures would concern the value added tax, more exactly the temporary reduction of the value added tax rate on the transport travel, accommodation and museums, from 12% to 8% by the 31st of October 2020 and the postponement of payment date for value added tax from the 14th of April to the 10th of June.[40]

Conclusion

Putting side by side the European Union states referred as examples in taking actions in reducing the impact generated by the COVID-19 pandemic, we can observe that some of the most common measures include both postponing of deadlines in tax payments and reduction on the tax amount paid if it`s done within the normal yearly periods. By doing so the states secure a continue in the economic flow cycle and motivate potential economic players with benefits such as reductions if payments are done on the same year basis calendar.

On the other side, Romania, apart from the law framework exceptions, hasn`t been able to come up with a state aid scheme in order to support better the companies that would have problems functioning due to either law restrictions or low demand for their

[4040] Ernst&Young - What economic and fiscal measures countries began to take during the COVID-19 crisis, from the 6th of April 2020. Retrieved from: https://www.ey.com/ro_ro/COVID-19/ce-m_suri-economice-i-fiscale-au-inceput-s-ia-rile-pe-perioada-c

goods or services coming from the general population and other economic parties. Another potential problem in the way of the economic further development is represented by the continuous increase of the public debt, which is still acceptable being below the average within the European Union; with only relying on it as single solution, there is a huge risk coming from the state which degrades the status of life, economic perspectives and international interest in developing businesses within the country.

Even thou most of the forced imposed measures were intended to contain and limit the spread of the virus, it turned out to be playing a bigger part in slowing down the grand circuit of exchanges that take place all over the world in connected economies, from goods and services provided to delays in payments

Anett PARÁDI DOLGOS - József VARGA - Zoltán SIPICZKI: THE NATURE OF HOUSEHOLD INFLATION REDISTRIBUTION

[1] **Dr. Anett Parádi-Dolgos** associate professor Hungarian University of Agricultural and Life Sciences Kaposvár Campus Faculty of Economics Institute of Business Regulation and Information Management; Email: Paradi-Dolgos.Anett.Katalin@uni-mate.hu
[2] **Prof. Dr. József Varga** professor Hungarian University of Agricultural and Life Sciences Kaposvár Campus Faculty of Economics Institute of Business Regulation and Information Management Email: varga.jozsef@uni-mate.hu
[3] **Dr. Zoltán Sipiczki** assistant professor Hungarian University of Agricultural and Life Sciences Kaposvár Campus Faculty of Economics Institute of Business Regulation and Information Management Email: sipiczki.zoltan@uni-mate.hu

Abstract
The direct effects of inflation are widely known in the economic literature: information asymmetry caused by inflation, the increase in calculation uncertainty and many other effects. However, there is another channel that is less researched about. Fluctuating inflation can cause unintended redistribution of income and wealth; which may be particularly sensitive to lower income households.
Our study examines the indirect effects of inflation redistribution an empirical way: it focuses on the capital market distortions of inflation and the disparities in wealth and income. The study finds that; households with medium wealth hold the largest share of their assets in cash and bank account money. For this reason, this wealth group is most exposed to the unintended inflationary

redistribution of retail wealth. These indirect effects on inflation undermine economic efficiency, thereby holding back the long-term growth potential of the economy. Households often feel higher inflation than in the actual price indices published by the statistical offices, it is true, because as our research shows; individuals in different wealth deciles perceive significantly different inflation. Our results also provide important information for economic policymakers, because if social groups perceive different inflation, it modifies the expected behavior of the population, thereby weakening the economic policy effectiveness of different decisions.

1. Introduction, Literature review

The root of the anti-inflation mood - in addition to historical experience, even in the case of compensated inflation, - is the rise in prices prevails psychologically stronger for the consumer goods cost side, than in income side. People see the increase in income as recognition of their own merits as a result of their work rather than as a means of inflation compensation. A significant part of household budgets is made up of less frequently purchased goods and services. Examples are cars or durable technical items. We tend to forget about these expenditures and changes in goods when we form an opinion about inflation. Meanwhile, some regularly purchased items (e.g., food, fuel) are more heavily perceived by households, so if the price of these product lines goes up, people can usually overestimate actual inflation. (Molnár 2014)

A comprehensive analysis of the redistributive effect mechanism of inflation is one of the difficult areas in the economic literature. The analysis of individual redistribution effects is based on certain inflation redistribution hypotheses, while negative prejudices about inflation are still significant, as households often feel that inflation is higher than the actual price indices published by the statistical

offices. This is often due to observational problems, different capital and consumption patterns of different social groups.
Some empirical studies in the international literature show that in the U.S. and Germany, less affluent sections of the population lose out on inflation based on their high share of money. In the U.S., the real value of money and receivables declined by 17–36% between 1948 and 1958, while the real value of property, plant and equipment increased by 28–255% (Ziercke 1970, p. 147). According to Ziercke, these proportions are also true for the Germany. Keeping real assets thus provides protection against inflation.
As a result, inflation mostly affected those who had a large share of monetary assets within their asset portfolios. As the table below shows, the inflation process affected the lower strata of the population the hardest, based on the ratio of monetary net worth to total wealth.

Table 1 Ratio of monetary net worth to total net worth in the Germany on 1 January 1960

asset classes limits in thousands of DM			he ratio of monetary net worth %-in
0	-	30	11,7
30	-	40	12,8
40	-	50	7,5
50	-	70	7,5
70	-	10	7,1
10	-	250	5,7
250	-	500	3,3
500	-	1 000	1,8
1 000	-	2 500	0,6
2 500	-	5 000	0,1
5 000	-	10 000	1,2
10 000	-	20 000	0,1

20 000 - 50 000	2,3
50 000 - 100 000	7,0
100 000 - 200 000	6,0
200 000 above	3,9

Source: Ziercke 1970, p. 149.

Owners of larger assets were generally able to avoid redistribution caused by inflation because their portfolios consisted largely of real assets (tangible assets). Small savers, on the other hand, who held their wealth in monetary securities, lost more on inflation compared to their wealth. Within the population, redistribution is particularly acute in two areas: 1. Redistribution for the benefit of entrepreneurs from those who living on relatively fixed wages and salaries. The former group is able to raise its income at a rate almost close to the rate of inflation (it is in a selling position), while the latter group is in more difficult position to raise wage. 2. Income redistribution also takes place for the benefit of the working age population, to the detriment of pensioners and dependents. The latter are usually able to exert less political pressure than active wage and salary workers. This is because their economic role is small and they do not have adequate advocacy institutes.

In many cases, inflation can also exacerbate the generational problem. According to surveys in the United States (Jeck 1972), households over the age of 55 are above-average net lenders, and the 25-34 age group is the only net debtor group due to the use of consumer credit. Based on the confirmation of the debtor-creditor hypothesis, the younger generations are the winners of inflation redistribution against the middle-aged and older strata.

According to Ziercke, creeping inflation in Germany and its curbing are basically hit the middle class of the population, but in terms of the magnitude of the effect, creeping inflation is of course more tolerable at the social level (Zierkce 1970). Consistent with the view cited by Samuelson and Nordhaus; that the costs of mild

inflation are modest. Inflation is a social phenomenon that, as a lightning rod, relieves tensions stemming from deeper problems. As a result, although economists are unable to show that moderate inflation would come at a high cost; voters are passionate about rising prices. People will vote for leaders who will take action to reduce inflation - usually by curbing output, growth and increase unemployment. This response is the most visible and dramatic effect of inflation in economy. (Samuelson-Nordhaus 1987-1988, I. p. 346)

In addition to the above reasons, an important factor in the perception of inflation is the rearrangement of wealth and income between the various wealth and income groups. It is important to emphasize that the problem is exacerbated by the fact that the income and wealth situation of the population can differ significantly within national borders also (Csizmadia - Bareith 2020; Kovács-Szamosi et al. 2019), therefore this effect is a serious social problem and the redistribution of inflation that increases it.

Getting rid of high or volatile inflation is in the interest of all economic actors, society as a whole, at least in the long run. The strengthening of the exchange rate may trigger disinflation, which real economic costs will be determined in the future by the expectations and decisions. If we take this into account when making our economic and business decisions, we can avoid the detachment from wage growth of wage costs and maintain the level of competitiveness of companies. (Szóka, 2003)

2. Material and Methods

We used data on the consequences of inflation, mainly on the basis of empirical surveys entitled "MNB (2017): Financial savings of the household sector micro- and macro-statistical data, 2017" (MNB 2017) and a comparison of inflation data.

Wealth inflation redistribution methodology: During the 2017 survey in Hungary (approximately 4 million domestic households), the interviewers visited 15,000 households, and almost 6,000 of the households answered the questions on a voluntary basis. The aim of the survey is to provide data for analyzes of the characteristics and distribution of household wealth, income and consumption. The large sample size and national representativeness of the survey provide an opportunity to examine in detail the wealth of Hungarian households, its composition and distribution within the sectors. The basic data of the analysis were provided by the breakdown of all financial assets of households, broken down by deciles based on net worth.

It is statistically very difficult to distinguish between income generated in an inflation-free world and income generated under inflationary conditions. For example, in the case of the inflationary benefit of a leased property, we should take the difference between the inflation rent and the hypothetical rent without inflation. The comparison is even more difficult if the asset does not generate market income. Staying with the example above; owners lives in their owned property. Then the share of inflationary income cannot be expressed in value, it can only be estimated by the amount that is paid for this service in the market.

In most cases, the inflation effect would be only a potential gain or loss, as people live in their homes and use their personal belongings. The potential change becomes real when they sell or lease their assets. For this reason, the majority of the population basically thinks in natural measures, they cannot use the profit of inflation due to the purpose-specific nature of their assets.

Because of the above difficulties, we examine only the inflation redistribution of a financial asset of wealth. Each asset type can be ranked according to how their price increases deflated by the general price index. In this ranking owners win, in the case of assets with price increases above the general price level, but owners of

highly inflating items such as cash will lose on inflation. The financial instruments most exposed to inflation are cash and Uncommitted bank deposits. About 70 percent of financial assets are owned by the top household decile formed on the basis of net worth. In the case of debt securities and shares, the share of the top decile exceeds 90 percent of the total value.

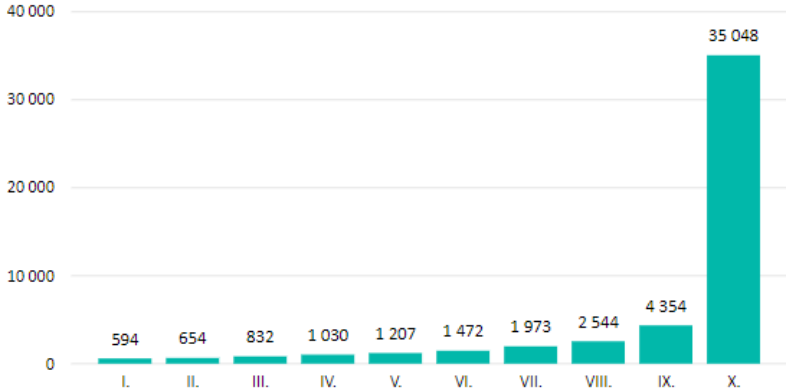


Figure 1 Total financial assets of households by deciles formed on the basis of net worth, at the end of 2017, HUF billion
Source MNB (2017)

We examined the ratio of total financial assets of households to their holdings of cash and bank deposits. This is because this part of wealth retains its real value the least towards inflation, so the population suffers the most inflationary loss here. However, the inflation loss differs significantly by deciles formed on the basis of each net worth. As shown in the results section.

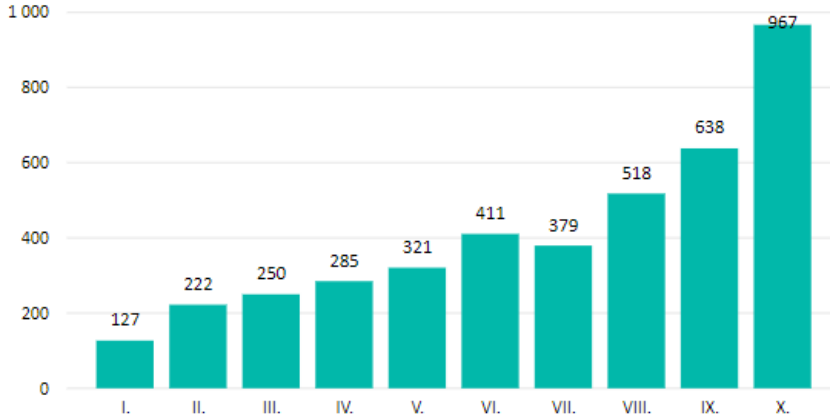


Figure 2 Households' cash holdings by deciles formed on the basis of net worth, at the end of 2017, HUF billion
Source MNB (2017)

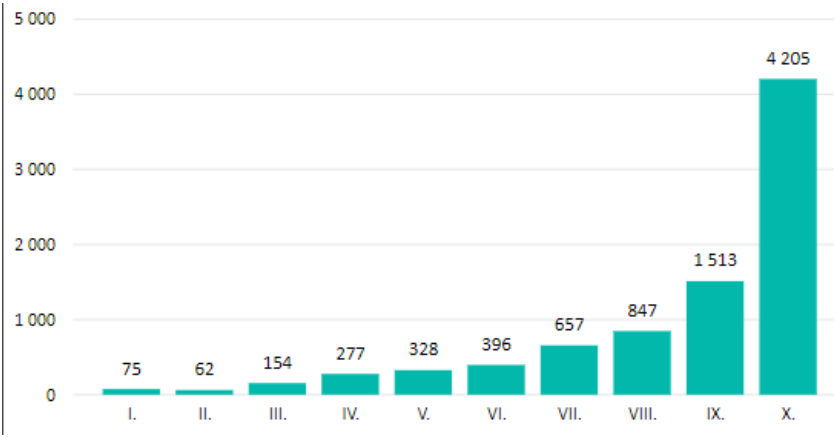


Figure 3 Household deposits broken down by deciles based on net worth, at the end of 2017, HUF billion Source MNB (2017)

3. Results and Discussion

A general feature of inflation theory models is that they tend to work with a small, highly aggregated social large group. In this framework, however, it is not clear; what extent the redistribution between individual social groups (in our case, wealth groups) is.

The monetarist explanation for inflation thinks over a long period of time and assumes complete anticipation. Here, inflation appears neutral in terms of redistribution, except for money holding, which summarized as an inflation tax.

Quantitative measurement of inflation redistribution is rare. The costs of the inflation tax is defined as losses that do not represent as a profit for other entities. Typically, cash or uncommitted bank account money have such inflation costs. Assuming the latter, financial institutions tend to lend less loan because uncommitted deposits liquidity risk (Gál 2016), or do so at a similar rate, and include a lower cost of funds than inflation when pricing credits and receivables due to market competition. Since without this, interest margin difference between loans and uncommitted deposits money would increase; so cost of uncommitted deposits inflation would be profit to the financial institutions. We can talk about a redistribution effect if the loss of one economic entity is a profit for another actor. With this simple demarcation, we can avoid the conceptual confusion caused by the mixed use of cost and distribution categories.

The individual asset portfolio consists not only of money and receivables, but also of real asset categories. In addition to the negative real interest rate on domestic forms of cash and bank deposits, it is worth to invest in real assets even if it has no current return but retains the real value of the assets due to the inflation. However, **typically the wealth of households in the lower wealth deciles consists almost exclusively of real assets (own property, for example) and there is no substantial amount of savings in cash and bank deposits compared to their total**

wealth. Households in the highest wealth deciles have much larger savings in cash and bank deposits in nominal terms, but in their wealth portfolios, these items represent a much smaller share than households in the middle deciles. After all, securities or technical insurance financial instruments account have a much larger share in their asset portfolio.

Those whose wealth consists of item components price index exceed the rate of inflation do well compared to those whose assets prices are below inflation. **Based on our results, the less affluent sections of the population lose out hardest on inflation due to their high share of cash.** As a result, inflation affected those who had a large share of liquid monetary assets within their asset portfolios. As the chart below shows, the inflation process has hit the middle wealth strata of the population hardest, based on the ratio of monetary net worth to total wealth.

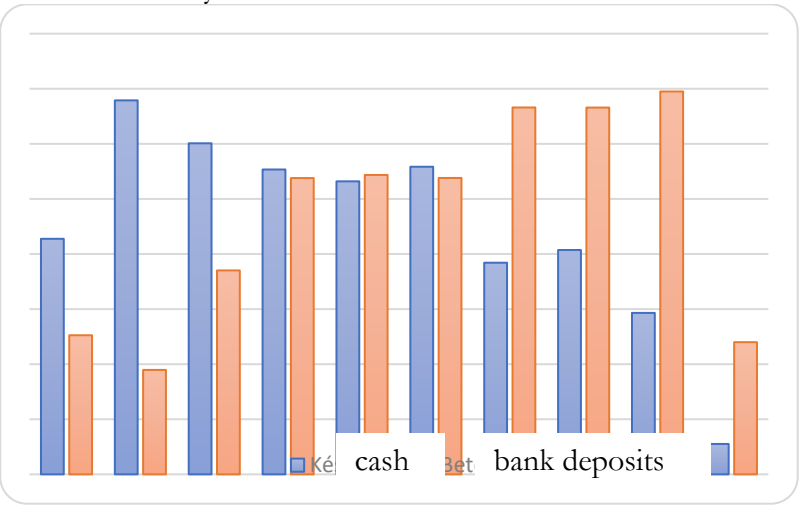


Figure 4 Ratio of cash and bank deposits assets to total financial assets by income deciles

Source: Own editing based on MNB 2017 data

The high liquid monetary assets ratio is further illustrated by adding the ratios of the two financial instruments that most exposed to inflation and examining their ratios to the total financial assets in a given decile.

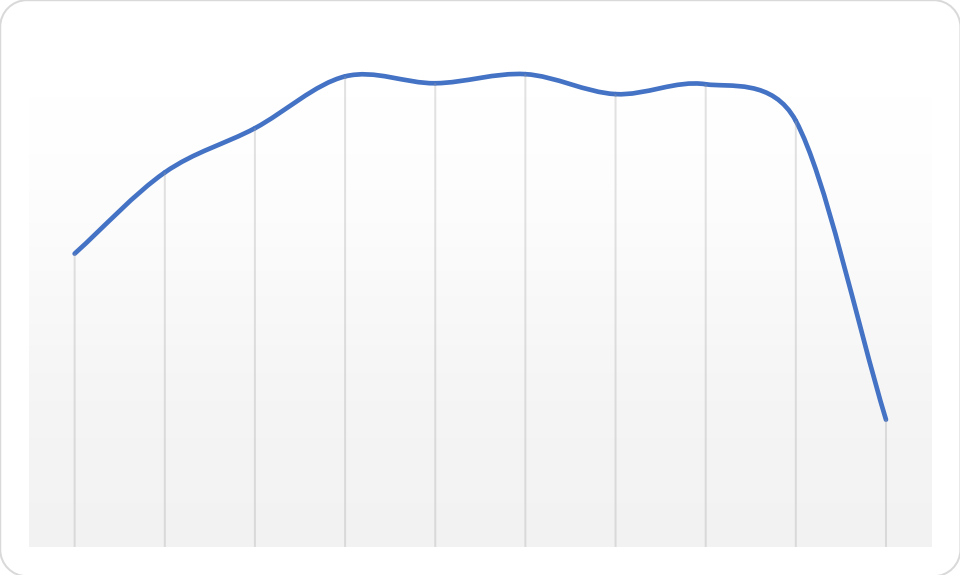


Figure 5 Amount of cash and bank deposits as a proportion of total financial assets by income deciles
Source: Own editing based on MNB 2017 data

Owners of larger assets were generally able to avoid redistribution caused by inflation because their portfolios consisted largely of stock-shares, debt securities and equities. Middle savers, on the other hand, who's held their wealth in cash or other liquid monetary securities, lost on inflation.
The situation of small savers has even been aggravated by the fact that their knowledge and information about inflation and optimal portfolio selection are often inadequate. Unfortunately, the level of financial knowledge of the population in Hungary is still

insufficient (Kovács, Szóka 2020). Furthermore, they cannot easily change their portfolio composition because the transaction costs of portfolio restructuring are too high compared to their small assets.
Older households are above average net lenders. The 25-34 age group is the typically net debtor group due to the use of consumer and housing loans. Based on the confirmation of the debtor-creditor hypothesis, the younger generations are the winners of inflation against the middle-aged and older strata. However, members of the younger generation typically belong to low wealth deciles, which, according to our calculations, are more exposed to income and wealth redistribution, thereby weakening the known debtor-creditor hypothesis. If inflation is at a constant rate in the long run, the generational redistribution will level off, since whatever size the population subjects would gain in their youth, they would lose the same amount in their old age. However, the assumption of such a long-term constant level of inflation is very illusory.
The negative real interest rate - result of inflation - mainly affects the middle decile strata, whose unable to accumulate in stock-shares, securities and natural resources. They are usually collect savings for real estate and durable consumer goods.
It is generally accepted that low creeping inflation will not be able to exert a significant redistributive effect or, if it will, it will only affect actors with a larger stock of money, so the wealthier groups. In opposite latter, our study now points out that: Basically inflation harms mostly the middle classes, who have some monetary assets, but it is not large enough to be able to invest properly to counteract the effects of inflation.

4. Conclusions and summary

As we have shown in our study, inflation can in many cases become a sharpener in the wealth-differences problem.

According to our analysis, inflation redistributive effect is most damaging to the middle classes, who have some monetary assets, but it is not large enough to be able to invest properly to counteract the effects of inflation. Low level inflation can significantly reduce the redistributive effect of inflation. Creepy inflation and its negative effects on consumption and wealth redistribution are also fundamentally borne by the lower and middle classes of the population. However, in terms of the magnitude of the impact, creeping inflation is more socially tolerable, so achieving and maintaining a persistently low and stable inflation rate is of paramount importance. The economic policy lesson of the above is that in addition to the official price index, the distribution of perceived inflation is also worth monitoring.

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PATYI BALÁZS –PATAKI LÁSZLÓ: EXAMINATION OF FINANCIAL TYPE PHENOMENAS OF DOMESTIC VEHICLE MANUFACTURING COMPANIES

[1]University of Sopron, Alexandre Lamfalussy Faculty of Economics, Patyi.Balazs@phd.uni-sopron.hu
[2]Hungarian University of Agricultural and Life Sciences, Faculty of Economics and Social Sciences, Pataki.Laszlo.Zsolt@uni-mate.hu

Abstract: In Hungary, large automotive companies play a significant role in the functioning of the economy and employment. Due to the events of recent years, the automotive industry is in a difficult situation and the profitability of many companies has deteriorated. Our research is based on database analysis, which aims to answer the following questions: How did the profitability of businesses develop? Are there any warning signs of a possible future financial crisis in the functioning and indicators of companies? What correlations can be found between the individual parameters reflecting the business situation on the basis of the available data? In our research we demonstrate the importance of the Hungarian automotive industry and we analyse the companies in the industry under investigation by using the balance sheet and profit and loss account datas. The results of our research help to highlight the importance of continuous analysis.
Keywords: automotive, financial analysis, profitability

1. INTRODUCTION

In addition to examining the global situation of the economy, it is essential to regularly analysethe economic situation of smaller territorial units, regions and sectors. (Fenyves et al. 2019)

In the first stage of our research, we would like to present in detail the characteristics of domestic vehicle manufacturing companies and the major changes that have taken place in the sector.

1.1. Characteristics of vehicle manufacturing

In Hungary, manufacturing industry makes up a significant part of industrial production, nearly 96 percent. Within the manufacturing sector, the automotive industry is the most weighted. This is illustrated in figure 1.

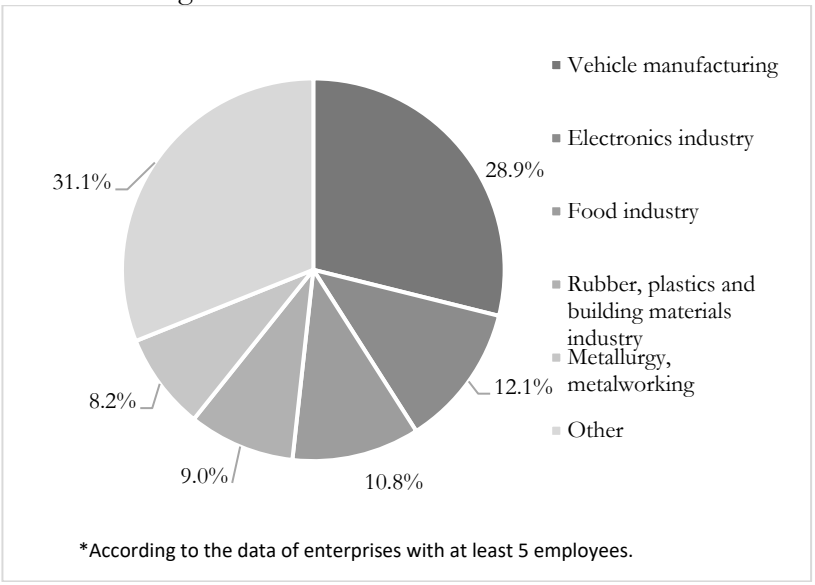


Figure 1: Distribution of industrial production value by industry groups*, 2019

Source: Central Statistical Office (KSH, 2020): Magyarország 2019

As vehicle manufacturing presents a significant value in the manufacturing sector, the change in industrial production is mainly related to vehicle production and has a major impact on GDP.

Due to the high economic weight of the automotive sector, it also plays an important role in employment. Figure 2 illustrates

employment data. The datas in Figure 2 show that the number of employees has decreased as a result of the 2008 economic crisis, but from 2010 the sector employs more and more people every year. On the basis of the increase in employment data, Hungary remains one of the main targets for capacity expansion (Molnár et al. 2020). The impact of the COVID epidemic, that outbreak in 2019 can already be seen in the number of people employed in 2020, as the number of people employed in the automotive industry decreased by 3.69% compared to the previous year.

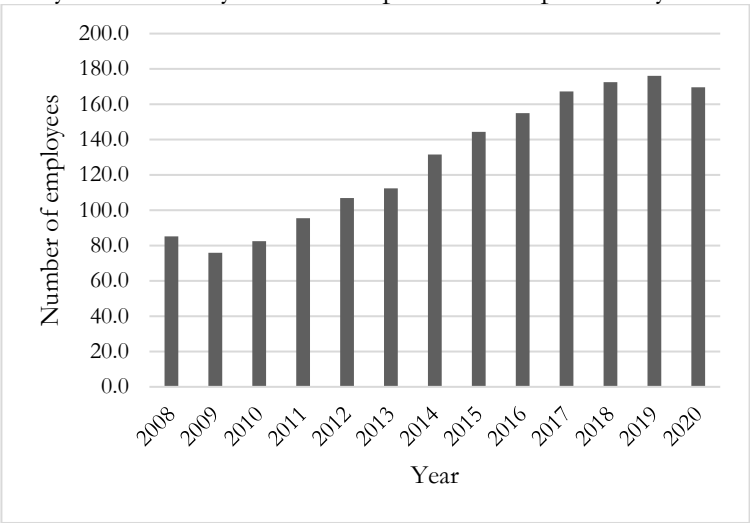


Figure 2: Number of employees in vehicle manufacturing (thousand persons)

Source: Central Statistical Office (KSH, a): A foglalkoztatottak száma a feldolgozóipari ágazatok szerint

In addition to the number of employees, it is also important to examine how production volumes have changed in the automotive industry. Data for this are given in Table 1.

Table 1: Change in production volume of vehicle manufacturing (%, previous year=100%)

Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Change in production volume	100,8	70,6	118,1	112,2	107,8	118,2	120,7	116	100,6	101,8	99,8	110,3

Source: Central Statistical Office (KSH, b): Az ipari termelés volumenindexei alágak szerint

The data in Table 1 show a similar change to the employment data in Figure 2. The impact of the 2008 economic crisis is clearly visible. From 2010 onwards, production volumes are higher almost every year compared to the previous period, which is a good indication for businesses in the industry. However, it is important to note that the increase in production volume does not in itself mean that companies have been able to make a bigger profit. This is also confirmed later in our research results.

Large vehicle manufacturing companies (e.g. Audi) have set up a number of assembly plants in the area. There are many advantages to this. The advantages include the fact that these assembly plants create a lot of jobs and their advantages do not negligible from the point of view of the economy. Molnár (2012), on the other hand, refers to the established dependency as a disadvantage, which makes the region more likely to be the eastern part of germany's automotive district.

Several factors influenced the establishment of foreign multinational companies in Hungary. Füzi and his co-authors (2012) detail these decision factors. Such factors include , for example, the consideration of the real and human areas of the region, but various objective and subjective factors also play a role. The authors also describe the enormous influence of the state lobby.

The cheap labor market, relatively cheap industrial areas and favorable taxation also contributed to the establishment of subsidiaries in Hungary. The region still has a cost and competitive

advantage, but in recent years its scale has decreased globally (Rechnitzer et al. 2017).
Vehicle production is also characterised by a capital-intensive industry where innovation plays a key role. Capital requirements show that there are relatively small number of companies in this sector and they have relatively high market power. The consequence of this is that smaller companies in the automotive sector are more easily eliminated and become the target of mergers and acquisitions (Molnár, 2009).

1.2. Changes in vehicle manufacturing

The automotive industry and vehicle manufacturing have faced many challenges and difficulties in recent times. Józsa (2016) has gathered the challenges faced by domestic automotive businesses. Challenges include acquiring and retaining skilled workers, increasing recruitment areas and the associated increase in access and transport costs.
The global economic crisis of 2008 had a major impact on the European region and thus on Hungarian vehicle companies. Pál and his co-authors (2011) describe how the downturn as a result of the crisis primarily affected developed countries. In addition to automotive production, demand has also fallen, making vehicle companies particularly vulnerable to the crisis.
Following the 2008 economic crisis, there was a significant restructuring within the manufacturing sector, which had a particular impact on vehicle production. The number of employees in vehicle companies has increased and labour productivity has improved (Nagy - Lengyel, 2016).
Businesses can respond more easily to these changes if, for example, they have an appropriate business model or controlling processes. Companies should strive to develop a business model that suits their business, as this is key to their competitiveness. Account should be taken of internal characteristics, external

opportunities and hazards, as well as strengths and weaknesses in the design of this (Elijah et al. 2017). Controlling also plays a prominent role in the life of businesses in financial analysis. In addition to analysing factual datas, planning is also important, as plan-fact mismatch analyses help to increase corporate efficiency and prepare decisions (Pataki – Gyurcsik, 2017).
Introducing the main features of vehicle manufacturing and the changes that have taken place in the industry, we would like to presenting the methodology of our research.

2. MATERIAL AND METHODS

Our research is based on database analysis. The database includes all active Hungarian companies operating between 2008 and 2019 and based on their main field of activity, belonged to the TEÁOR 29 road vehicle manufacturing sector. A total of 196 companies met these conditions. The time horizon of the study covers 12 years. The calculations were based on the balance sheet and profit and loss account datas of the companies concerned. The calculations were done in two ways. On the one hand, we examined the profitability, liquidity and capital structure of the sector on the basis of aggregate balance sheet and profit and loss account datas. On the other hand, based on the data of all companies, we performed an SPSS calculation to show the relationship between certain parameters reflecting the business. Based on the results obtained in the calculations, we have drawn our conclusions on the examined industry.

3. RESULTS

We started the examination of the database with the development of net sales income, since income is the basis for profitable operation. Figure 3 shows the evolution of aggregate net sales income over the period considered.

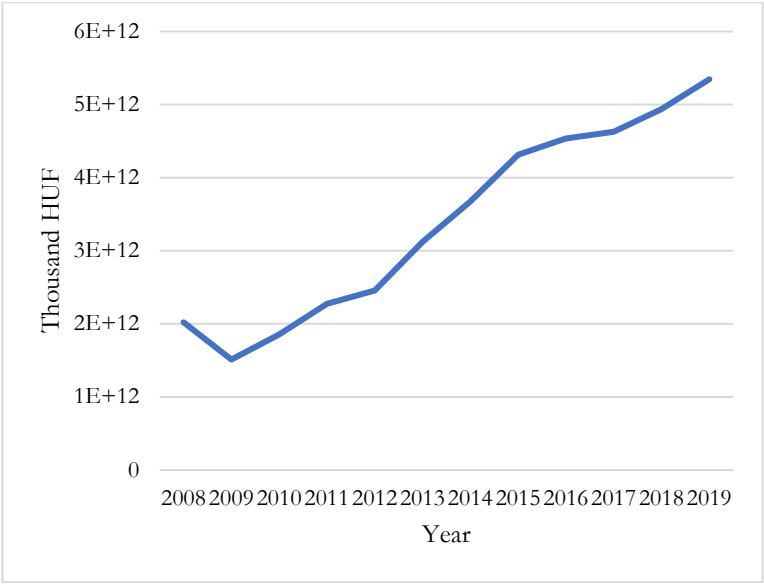


Figure 3: Aggregate net sales income of the companies in the database (Thousand HUF)

Source: Own editing on the basis of aggregated profit and loss account datas of the companies in the examined sample.

In addition, we examined the evolution of data from all companies. Data for this are shown in Figure 4.

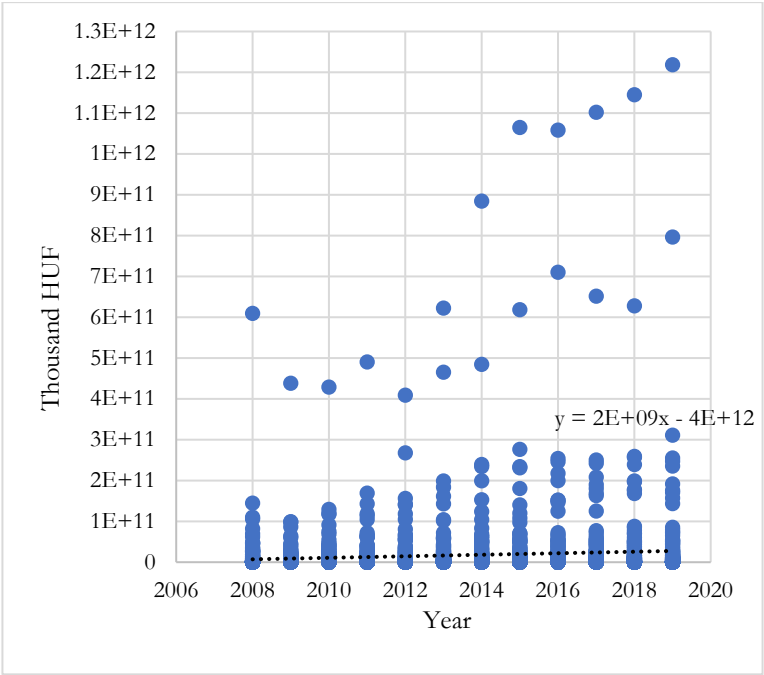


Figure 4: Distribution of net sales income of the companies in the database (Thousand HUF)

Source: Own editing on the basis of profit and loss account datas of the companies in the examined sample.

On the basis of the two figures, it can be said that the companies increased their net sales income throughout the period considered, with a derepeaking from the short period following the 2008 economic crisis. Based on these, it could even be said that companies are financially successful, but that revenue growth alone does not equal to profitable operations. We also prove this point by calculating aggregate profitability rates and SPSS calculations. The results of the profitability are shown in Table 2.

Table 2: Profitability examination of the companies in the database (%)

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Operating profit rate	0,99	1,55	3,25	3,70	2,71	3,81	3,90	3,95	3,79	3,59	3,12	2,40
Net profit rate	0,22	0,64	2,25	2,57	2,15	2,94	3,03	3,38	3,15	3,28	2,64	2,14
ROA	0,43	0,88	3,46	3,95	3,40	5,15	5,61	6,72	6,27	5,91	4,53	3,57
ROE	0,94	1,93	7,98	11,41	9,46	12,85	13,45	16,39	13,58	12,82	9,86	7,14
ROI	0,88	1,82	7,18	7,94	6,32	9,81	10,88	13,68	13,01	12,02	9,24	7,02

Source: Own calculation and editing on the basis of aggregated balance sheet and profit and loss account datas of the companies in the examined sample.

The profitability of the investigated companies is basically favourable, as they were able to achieve a positive result each year during the examined period. The operating profit rate shows the percentage of net sales revenue from operating profit. The net profit rate compares the profit after tax to the net sales income. The ROA, ROE and ROI return indicators compare the size of assets, equity and fixed assets to the profit after tax. Looking not only at the situation in the automotive industry, but also globally on the situation of SMEs, the impact of the financial crisis that erupted in 2007-2008 is reflected in the figures. (Baranyi A. 2018) It is problematic that the value of the profitability indicators is only a few percent, so that a small amount of income is realised as a profit. The development of profitability rates also shows the impact of the 2008 economic crisis on low values. However, from 2009 onwards, net sales income increased each year, yet the profitability rates did not follow this trend. Profitability declined in 2012 and every year from 2016 compared to the previous year. This has already partially confirmed our hypothesis that revenue growth alone does not equat to profitable operations. For further verification, a correlation was made between the evolution of net sales income and net profit rate values. The results are shown in Figure 5.

Figure 5: Correlation between net sales income and profitability

Correlations			
		Net sales income	Net profit rate
Net sales income	Pearson Correlation	1	0,008
	Sig. (2-tailed)		0,699
	N	2297	2297
Net profit rate	Pearson Correlation	0,008	1
	Sig. (2-tailed)	0,699	
	N	2297	2297

Source: SPSS calculation, based on balance sheet and profit and loss account datas of the companies in the sample, own calculation.

The correlation investigation also reflected the result we assumed that higher net sales incomes were not the same as profitable operations. There is no significant relationship between the two factors examined and the strength of the relationship is also minimal. Profitability is also affected by a number of other factors, such as the evolution of fixed and variable costs for the company. We continued to examine the database with the liquidity of the companies. The results obtained are shown in Table 3.

Table 3: Analysis of the liquidity of the companies in the database

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Liquidity rate I	0,09	0,22	0,16	0,16	0,18	0,18	0,19	0,14	0,15	0,22	0,18	0,22
Liquidity rate II	0,87	1,11	1,12	0,92	0,79	0,86	0,88	0,77	0,90	0,92	0,80	0,88
Liquidity rate III	1,29	1,47	1,52	1,30	1,15	1,24	1,26	1,12	1,30	1,38	1,24	1,32

Source: Own calculation and editing on the basis of aggregated balance sheet and profit and loss account datas of the examined companies.

The liquidity ratio shows how well a company is able to meet any payment obligations. Of the three categories of liquidity, the problem is with the liquidity I values. As immediate liquidity is too low, it is difficult or impossible for companies to offset a short-term liability from funds. Nevertheless, it can be considered positive that there is a fundamentally increasing trend in values. The liquidity rate II examines the combined ratio of liquid current assets and receivables compared to short-term liabilities. The liquidity rate III refers to the ratio of current assets to current liabilities. For the rates II and III of liquidity, the values obtained can be considered favourable.

The last element of our research is the examination of the capital structure. The results obtained are shown in Table 4.

Table 4: Examination of the capital structure of the companies in the database

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Ownership rate	0,46	0,46	0,43	0,35	0,36	0,40	0,42	0,41	0,46	0,46	0,46	0,50
Indebtedness rate	5,03	3,38	2,54	1,70	2,29	2,71	3,16	5,64	6,07	4,20	6,28	7,55
Equity intensity	0,49	0,49	0,46	0,37	0,39	0,43	0,45	0,44	0,50	0,50	0,49	0,54
Foreign capital intensity	0,51	0,51	0,54	0,63	0,61	0,57	0,55	0,56	0,50	0,50	0,51	0,46
Equity-to-foreign capital rate	0,96	0,95	0,85	0,59	0,65	0,77	0,83	0,79	1,00	0,98	0,98	1,18

Source: Own calculation and editing on the basis of aggregated balance sheet and profit and loss account datas of the examined companies.

The ownership ratio shows the equity ratio relative to total resources. This value is very low in 2011 and 2012. In the other examined years, the indicator was a little below 50%. Basically, after the low point in 2012, the rate increased to 50% by 2019, which is a positive change. We also looked at the indebtedness rate. The indicator compares equity to long-term liabilities, with higher values favourable. Fortunately, this indicator has a greater value

than one each year. 2011-2012 was also the worst in terms of indebtedness, but the subsequent growth is a positive indicator for companies. Finally, we examined the ratio between equity and foreign capital. The equity intensity measures the ratio of equity to foreign capital, and the foreign capital intensity measures it in the reverse. It follows that the sum of the two indicators is always 1. The equity-to- foreign capital rate measures the equity intensity to the foreign capital intensity. If the equity intensity is higher, then the values are above 1. In most years of the examined sample, the share of equity did not go higher than the proportion of foreign capital. The lowest values here were in 2012 and 2013. In the subsequent period, the share of equity increased in relation to foreign capital and in 2019 it was already higher than the value of the foreign capital. Businesses need to pay attention to the ratio of foreign capital to equity, since the excessively high foreign capital ratio is unfavourable.
In the following we summarise the results obtained and draw the main conclusions of our research.

4. CONCLUSION

In our research, we examined the hungarian vehicle manufacturing companies with the help of long time series database analysis. The main results of our research are the follows:
Apart from the 2008 economic crisis and the short period that followed, the examined companies were able to increase net sales income each year. However, this trend cannot be observed in the profitability indicators. Our investigation has shown that there is no significant relationship between profitability and net sales income. It is not enough for companies to increase revenue, as a number of other factors influence profitability. Such factors are the operating costs, fixed and variable costs and staff expenses.
In terms of liquidity, the level of immediate liquidity is low. Due to low liquidity, companies may not be able to pay an unexpected

expenditure immediately. Persistently low liquidity can easily lead to insolvency, which can lead to the termination of the companies. Businesses should increase the size of the funds, thereby improving immediate liquidity. A solution to increase funds may be to make customer advances or sell essential property, equipment or motor vehicles.

In December 2019, the Covid virus began to spread, causing an economic downturn and also affecting the automotive industry. This causes a decrease in net sales income of the enterprises, which may also result decrease in the relatively low profitability indicators so far. Declining income, declining profitability and low liquidity are factors that serve as a signal to businesses. Another problem is that the share of ownership of the investigated companies is just over 50%.

Overall, in our research, we wanted to draw attention to the characteristics of vehicle manufacturing companies operating in Hungary, to the major changes in the sector and potential dangers. Although the Covid epidemic has affected a prosperous sector, the results of our financial analysis and the various indications and conclusions drawn from the analysis should not be ignored. We hope that the results of our research help highlight the importance of continuous analysis.

5. ACKNOWLEDGEMENTS

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PÓCSIK ORSOLYA:
HOW SHOULD HUNGARY JOIN TO EUROZONE?

[1]PhD student, Institute of Sustainable Development and Management / Hungarian University of Agriculture and Life Sciences (formerly: Szent Istvan University), Gödöllő Campus, Doctoral School of Management and Regional Sciences
e-mail: Pocsik.Orsolya@phd.uni-szie.hu, orsolya.pocsik@gmail.com

ABSTRACT:
Aim of the research has reflected the euro adoption in Hungary. After the COVID-19 pandemic, it will be much harder to change the Hungarian forint. While, Hungary is part to Eurozone and not, because the firms, the government and the people use the euro, but legal currency of the country is the Hungarian forint. Hungary is ready to adopt the euro; the Hungarian government has prepared documents to adoption of the currency. I would like to make additional political economy analysis.
The author has a constant and strong substance that Hungary has used and it could adopt the euro. It has a key economic influencing economic performance. Furthermore, the way(s) and route(s) are being simply to adopt the euro and Hungary will be the member to the Eurozone. Hungary will be able to break out from the middle-income trap with the adoption.

Key words (max. 5): euro, adoption, CEE, Optimum Currency Area, forint

1. INTRODUCTION:

The global crises of 2008 are forced series of rapid economic policy decisions and rapid adoption of the economic environment. There was need to respond to exchange rate fluctuations in stable currencies, investors were uncertain and other macro- and micro-level changes led to transformations of the European institutional system in the crisis. The Hungarian currency has been floating

freely since 2008, which is gradually losing value. The Hungarian government has not switched to peg the currency to the euro.
Hungary missed the opportunity to join to Euro Area before the financial crisis in 2008. That was an important decision when the Hungarian government stopped communicating about the adoption of euro and its accession to the Euro Area. This was the key point in Hungarian economic policy where the Hungarian government and The Central Bank of Hungary (MNB) decided that both of them have not political will and they postponed the adoption and joining data for a later date. After 2010, the macroeconomic indicators and export performance improved, but at that time the forint started to weaken visibly against the euro (one euro was HUF 361at the time of the paper writing), which is still going on.

2. MATERIAL AND METHODS:

3.

The author applied EC, World Bank, Eurostat, S&P Sovereign Rating List, Eurobarometer database and reports for her research, which are based on some of the most important parameters of the Hungarian national economy between 2010 and 2020, supplementing and comparing it with relevant data from last period of Central and Eastern European economies. Through the analysis of the author's macroeconomic indicators, the author tried to give an objective picture of the situation in Hungary, so that the adoption of the euro as an economic process can be interpreted. The author has tried to use several domestic and foreign literature sources what published in recent years. Some of the published data are reinterpretations of the study previously published with her co-authors. As economists, the author tried to form a professionally grounded opinion in the framework of this study, which is based on an analysis of the facts.

4. RESULTS AND DICUSSIONS:

As far as we know, the weakening of currency investors and speculators tied up reluctantly their money. The population would be better with a currency which no conversation costs are to be expected. If we remember well, more than one decade Euro Area countries had been a major sovereign debt crisis. After 2010, the Hungarian economic policy became intersperse with unorthodox tools. After 2012, the Hungarian economy stabilized with the help of the European Union.

Another way of looking at this question is to half of the performance of the Hungarian economy is provided by foreign-owned companies, the most of the Hungarian workplaces are wedged into international value chains, which are predominantly European, so these has managed in euro. My own point of view is that domestic companies also use a common currency when renting real estate and the suppliers invoice in euro in many cases. The majority of corporate loans and deposits are denominated in euro. The Hungarian government also pays contributions in euro to the European Union. The EU transfer(s) of four to five percent of gross national product will be transferred to the Hungarian government in euro. (Bod, 2019)

Over the past six years, the budget deficits and inflation rates are most at record lows, and the unemployment rate decreased significantly (from 11.2 percent in 2010 to 3.7 percent by the end of 2018). The inflation- up to a certain level- is not necessarily and it doesn't negative for all states, e.g. it redirects the resources from savers to lenders and if the nominal wages increase, it will be beneficial effect on consumption. (Kozák – Neszmélyi, 2018).

In my opinion the exporters are helped by the weak forint, which large percent of foreign-owned multinationals companies compose. Thus, the capital does not remain in the area, but it flows out of the country. For the above reasons, the domestic currency is much more vulnerable than the single European currency.

Furthermore, when the Brexit established, the German- French axis was strengthened. Thus, the political decision-making also shifted towards the two-speed European Union. If these two countries are the core countries, in this case Hungary belong to the outsiders. Strongly dependent on the core country with Germany, where the economy is strong and stable and the euro is the currency. Among the countries in the region, Romania, Bulgaria and Croatia have decided to join to the Euro Area (Table 1) and these have target data for adoption. The target data are 2023 for Croatia, 2024 for Romania and 2023 for Bulgaria. Those are true for the countries those the business sector still handles some of them transactions in euro for remain outside companies. There are three countries in the Visegrad 4 group which have agreed to join to the Eurozone to adopt the euro, but there are no political will behind the decisions.

Table1: The European Commission's official view on non-EA members

State	**Czechia**	**Hungary**	**Poland**
Status	EU member since 2004 and is currently preparing to adopt the euro. The Czech koruna has not yet joined ERMII	EU member since and is currently preparing to adopt the euro. The forint is not yet within ERM II	EU member since 2004 and is currently preparing to adopt the euro. The zloty is not yet within ERM II
Adoption of the euro	Does not have a target date to adopt the euro.	Does not have a target date to adopt the euro.	Does not have a target date to adopt the euro, aims to do so as

			soon as possible. Adopting the euro is one of the priorities of the Polish government.
Exchange rate	floating	floating	floating

Source: Bod et. al. 2021 2-3p. (EC (2020))

Table2: The European Commission's official view on non-EA members (2nd part)

State	**Romania**	**Bulgaria**	**Croatia**
Status	EU member since 2007 and has committed to adopt the euro once it fulfils the necessary conditions. The leu has not yet joined ERM II.	EU member since 2007. The lev is part of ERM II since 10 July 2020.	EU member since 2013. The kuna is part of ERM II since 10 July 2020.
Adoption of the euro	Romania has set 2024 as its target to adopt the euro.	It must participate in ERM II without severe tensions and without	It must participate in ERM II without severe tensions and without

		devaluing its central rate against the euro for at least two years.	devaluing its central rate against the euro for at least two years.
Exchange rate	floating	The lev observes a central rate of 1.95583 to the euro. Committed unilaterally to continue its currency board arrangement within the ERM II.	The kuna observes a central rate of 7.53450 to the euro with a standard fluctuation band of ±15%.

Source: Bod et. al. 2021 2-3p. (EC (2020))

I'd like to mention about our paper, (Bod et. al.) where we established subgroups for: one for (a) states with target date or strong official commitment to enter Euro Area (Bulgaria, Croatia, Romania), and second subgroup (b) states without official target date: Czechia, Hungary Poland. Difference between (a) and (b) that (a) states preparing to adopt euro, (b) states miss the political will. Furthermore, (b) states have "floating exchange rate", with is the monetary policy practice in small open economy.

During the recent years of the economic crisis (2008 – 2012) Slovakia has an unique one; it cannot be compared to any other V4 country. Slovakia was the only one in which the regional differences grew further in that years. Through the years of the

crisis the annual growth rate of the regional differences in Slovakia was higher than the average in the V4 group and the EU members. (Neszmélyi- Lampertné Akocsi- Bruder, 2016)

Table 3: Behind Macro economical (real convergence) data

	2020	**2021e**	**2022e**	**2023e**
Inflation (%)	3.3	3.8-3.9	2.9-3.0	3.0
GDP (%)	-5.0	4.0-6.0	5.0-6.0	3.5
Unemployment rate	4.1	4.2-5.0	3.6-4.0	3.4-3.5
Labour productivity	-2.8	4.1-5.1	4.2-4.7	3.0-3.2
Current account balance	0.1	0.5-0.6	1.2-1.3	1.9-2.0

Source: MNB, 2021

The forint depreciated slightly more than the regional currencies by 4.8 percent against the euro. In the region the Polish zloty moved closely with Hungarian forint and it weakened by 4.4 percent during the period, while the Czeh koruna strengthened by 0.7 percent (Figure 1). By the end of December, forint and the zloty weakened by 3-3.5 percent, while the Czeh koruna essentially unchanged against the euro. Subsequently, the regional currencies strengthened in parallel with the improving international mood, but these weakened again in the second half of the period and these depreciated overall during the quarter with the exception of the Czeh koruna. The forint depreciated by 6 percent against the dollar, while the zloty weakened by 6.3 percent among the regional currencies, while the Czeh koruna depreciated by smaller rate, 1 percent. (MNB, 2021 62 p.)
There is more detailed figure when take a look for the (Figure 2).

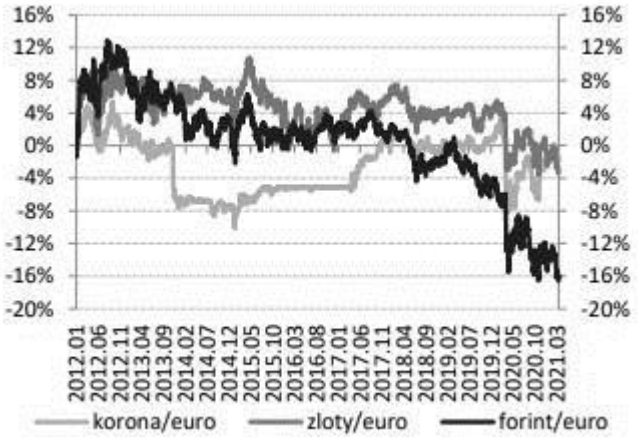


Figure 1: Development of regional exchange rates:
Source: MNB, 2021 Bloomberg (2021)

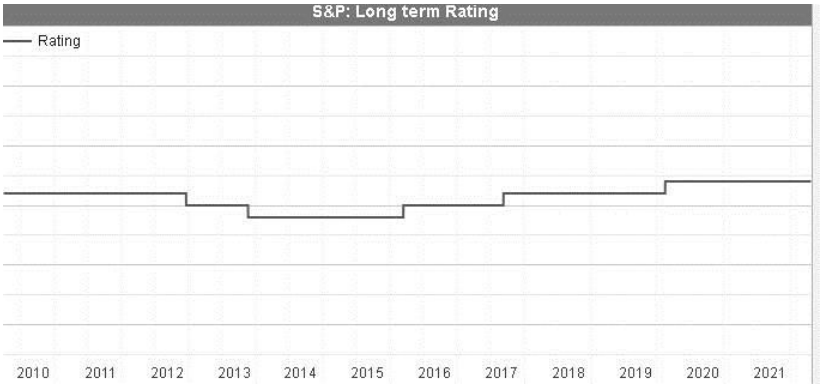


Figure 2: Hungarian Sovereign Rating

Notes: Lower medium grade: BBB (March 30 2009), BBB- on Sept. 16 2016 BBB Stable (Febr. 15 2019)(13 Feb. 2020); Non- investment grade speculative: BB+ (Dec. 21 2011), BB (Marc. 20 2013), BB+ (Marc. 20 2015)
Source: S and P sovereign country rating
(https://countryeconomy.com/ratings/hungary)

Another way of looking at this question is to Hungary is small open economy, in that way the outside facts are more important than the inside ones. The evaluation of COVID- 19 pandemic crisis is determining to the international economic background further. The second waves of the crisis had been weakens economic effects, than it had been expected by the society. The third waves of the crisis had determination to emergence deterioration of the economic outlooks. The growth of Hungarian foreign markets was above expectations overall, in the fourth quarter of 2020. The industrial production was favourable, while the performance of the service sector exposed better to the effects of the epidemic remained subdued.

The slowdown in economic activity was observed at the international level in early 2021, what based on real-time indicators. Currently, maintaining or possible tightening of epidemiological restrictions are protected to delay the forward economic recovery. Expectations remain uncertain regarding the future performance of Hungarian trading partners. (MNB, 2021)

I agree that (Bod, 2019) interpretation of the usual economic-financial arguments normally put forward against the abandonment of floating national currencies (what based on Rudi Dorbish, 2001). These include: (1) the loss of monetary sovereignty; (2) to concede the seigniorage (the benefit of the chamber); (3) independent monetary policy autonomy should be abolished (interest rate regulation); (4) the central bank cannot act as a final refuge against troubled domestic banks. (5) The explanation of the concept of fiscal preparedness is that refers to the budgetary readiness of the government; which otherwise may be called as budgetary room for manoeuvre (financial autonomy) or the state of public finances. (Bod, 2019) In other additional point could be: how can respond the society (Table 3)

Table 4: For and against of euro adoption

	2006		2010		2015		2020 (May-June) /C:2018/	
	For	**Against**	**For**	**Against**	**For**	**Against**	**For**	**Against**
Hungary								
A	44.3	39.9	36.1	59.4	30.0	63.0	36.0	57.0
B	49.5	34.9	37.5	56.6	26.0	70.0	34.0	63.0
C			83.0	7.0	54.0	36.0	52.0	37.0

Source: Part of Bod et. al. 2021 p. (A-B Flash Eurobarometer No. 191, No. 307, No. 418, No. 487; AHK 2018, 2015, 2010.)

4.1. **Maastricht criteria nowadays**

I agree that statement, (Mundell, 1973a) what highlighted the fact that the costs of common currencies in terms of lost monetary sovereignty are offset by gains in terms of more efficient portfolio insurance due to greater diversification, and of reserve pooling. For this change of attitude, which led him to support? A Plan for a European Currency (Mundell, 1973b), he would be the creator of the idea of European monetary integration. (Masini, 2014)
Hungary has got three 'no answers (Table 4). These are the price stability, the sustainable public finances, and the exchange rate stability. These Criteria are must, so Hungary is not able to adoption euro.

Table 5: Maastricht criteria nowadays and it's satisfying in case of Hungary

Criterion:	**Target:**	**Hungary:**	**Satisfying or not?**
Price Stability×	<1,8%	3,70%	No

Convergence of interest××	<2,9°%	2,37%	Yes
Restoring Budget	<3%	2,30%	Yes
Sustainable public finances	<60%	66,30%	Yes or No
Exchange rate stability	2 years – ERM- II	Floating exchange rate	No

×Average monthly value of harmonized index of consumer prices on an annual basis between April of 2019 and March of 2020
×× 10 years sovereign debt average returns between March of 2019 and 2020
Source: Pócsik, 2020 536 p. In: MNB, Portfolió, 2019, data source

I wrote in my previous study (Pócsik, 2020) the steps and possible scenarios of the adoption of the euro. The study contained three tree possible ways, what was accepted by the Leaders' The Central Bank of Hungary and these are relying on foreign experiences. If the candidate state has option for the one –way introduction, the euro banknotes and coins will become legal tender on the day of adoption and the money will become the euro**.** The Central Bank of Hungary (MNB) considered this decision probable. The other options are two-way adoption, which is accompanied by transition period, with one-way transition with a phasing-out period. That last option helps for whose join later. (Pócsik, 2020) As a researcher, I would choose the first and the third solutions for loss of the their own currency, to adopt the common currency, which is also an entrance in the common political union.
Common monetary union forms a safety net for member states. The adoption of the single currency will avoid fluctuating, floating exchange rate. There are no conversions, transaction costs; there is no point in thinking about currency speculation. Prices and the

wages can easily be compared to each other in the zone. (Pócsik, 2020)

Table 6: Advantage and disadvantage of euro adoption

Pros of euro adoption in Hungary	**Cons of euro adoption in Hungary**
Higher predictability, it has not been exchange - rate risk and transaction costs, etc.	The country must have been given up its own monetary policy (apart of its own sovereignty).
The international confidence is becoming stronger, what bring new investments.	The prices will be increase after the adoption; this would cause higher inflation temporarily.
Exchange rate system could have been finished, what was being floated till 2008. (It was fix exchange rate system between 1990 and 1993; it was crawling peg regime between 1994-2007.)	The sum of prices paid into forints (wages; cost of energy, taxes, etc.) is not deteriorating, but in this fact that the exporters could increased their competitiveness or the exporter could have eliminated in a market.

Source: Pócsik, 2020, 537 p.

We will stay at the margin of Europe without the euro and without entering to the Eurozone.(Table 5) The adoption of the euro had be made commitment by Hungary upon accession (unfortunately the deadline was not set). But the way and the mode are simple. The government and The Central Bank of Hungary **(**MNB) also have an idea and a plan, but Hungarian government and the Leader of The Central Bank of Hungary do not want to adoption the euro for number of economic policy reason. There are scenarios for the adoption of the euro in Hungary, but Hungary did not start the process. The improvement of competitiveness, convergence of

macroeconomic indicators would be the primary and main goal, and it would be the Hungarian path to adoption of the euro. (Pócsik, 2020)

Under the gold standard depression in one country would be transmitted, through the foreign-trade multiplier, to foreign countries. Similarly, under a common currency, depression in one region would be transmitted to other regions for precisely the same reasons. If the gold standard imposed a harsh discipline on the national economy and induced the transmission of economic fluctuations, then a common currency would be guilty of the same charges; interregional balance-of-payments problems are invisible, so to speak, precisely because there is no escape from the self-adjusting effects of interregional money flows. Today, if the case for flexible exchange rates is a strong one, (Table 6) it is, in logic, a case for flexible exchange rates based on regional currencies, not on national currencies. The optimum currency area is the region. (Mundell, 1961 5. p.) Their innovations improved the Optimum Currency Area criteria by adding trade openness (McKinnon 1963) and product diversification (Kenen, 1969) to those of wage flexibility and labour mobility (Mundell, 1961). The controversies are well-known and economically key phases: asymmetric shocks hit one or more countries in a potential monetary union, where no actual change in bilateral parities is allowed can be solved only by adjustments concerning factor prices or mobility and are better absorbed when well-diversified open economies are contained. (Masini, 2014)

Table 7: Resigned States for a specific purpose:

Era:	Activist (Monetary) autonomy:	Capital mobility:	Fixed exchange rate system:	Notes:
Gold standard:	Most	Few	Few	Broad consensus
Currency zones: In war (when off gold)	Few	Several	Most	Capital controls, especially in Central Europe, Latin America
Bretton Woods system	Few	Most	Few	Broad consensus
Floating Exchange Rate:	Few	Few	Many	Some consensus; except currency board, dollarizatio n etc.

Source: Obstfeld- Taylor (2002 p. 150)

In our previous study (Bod et. al., 2020), we pointed out through the example of Slovakia, the adoption should increase competitiveness, to make the convergence progress more successful, and to improve macroeconomic indicators. Adoption of the euro was the beneficiary of number of countries: Slovakia, Italy, Spain, and Portugal. These mentioned countries have exchanged their weakening currencies for the strong euro. Those of them governments have chosen a good economic policy tool.

Which happened that way: On 1 st of January, 1999, the currencies of the 11 member states of the euro area and the conversation rates between the euro and their own currency were fixed. The conversation rate was to EUR 1= FRF 6.55957, BEF 0.403399, DEM 1.95583, ESP 1.66386, PTE 2.00482, ATS 13.7603, NLG 2.20371, IEP 0.787564, LUF 0.403399, and ITL 1.993627. (Palánkai, 2001)

5. CONCLUSION:

I provide encompassed overview on possible advantage and disadvantages of adoption of euro in Hungary by analysing macroeconomic data and utilise results of previous research. In Hungary the adoption euro is evergreen topic, there is not a target date, but Hungarian society wants to join to Euro Area in the close future. As far as I am concerned the Hungarian currency is wakening, the Euro is remaining stable. I would like to underline that Hungarian economy would win from adoption the euro, and become member of Euro Area. Hungary will remain on the margin without membership of Euro Area, and without the single common currency. In any case, the adoption of the euro has been Hungarian commitment since Hungary has joined to the European Union. The exchange rate of Hungarian forint is constantly deteriorating. The advantage of increasing confidence in Hungary, both politically and inventory. It will be the biggest winners the citizen of the country, whose will earn more wages, pay less for goods in trade. The corporate and retail loans will be repayable faster and more predictable. More money should also realize on saving accounts. I will also strengthen the group of economist whose believe in the free float and the Hungarian Forint should pegging to the euro, in that case Hungarian government would be fix it.

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BENCE VÉGVÁRI - GÁBOR SZABÓ-SZENTGRÓTI – MARTIN GELENCSÉR
UNIVERSAL BASIC INCOME: EFFETCS ON INDIVIDUALS AND CHANGES SINCE THE PANDEMIC – A LITERATURE REVIEW

[1] Department of Leadership and Management, Institute of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Campus Kaposvár, e-mail: vegvaribence@gmail.com

[2] Department of Leadership and Management, Institute of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Campus Kaposvár, e-mail: szabo-szentgroti.gabor@unimate.hu

[3] Department of Leadership and Management, Institute of of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Campus Kaposvár, e-mail: gelencser.martin@phd.uniszie.hu

Abstract

According to Van Parijs, a basic income is an income paid by a political community to all its members on an individual basis, without means test or work requirement (Van Parijs, 2004). The growing case of automation, the continuous growth of the wealth gap and the severe economic effects of the COVID-19 pandemic shed some light on Universal Basic Income as a measure to replace existing social safety nets, and to ease the impact of the pandemic. The pandemic brought the question into the spotlight, with many countries showing willingness to test it or implement it in some form or another, to lighten the economic difficulties of COVID-19. With Brazil's „Emergency Basic Income", with Canada's four month „Canada Emergency Response Benefit", and Pope Francis

advocating Universal Basic Income in his Easter letter, the initiative has become more and more of a talking point globally. If implemented correctly, it could soften the impact of job losses suffered by workers, with providing a regular income in a time where job security is becoming increasingly worse.
Keywords: Universal Basic Income, education, health, inequality, poverty.

1. INTRODUCTION

Universal Basic Income has been in the limelight since the beginning of the COVID-19 pandemic. As many governments put different kinds of conditional or unconditional cash transfers into effect, interest regarding this quite controversial benefit system spiked, and calls for its testing, and implementation has been growing both from citizens and from politicians.

This literature review is aimed to provide an introduction into how Universal Basic Income and some other, similar benefit systems can affects individual recipients regarding education, physical and mental health, and poverty. In the first part of this paper the authors will draw conclusions from research papers addressing specific benefit programs, as well as from systematic reviews and meta-analyses, as well as take a peek at the effect that the COVID-19 pandemic had on the acceptance of UBI.

2. EFFECTS OF CASH TRANSFERS

In this chapter we will focus on different effects that Universal Basic Income or other cash transfer programs have had on individuals, in relation to education, poverty, and well-being. Maybe one of the most extensive publications is the World Bank's CCT (Conditional Cash Transfer) report, which analyzes consumption, employment, poverty, educational, behavioral, and health related impacts of conditional cash transfers (Fiszbein & Schady, 2009).

2.1 Effects on poverty and education

For poverty reduction and consumption, the report looks at the CCT programs of 7 countries: Brazil, Cambodia, Colombia, Ecuador, Honduras, Mexico, and Nicaragua. For poverty reduction, CCT's had no effect in Cambodia and Ecuador. In Nicaragua, the poverty gap decreased by 9-13 percentage points, and with 7 in Colombia. The CCT in place had only modest impact on reducing poverty in Honduras and Mexico.(Fiszbein & Schady, 2009) Positive effects on school attendance were also measured in different Latin American and Caribbean countries. The highest increases were measured in Nicaragua (12.8%), Ecuador (10.3%) and Mexico (8.7%) (Fiszbein & Schady, 2009). A comprehensive review by (Bastagli et al., 2016; Kőmüves & Berke, 2021) also supports the positive effects on school attendance and enrollment, with 13 of the 20 studies reviews reporting a significant impact regarding school attendance. Assessment of tribal dividends also showed an increase in participation in education. (R. K. Q. Akee et al., 2010) mentions that educational participation increased with up to a year among those who received payments.

One of the earliest UBI pilots took place in Namibia between January of 2008 until December of 2009. The project took place in areas with vast poverty. Report of the project by (Haarmann, 2009) shows great promise for unconditional cash transfers to fight poverty. The figure 1. shows the effect UBI had on reducing poverty in the area.

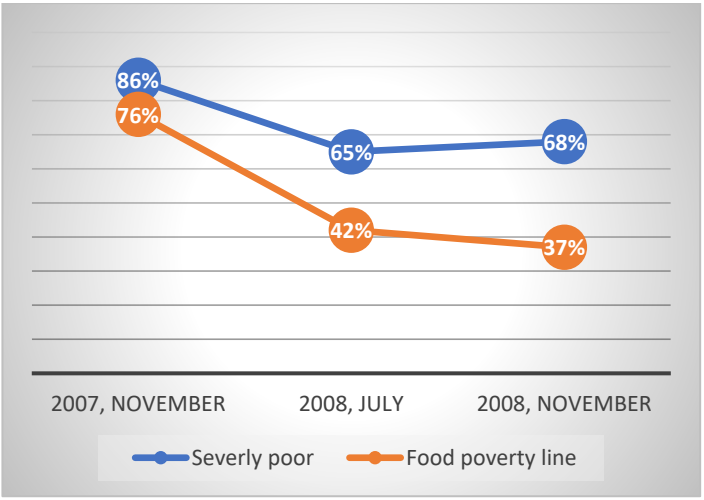


Figure 1. The effect of UBI on reducing poverty
Source: (Haarmann, 2009)

As the graph shows, UBI reduced severe poverty from 86 to 68% in only one year, and decreased food poverty from 76 to 37%.

Bastagli et al. (2016) also talks about the poverty reducing effects of CCTs. Out of the 9 studies analyzed by them, 6 indicates a significant effect in reducing poverty. Their summary also mentions that the most likely factor in the other examined cases for not having a poverty-reducing effect is the possibility that beneficiaries have not received a sufficient amount of cash, or they might not have received it for a long enough time to have a meaningful impact on poverty (Colombino, 2011). investigated the poverty reducing effect of Universal Basic Income versus other benefit measures in their sufficiency in reducing poverty through a microsimulation study. His findings indicate that UBI outranks other cash transfer measures when it comes to decreasing inequality and poverty.

2.2 Effects on health

The work of Gibson et al. (2020) summarizes many different aspects of health related changes in their work from a great number of cash transfer programs. Reports of tribal dividends show a variety of health-related benefits: a reduced probability of obesity, as well as a reduce in body-mass index (Akee et al., 2013), improved mental health, and increased accessibility to healthy food and physical activity. However, an increase in substance abuse were also reported (Kodish et al., 2016), which was also the case in the first few weeks after payment of the Alaskan Permanent Dividend (Watson et al., 2019).

Results from Canada's Mincome experiment in Manitoba also shows promise. (Forget, 2011) reports that hospital visits declined by 8.5%, and the decline was especially prominent for visits of mental health professionals, showing a positive result for both physical and mental health for the recipients.

3. COVID-19 AND UNIVERSAL BASIC INCOME

The COVID-19 pandemic had a widespread socioeconomic impact all around the globe. With the implemented changes to tame its spread, many people were affected, businesses had to cease operations, many people lost their jobs, inequalities grew, and poverty increased. Different governments choose different decrees to soften the economic impact of the pandemic, with these ranging from wage subsidies for businesses that kept their employees, one-time checks to individuals, without means testing in some cases, and only for those who lost their job in other. As the pandemic raged on, these measures also shed some light on Universal Basic Income, as an increasing number of people started to call for a non-temporary measure to counter the difficulties of the pandemic.

As the pandemic-related hardships escalated different temporary benefit systems were set in place, and as the pandemic raged on, the traction of UBI increased as well, but the idea already

came up at the beginning, on March 19, in the UK, where over 170 politicians wrote an open letter in support of a Universal Basic Income for the duration of the pandemic. (The Independent, 2020) Canada followed suit, and the proposal turned to reality, without the Universal part – the governemnt gave out extra benefits for 4 months, but only for those who lost their job in the pandemic. (Government of Canada, 2020) Brazil took it one step further, and impelemted an Emergency Basic Income, which were payed out to every citizen, with the individual amount being around 110 USD, half of the country's minimal wage (IDN 2020, BIEN 2020a, Kőmüves et al., 2021). The United States started its relief efforts with a check of 1200 USD during the Trump administration, with a coronavirus stimulus package being singed on March 27, 2020, with eligible individuals being those who earnd a maximum of 75.000 dollars in the year prior. This relief package – the CARES Act – contained other measures too – all of them aimed to soften the pandemic's devastating impact. These include a 600$/week unemployment benefit, mortgage moratorium, government lending to companies afflicted by the pandemic, small business loans, and additional healthcare spendings. Still, many people voiced there concerns about a one-time payment not being enough to offset the damages that millions have suffered from the pandemic, and congress members, alongside with many individuals supported the introduction of an emergency Basic Income scheme. (BIEN 2020b)

A study carried out by Nettle et al. (Nettle et al., 2020) investigated the difference between attitudes towards Universal Basic Income before and after the pandemic. Their results show that the socioeconomic difficulties of the pandemic increased support for UBI, with 16,04% - from 64,23% in the survey carried out before the pandemic, to 80,27% to the one carried out during it. Increasing was not the only change that they documented. They asked participants to rate the importance of different propositions

– some negative, some positive – related to UBI. They measured an increasing importance in positive factors, such as efficiency and simplicity to administer, and a reduction in stress and anxiety. Meanwhile, negative factors, such as UBI's labor reducing effects, and the fact that rich or undeserving individuals would also receive it became less important. Preference between conditional social safety measures and UBI has also shifted for the latter during the pandemic (Nettle et al., 2020)

Ling and Ho (Teck Ling & Chyong Ho, 2020) investigated how the pandemic changed the feasibility of Universal Basic Income in South Korea. They examined five different capabilities, and how they changed from before the pandemic to present times (Table 1.).

Table 1. Changing capabilities in the light of a pandemic

Score before COVID	**Type of Capability**	**Score after COVID**
Strongly positive	Technical Capability	Quite positive
Quite negative	Economic Capability	Quite negative
Negative	Social and Ethical Capability	Quite positive
Negative	Political Capability	Positive
Quite negative	Administrative Capability	Positive

Source: Teck Ling & Chyong Ho, 2020

The authors mention how advancements in online technologies made social support to be quick and easily accessible, both online and offline, with simple ID verification. For economic capability, they calculate the yearly amount for UBI to be 180 trillion won, which is close to the total amount spent on health, welfare, and employment, and they mention that the government had to increase debt to maintain payments during the pandemic. From a social viewpoint, they describe the country's labor market change during the pandemic. Around 200.000 jobs were lost, but

this loss came from decreasing demand - which was most likely a reason of lockdown measures – and not decreasing supply, meaning that the introduction of UBI did not result in a decreasing willingness to work. For the positive political capability, they mention the growing support for UBI, both from politicians, and from citizens. As for the administrative capability of the implementation, they mention how efficiently, and how fast the government managed to debate, implement, and dispense the funds in a time of crisis, showing that it is possible to implement a well working administration for UBI.

4. CONCLUSIONS

Universal Basic Income was always a quite controversial topic, and while the COVID-19 pandemic has increased support for this measure, or for similar programs aimed at reducing inequality and economic hardships, there's always room for debate regarding this topic. In our review, we examined UBI reports from the viewpoint of their possible effects regarding education, poverty, and health benefits. While UBI might not be the most efficient and suitable program to address the issues mentioned earlier, as the number of programs, experiments, and trials grow, we gain an ever-clearer insight into the feasibility of this idea. Evidence from earlier trials, and from other, different cash transfer policies show promise regarding the topics mentioned earlier.

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SECTION E: Marketing

BÍRÓ BÍBORKA ESZTER – BÍRÓ BORÓKA JÚLIA: THE ANALYSIS OF A LOCAL FOOD MARKETPLACE SYSTEM IN ROMANIA. BARRIERS AND OPPORTUNITIES DURING CORONAVIRUS PANDEMIC.

[1] Department of Business Sciences, Faculty of Economics and Human Sciences, Sapientia Hungarian University of Transylvania, Miercurea Ciuc
e-mail: birobiborka@uni.sapientia.ro
[2] Department of Mechanical Engineering, Faculty of Technical and Human Sciences, Sapientia Hungarian University of Transylvania, Târgu Mureș
e-mail: biro.boroka@ms.sapientia.ro

Abstract

The Romanian online food delivery market is continuously emerging. It is forecasted that the market is going to grow continuously and significantly in the next few years in the country. The size of the market is measured counting the value of products sold online by restaurants directly through their own website or application, as well as the total turnover conveyed by aggregators and from platform to consumer (platform-to-consumer or new delivery), i.e. the total Romanian online market in this industry. However, these values do not include the value of meals ordered over the phone, which represent a significant share in Romania. It is estimated that currently one of three orders in the Romanian food delivery market is made online and two by phone. This share is forecasted to shift during the upcoming years.

Keywords: online food delivery, marketplace, online marketing, coronavirus.

Introduction

Present study proposes to give a closer insight on the aspects of online food delivery services in Romania, analyzing the database of a local food marketplace system. We present the services system of an existing food marketplace, including the actors as well as the relations between them. We intend to define whether the national trends derived from the activities of the multinational food delivery companies present on the Romanian market apply for the local market or whether there are major differences.

The age distribution of users of online food marketplaces in Romania, according to statista.com, shows that the service is most popular among the 25-34 age group (31.2%), followed by the 35-44 age group (25.5%), then the 18-24 age group (18.5%). The service is slightly more popular among women (52.5%) than men (47.5%). According to capital.ro, the 25-34 age group is also the most active consumer category in the food delivery market. In terms of mid-year periods, the busiest are September 10-25 and December 1-21. Regarding the weekly distribution of orders, the busiest days are: Thursday, Friday and Saturday. The most popular time zones are 11.00-14.00 (lunch time) and 18.00-20.00 (dinner time). Regarding the value of orders, the average cart size is 60 lei countrywide: in Bucharest approx. 70 lei, 55 lei in Cluj-Napoca, 50 lei in Brasov. The most popular types of food in Romania in the online home delivery market are: Quattro Stagioni pizza, Carbonara pasta and beef soup.

Present study proposes to analyze barriers and opportunities that emerged related to the food delivery market as a consequence of

the appearance of the coronavirus and due to the various restrictions that were implemented in the country to stop the spread of the pandemic.

Material and Methods

Ospatarul.ro is a local food marketplace system present in four towns in the middle of Romania: Sfantu Gheorghe, Miercurea Ciuc, Targu Secuisesc, Covasna. We present the services system of ospatarul.ro marketplace, including the actors as well as the relations between them. We compare local patterns (data referring to Sfântu Gheorghe) to country patterns in order to define whether there are major differences or there are similar trends.

Results and Discussion

There are two basic business models in the online food delivery market: classic delivery and new delivery (McKinsey and Company, 2016). "Classic delivery" emerged 20 years ago and refers to the so-called "aggregators". They allow consumers to compare menus, read and post reviews, and place orders from a variety of partner restaurants with just a few clicks. They take orders from customers and mediate these orders to restaurants, which handle the delivery themselves. "New delivery" appeared in 2013. They allow consumers to compare menus, read and post reviews, and place orders from a variety of partner restaurants with just a few clicks. They build their own logistics networks, providing delivery for restaurants that don't have their own delivery possibilities.

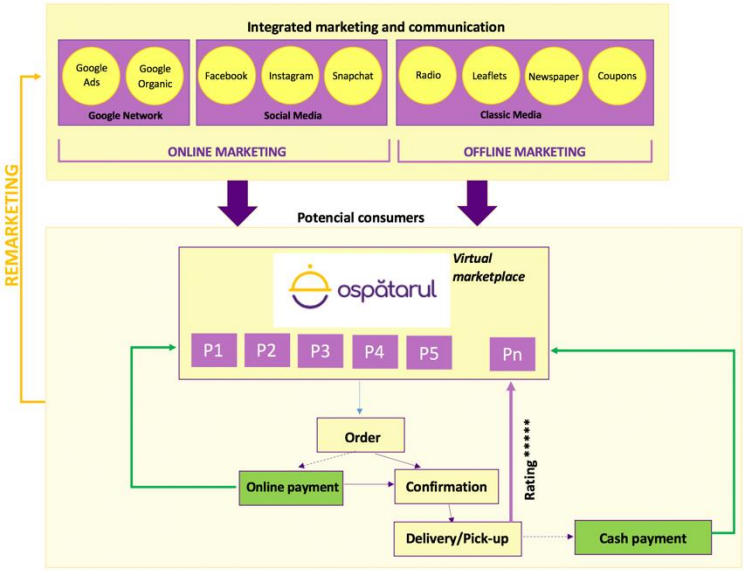


Figure 1: The operation process of ostpatarul.ro
Source: own edition

The operation process of ospatarul.ro (*Figure 1*) shows a classic delivery system approach.

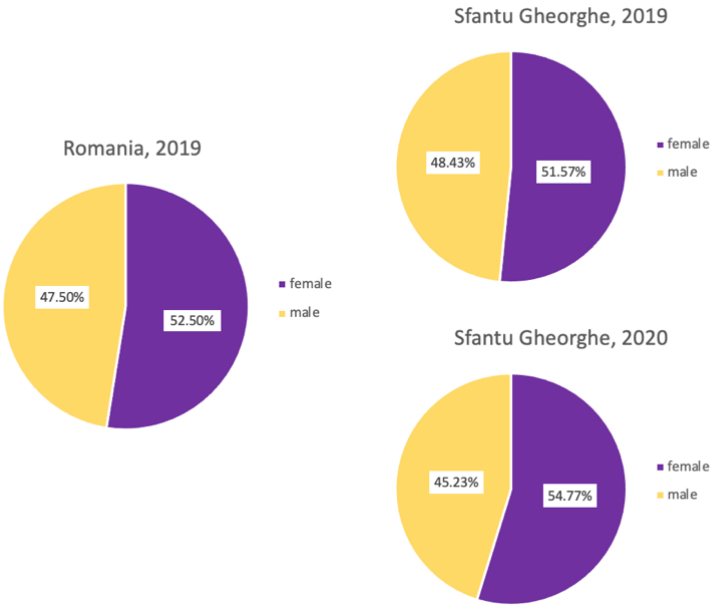


Figure 2: Gender distribution of users of online food marketplace systems
Source: Statista Global Consumer Survey, October 2019, Google Analytics, ospatarul.ro

Gender distribution of users of online food marketplace systems shows that female customers are predominant both on county level and on local level. (*Figure 2.*)



Figure 3: Users of online food marketplaces by age
Source: Statista Global Consumer Survey, October 2019, Google Analytics, ospatarul.ro

Age distribution of users of online food marketplace systems show that the 25-34 years age group is most active both on country and on local level. There is a growing potential in the total number of users as time passes by, because there is a relatively large share of users aged 18-24 years potentially followed by even a larger one as those under 18 now are entering the market during next years. Customers over 55 years are the less active age group. (*Figure 3.*)

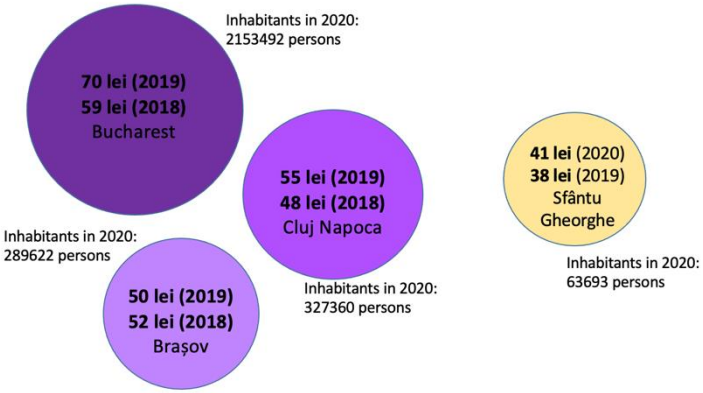


Figure 4: Average cart value
Source: capital.ro, Google Analytics, ospatarul.ro

Average cart values show that the larger the city (town), the larger the average cart value is. (*Figure 4.*) Bucharest, the capital city shows the largest average cart value, that of 70 lei (2019), Cluj Napoca 55 lei (2019), Brașov 50 lei (2019). Ospatarul database shows that the average cart value in Sfantu Gheorghe was 38 lei in 2019 and 41 lei in 2020.

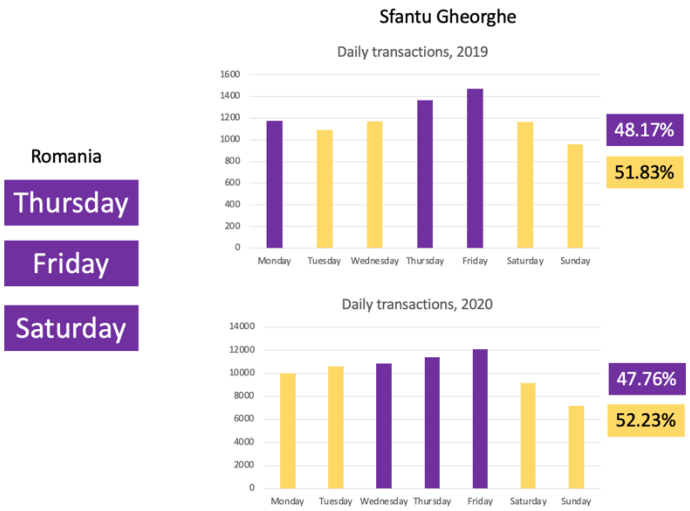


Figure 5: Most popular days of the week
Source: capital.ro, Google Analytics, ospatarul.ro

Analysing the most popular days of the week we conclude that on Romanian level: Thursday, Friday and Saturday were the most popular ones. Daily transactions in ospatarul database show that in 2019 Monday, Thursday, Friday, while in 2020 Wednesday, Thursday and Friday were the most popular ones. In 2019 in Sfantu Gheorghe 48.17% of orders were placed during the three most popular days, while 51.83% on the other four days of the week. In 2020 in Sfantu Gheorghe 47.76% of orders were placed during the three most popular days, while 52.23% on the other four days of the week. (*Figure 5.*)

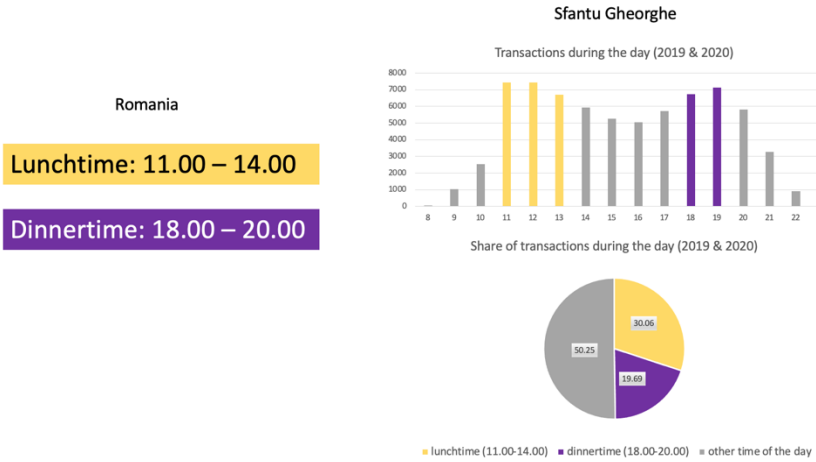


Figure 6: Most popular hours of the day
Source: capital.ro, Google Analytics, ospatarul.ro

Analysing the most popular hours of the day we can define two major time spans are lunchtime (between 11.00 and 14.00 o'clock) and dinnertime (between 18.00 and 20.00 o'clock). These exact time spans were detected in the ospatarul database as well. If we take a closer look we can conclude that in Sfantu Gheorghe every second order happens during lunchtime or dinnertime, while every other order in a day happens during the other ten open hours of restaurants.

Most popular products on the country level show that Romanians are fans of Italian cuisine. The most popular product is pizza quattro stagioni, followed by pasta carbonara and beef soup. Similar trends are noticeable locally, the ospatarul database shows

that 30% of total orders in 2019, and 22% of total orders in 2020 were pizza.

Coronavirus effects

Regarding the effects of coronavirus pandemic, a reduced consumption of food orders via ospatarul.ro in mid-March-April 2020 period was firstly noticed. (*Figure 7.*)

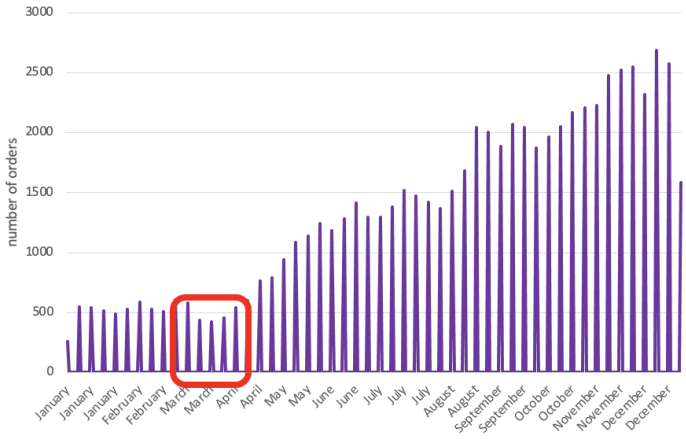


Figure 7: Weekly evolution of ospatarul orders, 2020
Source: capital.ro, Google Analytics, ospatarul.ro

Table 1: List of social measures in Romania for stopping to spread COVID-19

2020-03-16	Declaration of the state of emergency
2020-03-17	Closure of restaurants, pubs, theaters, churches, sports bars, ban of outdoor events and events for more than 100 people
2020-03-19	Closure of dental offices
2020-03-20	Strict control of those in home quarantine
2020-03-24	Curfew, 1.5 meters distance in institutions, suspension of additional flights
2020-03-29	Higher penalties for violating the curfew, more than 3 people are not allowed to walk in groups
2020-03-31	Leaving home quarantine is a criminal offense

Source: https://econ.ubbcluj.ro/coronavirus/

We grouped the effects of the pandemic in three groups: those referring to customers, those referring to partners and those referring to the platform operator. *Customers* reduced consuming food ordered via ospatarul.ro in mid-March-April 2020 period. They got confused by infection possibilities related to food ordering. And several of them started to cook at home during lockdown periods. *Partner restaurants* started home delivery (previously had only on-site service), listed to ospatarul.ro to reach increased demand (some of those who already had home delivery and some of those who did not have previously), while some of them instantly closed in mid March 2020, then reopened after a

few weeks. *Platform operator* introduced online payment opportunity (April 2020), offered contactless delivery possibility (April 2020), enlarged offer by newly joint partners, speeded up the joining process of new partners.

Conclusion

We can conclude that several similar patterns were detected on local and on country level. Similarity was detected in terms of: gender distribution, age group distribution, most popular days of the week and hours in a day. There is a major difference regarding the average cart value countrywide. The larger the city, the larger the average cart value. Regarding the future, ospatarul has the opportunity to switch from the classic delivery to the new delivery market.

The appearance of coronavirus in the country in March 2020 significantly affected various sectors of the Romanian economy. There are various aspects related to the coronavirus and the online food delivery, such as: the service of contactless delivery, the opportunity for non-deliverer restaurants to sell food via an existing local marketplace system, etc.

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KATA FÖLDI:
THE QUALITATIVE RESEARCH OF HUNGARIAN ORIGIN EFFECT ON PRIVATE LABEL FOOD BRAND CHOICE IN EAST HUNGARY IN 2020

[1]Institution of Marketing and Commerce, Faculty of Economics and Business, University of Debrecen, e-mail: foldi.kata@econ.unideb.hu

Abstract

Nowadays there is more and more focus on researches of food shopping behaviour, as its key role in social practices -and in the shaping of life quality after all - is inevitable due to social effects of basic restructuring and their undisclosed nature of Hungarian origin effect on private label food brand choice. These social effects are still going on due to the pandemic.
I observed the Hungarian origin on private labels of the product range of Hungarian and multinational chain stores in the FMCG market and qualitative research as exploratory. I was able to compare these research results with earlier (2014) ones.

Key words: country of origin, consumer behaviour, Hungarian, packaging observation, qualitative research

1. INTRODUCTION

The earlier research analysed the influencing factors of consumer ethnocentrism such as demographic, socio-psychological economic and political factors.
Up to now studies have not searched for that brand type of physical characteristics of the product, influencing factors of

consumer ethnocentrism such as private label and vica versa influencing factors of food brand choice as consumer ethnocentrism.
Earlier researches more or less focus on abstract ranges, separating daily social behaviour from their solid contexts. This is why I chose East Hungary with its smaller discretionary income and purchasing power as the spatial focus. On the other hand, one of the reasons for the timeliness of choosing this topic is that several researchers and market research institutes came to the conclusion that Hungarian customers prefer products of Hungarian origin to goods from abroad if they are cheaper than their foreign equivalent. That is why for Hungarian customers cheap private labels can be a priority even over less costly imported goods.

1.1 The role of country of origin

Hungarian customers prefer food of Hungarian origin (Totth, 2012, Pólya-Szűcs, 2013; 2014) if the price does not exceed that of foreign products. Therefore, own label products with a lower price level than producer label products may be favoured in terms of price over lower priced imported products when choosing a customer's brand. Consumers being ethnocentric means the purchase of products from abroad is considered incorrect (Shimp-Sharma 1987), and domestic products are preferred (Harrison - Walker 1995). Preference is tied to quality (Elliot - Cameron 1992). According to Kipnis et al (2012), the country of origin of consumer goods has a significant impact on attitudes towards brands and consumer behaviour (Balabanis - Diamantopoulos 2008, Erickson - Johansson, - Chao 1984, Nebenzahl - Jaffe 1996, Papadopoulos - Heslop 2002, Thakor-Kohli 1996, Verlegh-Steenkamp 1999).
One in four customers trusts in Hungarian trademarks. For Hungarian consumers, it is the „nationalism" that determines whether to purchase Hungarian goods, which means customers'

emotional attachment to Hungarian food and trademarks needs to be further increased. (Szakály, 2014.)
Dogi Csatáriné (2015) summarised factors affecting consumer ethnocentrism: demographic factors (age, sex, education, income), socio-psychological factors (patriotism, nationalism, conservatism, cosmopolitanism, travel interest) economic (more advanced / evolving) and political environment (government propaganda).

1.2. Interrelation between private label food and country of origin

According to Kumar-Steenkamp (2007), this century has been so far a century of the commercial brand. In the United States, according to the Food Marketing Institute (FMI), the 2012 Food Customer Trends Report identified a higher share of commercial branded products as one of two persistent trends. The choice of own brand was reviewed from the point of view of manufacturers and traders (Raju et al., 1995, Dhar-Hoch, 1997) and from the point of view of customers. The explanatory role of demographic factors was first examined in the customer's own brand selection. It was the explanatory role of demographic factors which was first examined in the customer's own brand selection. Later, due to the low level of explanatory power, the study was extended to attitude and behavioural characteristics, although these studies have never attempted to integrate demographic and psychological factors to achieve higher explanatory power, despite the fact that researchers suggested their use (Myers, 1967; Baltas-Doyjle, 1998). Abishek's (2014) research aimed to integrate demographic and psychographic factors affecting own brand selection. Demographic factors important for own label purchase are age, education, income and family size. Psychological factors better explained the customers' own brand choice. These psychological factors are: purchasing experience (also known as familiarity with own branded products), different responses to marketing activity, customer perceptions of

certain products (level of perceived quality variables, perceived risk level, perceived value for money), difference in consumer needs, prioritization among different products, and price attitude. (Abishek 2014. p. 54)

Factors influencing own brand selection in logit model: Customer demographic and psychographic factors (Abhishek 2014). Ballo (2013) examined product characteristics when choosing a commercial brand. Niche analysis of Hungarian origin among product characteristics, affecting own brand selection (Földi 2014). In 2019, Gfk Consumerscan defined the share of commercial branded products as 29 per cent, more than 60 per cent in value in discount stores. In the first half of 2020, I examined 4 of the 10 largest own-brand products when monitoring packaging (there were 3 food categories and 1 stationery). According to Nielsen's retail index, in 2019, sales growth for their own brand in both food and chemical sectors was 2 per cent higher than producer brand growth. (Kátai, 2020 a)

In 2020, according to a Nielsen analysis for PLMA yearbook, the share of commercial brands increased in 14 out of 19 countries. In Hungary, according to the President of the Association of Private Label Product Manufacturers (PLMA), the rate of own label is 34.8 per cent, and in daily purchases regarding customer decisions, the share of commercial brands in volume is already a priority. And the coronavirus outbreak further strengthens the position of these products. (Kátai, 2020 a) According to Nielsen, the European average was 31.7 per cent in 2020, while Hungary was 12th (25 percent). As for the future of private label products, Nielsen's expert predicted by 2021 that the current situation would help commercial brands to further grow. (Kátai 2020 b)

In 7 of the 11 companies in the business rankings of Nielsen FMCG retail chains, commercial branded domestic products are part of the assortment (https://amagyartermek.hu/vedjegyes-termekek).

2. Material and Methods

The investigation of the topic was based on secondary and primary information, which made it possible to compare the results of our regional primary research with national research results and to compare the value judgments of people living in settlements with different purchasing power and store chain networks.

- My research hypothesis are as follows:

1. There is an interaction between the chain belonging to the pole (Hungarian and multinational) and the indication of Hungarian origin on the packaging of commercial branded food.
2. Own label brand selection is influenced by Hungarian origin.
3. Food shoppers prefer to buy own label branded food indicating it is a Hungarian product.

A qualitative research as Babbie (2004) suggests can reveal explanatory (causal) relationships and patterns of explanatory value (between variables). Among qualitative research methods, I chose depth interviews because they are suitable for a deeper exploration of a specific problem, in this case the role of own label branded food shopping habits and that of Hungarian origin. The emphatic exploration of reports from potential buyers and assumption of their perspectives make it easier to influence customer behaviour (Steinar, 2005, p. 80) Nowadays, according to Steinar (2005), qualitative interviews are widespread to predict and control customer behaviour.
Conditions and methodology of qualitative research
The depth interviews took place between April and May 2020 with interviewees living in the same household as the interviewer, while

the other interviews were conducted online through digital communication. With the consent of interviewees, an audio recording was made, providing the basis for the minutes. The focus group interview subjects resided in more than 10 municipalities in 3 eastern Hungarian counties (Jász-Nagykun-Szolnok, Békés, Bács-Kiskun). The depth-interviewees ranged in age from 21 to 75 and from occupation point of view there were students, physical and mental workers and pensioners. Both sexes were represented among interviewees, although women were the majority, as literature and secondary research shows that women are the main food buyers in Hungary. The subjects of depth interviews were from a number of social strata, based on socio-demographic criteria.

To process the 40 in-depth interviews, I used the word cloud method, supported by the word cloud creation program of the website https://wordart.com/create.

Among the descriptive research methods, I used observation. In 8 multinational and Hungarian chains of FMCG market, the Hungarian origin marking was monitored on the packaging of 30 own label products between 1 November and 15 December 2020. The selection of dairy products and non-perishable goods was done on the basis of the sales ranking of own label products (list 50) of the market research institute Gfk and the commercial branded sales ranking of the customer centre of one of the Hungarian chains.

Results and Discussion

*3.1. The results of in-depth interview*s

Due to the limitations of scope, I will only address the results of two depth interviews. Most interviewees do not look at the country of origin on the packaging of private label foods. Some interviewees mentioned that they choose an own label product based on price, quality or previous experience.

This attitude was summed up in the answer of the subject of the interview below.

"He does not look at the country of origin on the packaging of commercial branded products or whether that trademark is Hungarian." Sz. J.

The opinion of the interviewees on the influence of Hungarian origin on own brand selection is illustrated by the word cloud in Figure 1.

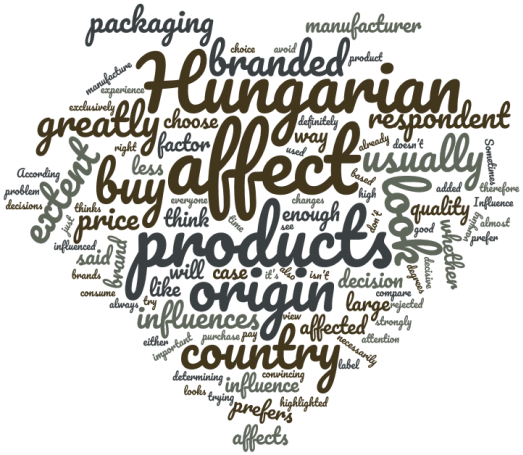


Figure 1: Own brand selection - influence of Hungarian origin
Source: https://www.wordclouds.com/

Many interviewees do not choose a product based on the country of origin, but price and quality influence their product choice. It is not these answers that are the most unfavourable, as, of course, there are segments of customers who do not choose own branded food on the basis of Hungarian origin but those who, nearly 10 years after the regulation, are not aware of the meaning of the

Hungarian product, domestic product and domestically processed product. Such lack of awareness is expressed in the interviewee's response below. "According to the respondent, he buys domestic, Hungarian products. According to him, it is possible to enter the Hungarian product category on the basis of a foreign license." B.S.M. Some of the interviewees prefer Hungarian products. This attitude was incorporated in the answers of the interview subjects below. "They prefer Hungarian products, which is entirely the case, they pay attention to the markings and inscriptions on the food." Z.H.M. "If they see on a product that it is Hungarian, they will prefer it, whether it be a commercial brand or not. People usually prefer Hungarian products." F.S.E.

The opinion of interviewees on the influence of markings like Hungarian product, domestic product and Hungarian-processed on the choice of commercial brand is illustrated by the word cloud in Figure 2.



Figure 2: Preference on Hungarian product, domestic product, domestically processed private label product
Source: https://www.wordclouds.com/

3.2. The results of the food packaging's observation

The results of the observation are shown in Table 2.

Table 2: Observation of food private label article's packaging in Hungarian and Multinational chain FMCG market in 2020

Description	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Private label	20	29	25	26	29	23	25	30
Hungarian supplier	10	19	16	20	13	23	7	19
Hungarian	10	4	4	2	7	5	0	10
Domestic	0	0	0	0	0	0	0	5
Domestically processed	0	1	0	1	0	0	0	6

Source: own edition
1 = Aldi, 2 = Auchan, 3 = Coop, 4 = Spar, 5 = Lidl, 6 = Reál, 7 = Tesco, 8 = Penny market

Compared to my previous packaging observations (Földi 2014), the portion of own label goods in the multinational chains Penny Market and Auchan increased in the 30 goods examined. Surprisingly, in the results of the observation, the increase in the number of Hungarian producers can be seen not only in the Hungarian chain stores (Real Hungária Food Trading Ltd. 23), but also in multinational chain stores, of which Spar Hungary Ltd. (20) has an outlying value.

Among the use of certain voluntary distinguishing markings (Ministry of Rural Development Regulation 74/2012 VII.25) markings as „Hungarian Product" have increased by almost a third, while the number of domestic and domestically processed markings has hardly changed or even developed unfavourably compared to my previous research results (Földi 2014).

3. Conclusion

Based on my research, there is an interaction between the chains' belonging to the pole (Hungarian or multinational) and the indication of Hungarian origin on the packaging of own branded food, but I reject the hypothesis that commercial brand selection is influenced by Hungarian origin. However, the hypothesis that food shoppers prefer buying Hungarian-labeled own branded food has been verified.

As one of the further directions of the research, the use of a nationally representative quantitative research methodology in Hungary or its extension to other countries would make possible a comparative analysis. Secondly, the geographical extension of qualitative research and observation to the whole of Hungary and to other countries, and thirdly, the customer segment specific examination of the examined range of goods with own branded food packaging). I propose to broaden and deepen the own label range with products missing from the same in the FMCG market store chains (multinational and Hungarian).

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BRIGITTA GÁBOR: NETNOGRAPHIC RESEARCH OF CONSUMERS' ACCEPTANCE

Institute of Economics and Economic Development, Faculty of Economics and Business Administration, University of Szeged, Szeged, e-mail: g.brigitta5@gmail.com

Abstract: Technological developments are taking place with astonishing dynamics at international level. The focus should not only be on technological development, but also on other factors - legislation, infrastructure, consumer acceptance. Self-driving technology is advanced, if the other pillars are not met, it will be a barrier to entry to a global market. Numerous international studies have been conducted on how society relates to self-driving cars, however, most of them were questionnaires and lots of respondents have not encountered a self-driving car at all. Aim of my research is to examine the attitudes of Hungarian society towards self-driving cars with a special methodology. Therefore, I conducted a netnographic research to get a comprehensive picture of the attitudes towards self-driving cars in Hungary. I created a classification within which I formed each group based on certain characteristics. Netnography has shown that negative commenters tend to change their minds because of new information.

Keywords: autonomous car, radical innovation, technological development, dismissive segments, netnography

Introduction

The car plays a key role in today's mobility: according to a Eurostat (2019) survey, 83% of all passenger kilometers traveled by car in the European Union. It can be stated that the lives of all people

living in civilizations are determined by cars: we can connect with them both when traveling by car and as other actors in transport (on foot, by bicycle, using public transport). One of the radical innovation breakthroughs of the Fourth Industrial Revolution is the self-driving car (EC 2019), which will fundamentally change the lives of all of us. Radial innovations typically lead to a paradigm shift, usually inducing a radical change in both organizational structures and the market environment, sometimes in everyday life. The technological development of self-driving cars is at a very advanced stage, however, research examining the social acceptance of self-driving cars records low social preparedness and acceptance.

This can be a problem, because the acceptance or rejection of innovations, as well as their spread, is based on people's judgments and decisions. The success of the proliferation of self-driving cars depends not only on the development of technology, but also on legislation, infrastructure, and social acceptance (KPMG 2018). In addition to the low level of social acceptance, its heterogeneity can be a significant problem, despite the fact that there is very little talk of the latter in the international literature: certain well-identified social segments (women, those with lower education, the elderly, people living in rural areas, etc.) could slow down or even jeopardize the market penetration of self-driving technology.

According to the research results of recent studies, in addition to the low level of social acceptance (Hulse et al. 2018, NMHH 2019, Deloitte 2020), its diversity can also pose a significant problem. Numerous international – among others American, and European -studies have been conducted on how society relates to self-driving cars, however, most of the results of the research were obtained through a questionnaire (Schoettle – Sivak 2014, Kyriakidis 2015, König – Neumayr 2017, Hulse et al. 2018, Liljamo et al. 2018, Raue et al. 2019, Wang et al 2020) but it masks freedom of opinion. It is important to point out that these surveys usually examine the

opinions of civilized people in such a way that the majority of respondents have not even encountered a self-driving car at all, and presumably have only ideas about technology that may even form a misconception in people's minds.
Therefore, I considered, it is reasonable not only to apply the methodology of the questionnaire survey to examine attitudes, but also to approach the problem from another perspective and aspect. However, it would be very important to know what people actually think about this topic and technology, not just what they assume in advance. My goal was to apply to examine attitudes, with the help of the people to bring technology a little closer. The methodology of netnography offers a very good opportunity for the above-mentioned ones, because the speakers can express and contradict their opinions in a free way, openly. In this study, I undertook to show, in the context of netnography, how people feel about self-driving cars in a domestic environment.

Material and Methods

In my research, I approach the attitudes towards self-driving cars therefore I conducted a *netnography* research to get a comprehensive picture of emerging attitudes towards self-driving cars. I analyzed the comments of articles related to self-driving cars on various Hungarian portals, during which the aim was to explore the attitudes, after I aimed to create a kind of categorization from the comments regarding the discovered attitudes. I searched the search engine for the key term "self-driving car" when conducting the research. A thorough study of the list of hits in the order of hundreds of thousands revealed significant potential pages that addressed the topic, however, in most cases, there was no opportunity to comment on the topic. As expected, not all online communities meet the requirements for netnographic fieldwork due to the use of the keyword.

I can distinguish between observer, participant, and autoethnography according to the degree of involvement (Kozinets 2006). The test method I chose is observational netnography. According to Dörnyei - Mitev (2010), in the case of observational netnography, the researcher is an outsider, present only as an observer on the online interface involved in the study, and does not interact with members of the community formed on the platforms.
The research is primarily an idiographic approach, an inductive, exploratory research, as it seeks to gain valuable insight into the underlying causes, opinions, and feelings and possible problems. The research attempts to understand what influences more dismissive behaviors, attitudes, and what groups of respondents could be organized through their attitudes toward self-driving cars? Consequently, the research focuses on opinions formed in communities formed on online platforms on self-driving car topics, where a netnographic approach proves to be a feasible method. In the following, I briefly present the methodology and the results obtained.

Results and Discussion

In the case of opinions on self-driving cars, I wanted to explore a pattern of attitudes for which I applied a netnographic study. In simple terms, netnography covers online ethnography, which analyzes Internet posts using scientific methods (Dörnyei - Mitev 2010). Emotional and confidential posts also become available through the possibility of anonymity (Puri 2009), which in the case of ethnographic research can only be developed through time-consuming expenditures (Csordás - Markos-Kujbus 2018). According to Kozniets (2010), the netnographic methodology consists of certain successive steps based on the ethnographic survey methodology. Kozinets's (2010) research has already added

an extra step, which is an initial step that focuses on research design, netnography already follows six overlapping steps: (1) research planning, (2) entrée, (3) conducting data collection, (4) interpretation, (5) ethical standards and (6) ensuring the representation of research.
Of course, not all online communities meet the requirements for netnographic fieldwork, which are as follows (Kozinets 2010):
- be relevant to the focus of the research,
- there should be active communication between the contributors,
- be interactive,
- the critical mass prevails,
- different posts and make detailed, rich data available.

Netnographic research can be well integrated into the first stages of the innovation process, or into the exploratory stages of management (Kozinets 2010), making it a useful tool even in the pre-launch phase of self-driving cars.
The following sections met the above requirements the most: HVG Tech and Car sections, index.hu Tech section, Origo Tech section, and Totalcar. I analyzed the writings related to self-driving cars and the related 1,050 posts over a one-year interval (January 1, 2019 to January 1, 2020). In many cases, the involvement of the readers was very intensive, contradictions and minor conversations were noticeable among the commenters, and it could be observed that some of them also included links and contents that appeared on other pages to support their claims. As a striking result, we can see that female posts were at a much lower level than male ones: only 7% of respondents were women.
Based on the comments, we identified six different groups, these categories are surrounded by a distinctive tone, and it can be concluded that these groups represent different values. The proportions of each type of commenter are indicated after the categories created. It can be seen that the proportion of realists is

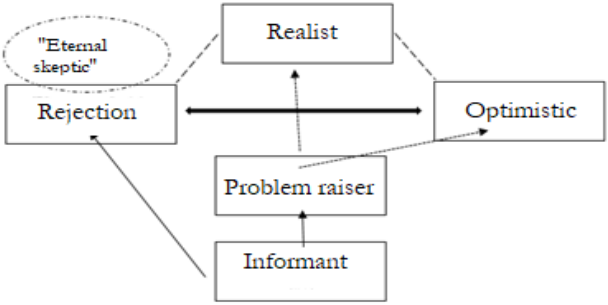
the highest, followed closely by posts with a negative, critical attitude.
The main groups are the following:

- Realists (38.5%): they see existing barriers as well as potential opportunities.
- Rejection, critical (30.8%): a number of arguments are put forward to express their displeasure or even outrage and to criticize self-driving cars with a critical opinion. In some cases, their opinions change as a result of new information.
- Eternal skeptics (19.2%): stand out among the rejecting, critical contributors. They are the ones who see only the downsides of self-driving cars and speak out completely against them. In most cases, there is no argument behind their opinion, in their case the reason for rejection is difficult to uncover.
- Optimistic (19.2%): the greatness and future potential of the technology were justified by positive reasons for listing the benefits. Many times, those who showed completely different attitudes expressed their opinions based on each other's counter-arguments. Hopeful opinion-formers were largely characterized by moderate affectivity.
- Problem raisers (7.7%): they ask further questions on the topic and on the future of transport, or in some cases feel that the article is incomplete or even consider that the data provided do not necessarily reflect reality. In some cases, they reflect on speakers who wish to be informed and address their questions to them.

- Informants, experts (3.8%): they usually reflect on the responses of rejectors and problem takers. They try to support the critical opinions and the questions that may arise with their own, well-founded knowledge or even external sources.

The types of contributors and the relationship between them are illustrated in Figure 1.

Figure 1 Types of attitudes perceived by contributors and relationships between them



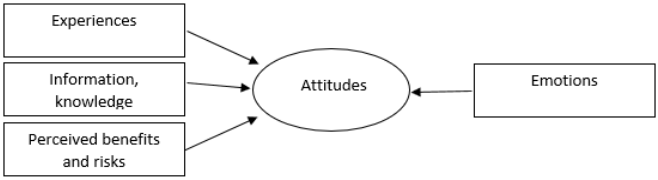
Source: own construction

The netnographic study showed very spectacularly that negative contributors tend to change their minds as a result of new information and that their concerns are related to specific groups: technological maturity, security, accidents, liability, etc. Contributors are pushing for topics that they would need a lot more information about. The consequences and groupings drawn from the comments cannot be generalized to societal attitudes towards self-driving cars, but may be an appropriate breeding ground for further research or support further research findings.

The study points out that whether the consumer's attitude is critical or optimistic, it may also contain unique, remarkable added information for R&D companies.

The netnographic study showed very spectacularly that negative contributors tend to change their minds as a result of new information and that their concerns are related to a specific topic: technological maturity, security, accidents, liability, etc. Commenters are pushing topics that they would need more information about it. The consequences and groupings drawn from the comments cannot be generalized to society's attitudes towards self-driving cars, but may be an appropriate breeding ground for further research. The study points out that whether the consumer's attitude is critical or optimistic, it may also provide unique, remarkable added information for R&D companies.
It is noteworthy that out of the clearly identifiable female and male profiles, 66.7% of the women who commented belonged to the rejection group, 20% represented the group of realists, while 6.7-6.7% were classified as eternal skeptics and informants. It is a striking result that there were no women who expressed only a positive opinion about self-driving cars.
The netnographic study showed very clearly that negative contributors tend to change their minds as a result of new information and that their concerns are related to specific topics: technology maturity, safety, accidents, liability, i.e. topics that would require much more information. to commenters.
For the study, Waymo 360 ° experience videos can be used as feedback, which fully presents the interior of the self-driving car, its interactions and its decisions. The video features consumer posts that express in several places that this is exactly what society needs in order to better understand the technology and how it works to build consumer confidence. Posts related to the short film support that potential audiences would need more of this content, as this content will help them get closer to technology, thereby better understanding how it works, promoting social acceptance.

Figure 2 Factors influencing attitudes towards self-driving cars



Source: own construction

It is important to keep in mind the fact that the qualitative research methodology is not able to fully cover the representative sample, even with the most thorough sampling design, which can be mentioned as a major limitation of our netnographic study.

Conclusion

In the progress of my research, I treated it with great importance that the technological development of self-driving cars is an extremely advanced state, but the research examines social acceptance records with low social readiness and acceptance. All this can be a problem, if the acceptance or rejection of innovations and their spread on the global market are based on people's judgments and decisions. It can be stated that many factors can influence individuals' decision-making regarding self-driving cars. Different social causes, social prejudices, and age differences between the sexes also have an impact on the potential proliferation of self-driving cars, which may also be the consequence of psychological and neurological factors.

It has been observed that the more information people have and the more subtle the methods I work with, the less the people react dismissively. The existing differences in attitudes are fading more and more away and the rejection groups are less likely to show critical behavior and negative emotions. A clear conclusion from

the empirical survey of our study was that acceptance increases with awareness: the more informed the respondent, the more likely he or she is tolerant of accepting self-driving cars. I have also shown that up to date information can make dismissive behavior acceptance. It follows from the survey that the attitudes of rejection groups towards self-driving cars can be greatly improved by providing these segments with wider and more detailed information. The awareness of the self-driving car among people is a terribly divided topic, therefore a professional community should make the right actions for the detailed elaboration.

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JOSEPH HORVATH: THE ROLE OF DIGITAL CUSTOMER EXPERIENCE AND TRUST IN EXPLAINING CUSTOMER LOYALTY - AN EXTENSION TO THE ECSI MODEL: THE DIGITAL TRANSFORMATION APPROACH TO COMMUNICATION SERVICE PROVIDERS

Department of Economics, University of Miskolc, Miskolc,
e-mail: joseph.horvath68@gmail.com

Abstract: Digital disruptions are a new normal in the constantly evolving customer-centric digital world and will exist in the future due to pandemic results. Customer satisfaction and loyalty have become crucial in customer relationship management, particularly in a digital environment. The study involves comparing different digital maturity models (DMM) to take insights on the model used for evaluating an organization's level of digital maturity. Based on the analysis of the selected models, we propose an extension of the European Customer Satisfaction Index (ECSI) model where customer loyalty can be explained to a substantial degree by customer satisfaction, digital trust, and digital customer experience. Explores the relationship between digital customer experience and customer trust and customer loyalty and determines whether these latent variables in the customer satisfaction model influence this relationship. Within the limitations of the study, we will discuss the theoretical and managerial implications of the findings.

Keywords: digital maturity model, customer satisfaction, telecommunication

Introduction

Digital transformation has always been at the forefront of corporate priorities since the inception of Industry 4.0. The COVID-19 pandemic has changed many familiar processes, accelerated change and made everyone look at many things in a new way. In addition to quickly adapting to challenges and taking near-immediate action, managers need long-term forecasts and a strategic approach. They need to think about using digital technologies to improve existing products, develop new products, and improve business activities in general. Therefore, it is now crucial to effectively evaluate the digital maturity of communication service providers (CSP) and, based on the analysis, make strategically correct management decisions that will improve and develop business activities.

Digital Maturity Models (DMM)

Being digital is essential for companies to stay competitive in today's business world. According to Chanias & Hess (2016, p. 2), digital maturity is "the status of a company's digital transformation.". In this context, given the high practical relevance of the topic, many Digital Maturity Models (DMMs) have emerged in recent years. Maturity models are primarily developed and published by academics and practitioners in a practical setting to conceptualize and measure the current level of a company's digitalization and provide a model to a path to digital maturity. Based on a brief literature review, we will evaluate and compare relevant DMMs developed by practitioners.

The Digital Maturity Matrix developed by MIT & Capgemini (Westerman et al., 2012) allows you to evaluate customer experience, operational processes and business models. According to the framework, organizations segmented into two dimensions - a matrix with two axes. The first dimension that drives digital transformation is "Transformation Management Intensity", which mainly includes managerial attributes such as governance, engagement, and digital vision. The second dimension is "Digital Intensity", a collection of strategic assets, investments, digital capabilities, and digital elements. This digital model is segregating four types of digital maturity. The "beginners" – where these companies are still at the beginning of their digital journey. The "fashionistas" – where the companies have crossed the testing stage and already started deploying some disruptive technologies. The "conservatives" - a high level of the management readiness for change, but these companies view upcoming technologies with suspicion. This model's highest level of digital maturity is named "digirati" – where the company is at a high level of digitalization, and the management fully supports the needs of the business that arose in the process of digital transformation.

The Deloitte *Digital Maturity Model* (Deloitte, 2018) proposed in partnership with TM Forum. This model is a tool to determine digital maturity according to industry standards across five dimensions, 28 sub-dimensions and 179 digital criteria, providing CSPs with a practical approach to assess their digital maturity and identify areas to focus on digital transformation. The core dimensions of digital capabilities included in the model are customer, strategy, technology, operations, organization and culture. This framework allows CSPs to evaluate their maturity based on the dimensions of digital service enablement and digital service provisioning (Newman, 2017). The emphasis is on the business strategy, which focuses on having a competitive edge over the companies in the industry.

Forrester's *Digital Business Maturity Model 5.0* (VanBoskirk, 2017) is the modern version of the Forrester model with two levels of digital maturity focused on assessing the effectiveness of implementing digital technology to realize competitive strategies. The indicator of digital maturity for the readiness of companies for digital transformation is assessed in four dimensions: Culture, Technology, Organization and Insights. The model identified four levels of digital maturity: Sceptic, Adopter, Collaborator and Differentiator, which can help identify a starting point to the company's digital strategy. As they determined, the customer insights became a priority at all maturity levels.

The Acatech *Industry 4.0 Maturity Index* (Acatech, 2020), based on research carried out by the German National Academy of Science and Technology, provides companies with a supporting tool to transform into a learning and agile company. Four key areas of digital transformation are distinguished. Each structural area divided by two principles, each of which - depending on the benefit-oriented development levels - successively builds up skills: resources (digital competence and principles of structured communication), information systems (processing and preparation of data, integration for optimized data principles), culture (readiness for change and social cooperation), organizational structure (internal corporate organization - the principles of the value network). The assessment methodology is complex, and the index of digital maturity is formed simultaneously in several areas - particular attention paid to the transformation of the organizational structure and culture.

The Digital Maturity Model for Telecommunications Service Providers (Valdez-De-Leon, 2016) developed to help telecom providers in their digital transformation journey. The resulting model includes seven dimensions with five levels of digital maturity in each of them. The components of the model are: Strategy (vision,

management, planning and digital strategy); Organization (changes in the structure, culture, communication, learning and knowledge management of the organization); Customer (customer benefits from digitization, personalization of products/services, focus on customer experience); Technology (agile capabilities, security, compliance); Operations (service delivery and automation capabilities);

Ecosystem (means developing and maintaining a partner ecosystem as a critical element of digital business); Innovation (opportunities that enable more flexible ways of working);

Analysis of Digital Maturity Models

The maturity assessment of different models based on different parameters and each dimension can be evaluated by each model for comparison in the study. A logical, comparative analysis has been done in order to compare and classify different maturity models. Based on the analysis of the above models, we can identify the most common dimensions of the measurement of the enterprise digital maturity: Strategy & Business model, Customer insights & Experience, Organization Culture & Employees, Operational processes & Information Technology. Among the narrower areas but extremely necessary for the assessment are the digital Ecosystem and Innovation.

The analyzed models conduct an assessment based on four to five evolutionary maturity levels, often defined as digital maturity index. The maturity assessment is primarily based on self-evaluation, but some tend to apply a third-party assisted assessment to identify maturity gaps and offer consultancy services to close these gaps. Most of the models provide a graphical illustration of their results,

for example, by using a matrix or a radar diagram. "Customer Insight and experience" represented strongly in the analyzed models, which indicate that the capability of understanding customers and providing excellent customer experience is essential. As customers interact more frequently with companies over digital channels, these experiences increasingly become the backbone of customer loyalty. However, the relationship between digitalization and building customer loyalty remains relatively unresolved and contradictory in the extant literature. At the same time, "Innovation" also gets much more attention, which underlines the need for an organization's capability to develop new products and services.

Nowadays, the development of telecommunication services plays a leading role in the digitalization of companies. Therefore, we consider it very important to assess the digital maturity of the CSP when assessing the level of digitalization of the country, sectors of the economy and individual enterprises. We suppose that in assessing the digital maturity of CSPs, one of the most critical places belongs to the assessment of customer satisfaction and loyalty. For the successful operation of a CSP, its managers need long-term forecasts and a strategic approach. They need to think about how digital technologies can be used to develop their products and processes and "rethink" their businesses as more agile and digitally mature companies can widen the gap with the capabilities against their competitors. Digital customer experience and digital trust have come to the fore in the relationship between users and service providers. The impact of these latent variables also affects customer retention, leading to increased customer loyalty and satisfaction. The promise of a digital customer experience is enticing to many companies, but the reality is that many are immature when it comes to digital customer experience strategy. (Tarek - Gokhan, (2015). One aspect of the digital maturity model developed for large CSPs is customer insight and

customer experience, identifying consumer behaviour patterns based on available data and applying these models to business modelling.

European Customer Satisfaction Index (ECSI)

Customer satisfaction (CSI) models are methods for assessing the quality of services provided by organizations in public and private sectors (Johnson et al., 2001). Several CSI models developed (SCBS, ACSI, NCSB, and ECSI), and they consist of several latent factors, each of which operationalized by multiple indicators. We will use the European Customer Satisfaction Index (ECSI) as a base model for assessing customer satisfaction. It considers the European economy as a whole, and thus, CSI scores of the countries can be compared with each other and with the European average (ECSI Technical Committee, 1998).

Loyalty and satisfaction are related, although also clearly distinct. Both academics and practitioners agree that the link between satisfaction and loyalty is inexplicable and that the link is asymmetrical. While loyal customers are generally more satisfied, satisfaction does not automatically mean loyalty.

Based on the original model of ECSI, academics have adapted it to their research. Noteworthy is the study by Bayol et al. (2000). Their model has seven interrelated variables: (a) the underlying model: perceived quality, customer expectations, perceived value, satisfaction, loyalty, and brand image, and (b) the same model, but with complaints included. Another impressive study of Dwayne Ball and his colleagues (Ball et al., 2004), wherein loyalty, is explained by satisfaction, brand image complaints, communication, and customer trust (including these last two latent

variables into the model). Other variables in the model (customer expectations, perceived quality and perceived value) explain satisfaction.

The academic literature constantly reflects the results of research on which aspects of customer satisfaction affect loyalty and how much loyalty can be affected to the components of satisfaction. The researchers suggest that trying to explain loyalty in terms of customer satisfaction alone is not enough and that models are needed that include other variables as mediators, moderators, or other predictors and thus increase the concept of customer loyalty. Many marketing studies attempt to find variables that influence loyalty, and some of the essential antecedents are customer satisfaction, trust, communication, customer factors, and brand image (Aydin and Ozer, 2005; Ball et al., 2004).

Researchers seek to expand the model and add additional latent variables such as trust, communication, and personalization. *Table 1*. presents the selected academic works by the authors on applying the ECSI basic model and notes what additional variables proposed to the ECSI model for determining loyalty.

Table 1: Academic works with additional variables of ECSI

Author	Year	Industry	ECSI expansion constructs
Revilla-Camacho et al.	2017	Hotel	Trust, Complaints, Communication, CR
TurkyIlmaz et al.	2013	Telecommu nications	Basic model
Aydin and Ozer	2005	Mobile Phone	Trust, Switching Cost

		Providers	
Coelho and Henseler	2012	Bank and Cable TV	Trust, Customization
Ball et al.	2006	Bank	Trust, Complaints, Communication, Personalization
Tabrani et al.	2018	Bank	Trust, commitment, customer intimacy
Bayol et al.	2000	Mobile Phone Providers	Complaints
Ball et al.	2004	Bank	Trust, Communication

Source: own research

We consider that trust in the digital environment plays a vital role to increase loyalty. One of the critical issues surrounding data and trust in brands is the level of control customer's feel regarding their data and personal privacy, which is an extraordinary challenge for brands. They must balance the richness of customer experience they can offer, making it possible to collect customer data - against the ever-present risk of a data breach (and the risk of losing their data source entirely). If no privacy, then no trust, and without trust, there is no satisfaction. Low customer confidence in digital services is a problem. However, it is an opportunity for service providers to gain market advantage by implementing the necessary technologies and processes needed to build security and trust as part of the brand identity.

Proposal to an extension of the ECSI model in a digital environment

The digital environment changed the nature and the form of interactions and relationships between the company and the customer. The digital maturity of companies and the maturity of the digital customer experience play an essential role in building and sustaining loyalty and satisfaction. It is especially true for traditional telecom operators, which are more dependent on customers and less flexible to adapt to new digital trends due to their specificity (legacy systems).

We propose an extension to the existing model of the ECSI, which constitutes the framework for our extension for CSP, resulting from the inclusion of two new constructs - Digital Customer Experience and Digital Trust, aiming for a better explanation of customer loyalty. The extended model, as shown in *Fig. 1*. now includes nine interrelated latent variables and based on a structural equation model (SEM), which comprises the antecedents and consequences of customer satisfaction. The factors – brand image, customer expectations, perceived quality, perceived value, and the new variable, the digital customer experience - are the ancients of customer satisfaction.

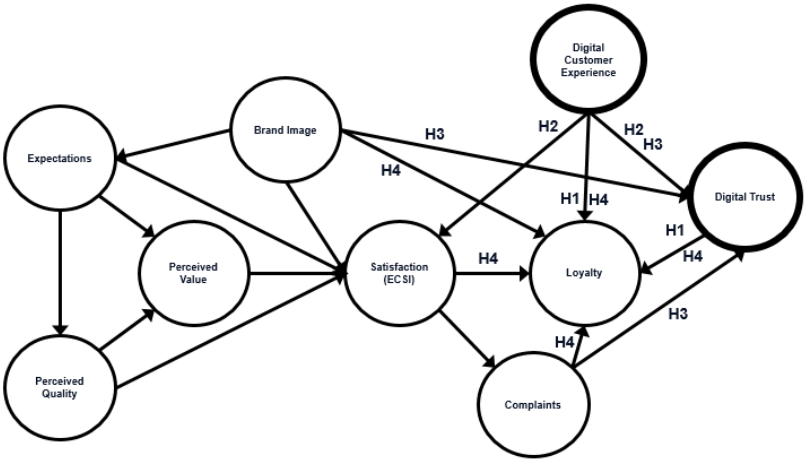


Figure 2.: The extended ECSI model, Source: own research

Bold circles and lines represent constructs and relationships specific to the extended model. Although there may exist some more relations between the factors, considered the most important ones. Two exogenous variables exist in the model: brand image and digital customer experience. The model variables are unobservable (latent), so they cannot be measured directly. For their practical application, these variables are indirectly described by a block of observable variables called manifest variables or indicators.

To validate the relationship and influence of the latent variables in the model, we have to develop and apply a survey to measure the manifest variables. A logical PLS Path regression model following Mevik and Wehrens (Mevik - Wehrens, 2007) is selected to estimate the ECSI model parameters. Using partial least squares structural equation modelling (PLS-SEM), a model tests the extent

to which digital customer experience and digital trust affect customer satisfaction and loyalty.

To study the relationship between customer experience and customer loyalty in the context of CSPs, we propose to assess the impact on the loyalty of specific dimensions of digital customer experience and determine how much:

H1) The inclusion of digital customer experience and digital trust in the ECSI model contributes to a more precise explanation of customer loyalty.

H2) The digital customer experience has a positive impact on digital trust and customer satisfaction.

H3) Trust defined by image, digital customer experience, and complaints management.

H4) There are positive effects from digital customer experience, digital trust, brand image, complaints management, and satisfaction on loyalty.

Fig. 1. contains the hypothesized relationships too.

Trust is logically and experientially a critical variable in relationships, hypothesized and borne out in the analyzed literature (*Table 1.*). Although the digital customer experience construct is new in the ECSI model, some authors have indirectly supported this assumption. In particular, findings from Brakus et al., 2009; Srivastava - Kaul, 2016, McCall, 2015 provide evidence that supports the vital role of customer experience in obtaining loyalty.

Thus, we propose to assess the customer satisfaction of CSPs in the digital environment using the proposed extended model since we believe that this will allow a more complete and objective assessment of the company's digital maturity.

Conclusion

The digital maturity of communication service providers (CSP) plays an essential role in developing the digital maturity of companies. To measure the digital maturity of CSPs, one of the most important is the assessment of customer satisfaction and loyalty. Therefore, we believe that the ECSI model can be extended by including digital trust and digital customer experience.

From a managerial view, in addition to developing new business models and rolling out new services, CSPs can boost their existing business and extend their customers' lifetime value. A well-structured and excellent customer experience has a strong effect on consumer perceptions, which lead to trust, satisfaction, and loyalty.

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DIRK SIEGFRIED HÜBNER: HOW CONSUMER BEHAVIOR IS CHANGING AS A RESULT OF THE COVID-19 PANDEMIC

Department of Economics, Faculty of Economics, MATE Hungarian University of Agriculture and Life Sciences, Kaposvár Campus, e-mail: hubner.dirk-siegfried@phd.uni-szie.hu

Abstract:
Two trends can be observed here. At first glance, these appear to be contradictory. On closer inspection, however, the two trends are more likely to be seen as a complementary coalition.
One direction is toward local, resilient companies, the other toward interdependent international companies.
Discount stores are among the so-called systemically important companies and, unlike many, are not affected by the Covid 19 closure. To meet the need and demand, the large discounters have not only expanded their assortment in the store, but also added the booming online trade.
In the other direction, we find more and more intertwined, interdependent, multinational companies. However, this trend is more common among multinationals such as IT, machinery and automotive manufacturers, etc. There is more interconnected production.
The article deals with this challenging situation in the German consumer sector.
What sustainable changes will prevail even after the Covid 19 pandemic?

Keywords:
Globalization, Sustainability, Online shop, Grocery, Consumer, Regional

1. INTRODUCTION

The Covid 19 pandemic has greatly changed consumption patterns.

There are two trends to observe here. At first glance, these appear to be opposing. On closer inspection, however, the two trends are more likely to be seen as a mutually complementary coalition. One direction is towards more local, resilient companies while the other direction is towards interdependent international companies.

Examples of resilient regional retail companies in Germany include ALDI. The discounter is one of the so-called systemically important companies and, unlike many retailers (clothing stores, household goods stores, stationery stores, etc.), it has not been affected by the closure due to Covid 19. In order to meet the need and demand, the large discount chains such as ALDI, LIDL, REWE, EDEKA, etc. have not only expanded their product range in the retail store, but also added the booming online trade. On the other hand, many regional suppliers and food producers such as bakeries and butchers have been added to the range. In parallel, climate protection responsibility has increased. People are more concerned about short supply chains, well-known regional producers and environmentally friendly packaging.

In the other direction, we find more and more interlocking, interdependent, multinational companies. However, this tendency can be observed more in multinational corporations such as IT, machinery and automotive manufacturers, etc. There is more networked manufacturing. For example, Mercedes-Benz will have the majority of its engines manufactured in China in the near future. For such a status symbol "Made in Germany" unthinkable until recently. However, there is also a casual subliminal trend that the economy is trying to reorganize itself parallel to the political powers to the east and west. The latter trend was already evident before the Covid 19 pandemic. For example, the Chinese have

been pushing full steam ahead with the construction of the new "Silk Road" rail line. Likewise, it was possible to observe how ownership shifted via the stock market.
The paper deals with this challenging situation in the German consumer sector.
What sustainable changes are on the rise? Which trends will prevail even after the Covid 19 pandemic? Which trends will get an accelerating boost from Corona and which ones will be slowed down so much that they might even disappear altogether in the future? How will these effects initiated by Covid 19 affect future climate protection?

2. MATERIAL AND METHODS

In order to get a picture of this current situation, a wide variety of information sources were consulted. In view of the current nature of the system, there were no well-founded, verified studies that could have been used. Nor were there any comparable studies, since there had never been such an international pandemic in recent decades, nor such an interlocking and coordinated globalization. The main source of information was the Internet and the latest offers of the dealers as well as the latest statistics (Handelsverband Deutschland and Roik) and forecasts regarding the economic situation. This information is partly from official sources (Statistisches Bundesamt), partly from the media (DER SPIEGEL 2020) and partly from private companies (KPMG 2012). Digital platforms already enable a wide range of possibilities today. Whether tailor-made mobility solutions, networking of people (partner exchanges, social media) or even online food trading. The market and the application possibilities are enormous - and only just beginning. The trade and marketing of food products has not really been an established distribution channel so far (Süddeutsche Zeitung 2017) . Due to the obvious, demanding

logistical challenges of fresh and frozen goods, the market share so far is only about 1%. However, a high growth potential is expected here in the future (Thoma 2016). This will be accelerated enormously once again by the current Covid-19 pandemic and will have a lasting impact on our future food consumption behavior (Nathaniel Meyersohn 2020). Should digitalization succeed in making production methods and processes more resource-efficient or even change consumer behavior (Peter Gailhofer and Cara-Sophie Scherf 2019), online food retailing has the potential to make a positive environmental contribution.
However, based on previous studies and research, they also show obstacles. For example, digitization also poses the question of data sovereignty and the impact of potential market concentrations for policymakers and society. Likewise, it is still open whether ecological potentials can actually be realized (Nele Kampffmeyer and Carl-Otto Gensch 2019).

3. RESULTS AND DISCUSSION

Retail Sector

Grocers are less in crisis. Organic and local products were already going strong before Corona, and the growth numbers continue to rise. A further multiplier will be the increasing online grocery trade in urban areas (Sabine Rumscheidt 2020). In terms of ecological impact, the potentials and risks of online grocery shopping are in contrast to each other. With the focus on individual lifestyles and consumption styles, digital platforms can on the one hand promote new modes of consumption, such as sharing instead of owning, or facilitate access to sustainable offerings. On the other hand, however, they can also lead to an increase in the level of consumption, since the selection is very large and the goods are delivered to the home in an uncomplicated manner. This means that people do not have to visit many individual specialty stores in

person, but can select from a generous online catalog and have the goods conveniently delivered to their homes. Accordingly, an increase or reduction in energy and resource consumption is conceivable - with corresponding effects on ecosystems and the environmental media of air, soil and water (Scherf and Kampffmeyer 2020)

Consumers are increasingly demanding sustainable food consumption. Especially in view of food scandals such as "dioxin in eggs" or "rotten meat", food intolerances and allergies as well as genetic manipulation. It is all the more surprising that even many potential buyers of sustainable products are unaware of what the individual sustainability labels actually mean. Many consumers are not clear, for example, whether "organic" is a protected term. In particular, some retailers' own organic brands (e.g. BioBio) are classified as "money-making". In addition, it is unclear to most end customers how the individual seals, such as the organic seals of the growers' associations (e.g. Demeter), differ from the EU organic seal and what organic certification actually means for different foods. Consumers mix up some seals, e.g. do not know if fair trade always implies organic or if organic also takes regionality into account (Kirchgeorg et al.) .

Consumers often experience a conflict between different sustainability aspects, so they do not know which aspect is more important for the overall "sustainability" of a product. For example, organic products are often packaged in plastic, sustainable alternatives are often only available in online stores, and regional products are not certified. In some cases, this leads to consumers deciding according to criteria that are easier to assess, such as price or appearance.

Consumers have great doubts about the credibility of various seals. The term "organic" in particular suffers from a major credibility problem. It is difficult to understand how a vegetable imported from China and sold in discount stores is "organic" and the same

product grown regionally by a local producer and sold at the weekly market is not.

Industry Sector

German industry is highly dependent on global supply chains and exports (Bunde 74. Jahrgang). This is increasingly becoming a problem during the Covid-19 pandemic. Many countries from which Germany sources raw materials and employees (specialists and also seasonal workers) have closed their borders. Border-free travel in the Schengen area effectively ceases to exist during the pandemic. Segregation and trade conflicts are the consequences. In the industrial sector, globalization also has its advantages. There is access to a worldwide network of suppliers, which also facilitates substitution. These trade networks also provide access to a wide variety of sales markets. So the industry can partly compensate for your sales and your raw material needs.
SMEs in the manufacturing sector have far fewer options for dealing with supply chain difficulties. Here, regional supply networks around the respective sales region, and thus if necessary the relocation of production, become more important. However, this can increase costs, as these are usually more expensive than if the goods are supplied from low-wage countries and countries with lower environmental and social standards. Therefore, an increase in warehousing would be much easier - with the exception of perishable goods such as food (Handelsverband Deutschland and Roik)
Germany is the "export world champion" and therefore particularly dependent on foreign trade. In percentage terms, the manufacturing industry is the most affected here, above all the automotive and above all the automotive and pharmaceutical industries, in the mechanical engineering sector and in other manufacturing industries (Flach and Steininger 2020). Therefore,

the Corona pandemic leads to the most severe losses after German reunification. As a key sector of the German economy, the automotive industry contributes approx. 20 of the gross value added. Due to its strong integration in fixed international value and supply chains, it is particularly dependent on changes in the global market. For example, two thirds of total sales are generated abroad, particularly in China, the USA and the United Kingdom. One third of all intermediate goods come from other European countries that have been heavily affected by the pandemic (e.g. Italy and France). The current far-reaching changes such as the BREXIT or the global conversion of combustion engines to alternative forms of propulsion such as e-mobility or hydrogen drives and the enormous wave of digitization towards autonomous driving are putting a lot of strain on this industry right now anyway. Therefore, the automotive industry reacted very sensitively to the global Covid 19 pandemic. Even if every German were to buy only German vehicles, the market would be far too small to absorb the negative effects.

4. Conclusion

Industry

For the auto industry, the pandemic has shown its weaknesses in the supply chains, but this is more likely to lead to the elimination of these weaknesses in the future through expansion and alternatives (supply chain management), rather than relying predominantly on a local supply system (DER SPIEGEL 2020). The growth of cross-border service trade is even more likely to be reinforced by Corona as the global economy becomes more location-independent through increasing digitalization.
This is unlikely to lead to a reversal of globalization.
For example, reverse relocation threatens, among other things, the loss of specialization, reduced product diversity and the loss of

comparative cost advantages. Geographical proximity is not automatically synonymous with security of supply or a secure sales market.
On the contrary, diversification of supply chains actually contributes to increasing globalization(Bunde 74. Jahrgang). In the future, a realistic assessment of the cost/benefit issue, also now including a possible pandemic, will be an important criterion in globalization, both when considering suppliers and consumers and when deciding on new production locations for industry (Görg and Mösle).
International government regulations must be applied very sensitively. A state-imposed autarky can very quickly lead to more expensive products due to a lack of diversification and product variety. This can also have negative consequences for the foreign trade balance.
Although strong regulations are also required in order to decisively counteract the outbreak and spread of a potential next pandemic.
One of the most common side effects of the corona crisis is supply bottlenecks due to interrupted supply chains. As a result of globalization, the economy is interconnected worldwide, and raw material suppliers and manufacturing facilities for European products - as well as European parent companies - are often based abroad. As a result of the far-reaching measures to contain the Corona pandemic, many companies are facing the challenge of repositioning themselves. And this in the very short term, without ignoring profitability on the one hand and sustainability for the time after the crisis on the other. New ways of thinking will have to be found here. The influencing factors for the global transfer of goods are not only the ability to deliver just in time, but also increasingly the effects of international CO2 pricing. The "extended workbench" and the outsourced warehouse should be brought back into the local company.

Grocery Business

Staple foods such as baked goods, regional fruit and vegetables, eggs, milk and dairy products will probably be available even more from regional production in the future. It remains to be seen whether this will actually have an impact on online retail and whether there will be a new focus here in the future.
During the Covid-19 pandemic, especially the lock-down phases, the frequency of shopping declined for all shopping options. While the general trend toward online retailing has been ongoing for years, spring 2020 shows a significant increase (Junkermann and Ebersoll 2020). Over the next few months, we will see whether this remains a one-off special development - in addition to the usual Christmas peak - or whether consumer habits change in such a way that online retail sales stabilize at this higher level. Also with online providers/delivery services, direct marketers, providers of organic products such as health food stores, natural food stores, weekly markets (Busch 2020) p. 7, 21-23).
Here, the importance of certain aspects in food purchasing has not changed during the time for most.
For those it has changed, shelf life of the products is in first place, followed by healthy food and regionality of the food, followed later by as little plastic packaging as possible, animal and environmental protection (species protection/animal welfare) and "organic"
Regarding self-assessment of eating habits, e.g. "I try to eat as varied a diet as possible", do not differ concisely from before the Covid 19 pandemic.
Few believe they are eating healthier now. Almost half believe they ate a rather unhealthier diet during the pandemic. Contact restrictions and curfews have caused family meals and restaurant visits to be cancelled. Canteens are also mostly closed due to the large number of employees in home offices. However, the appreciation of food increased by about 40% (Busch 2020).

After consumers assessed whether regional or global food production is more desirable, the core statement was relatively clear: "the essential staple foods or a minimum amount of food" should be "produced in Germany." (Busch 2020) p. 41)
However, this seems to be due not only to the desire for sustainability, but also to the fear of closed borders/failure of agricultural imports.
The food industry should also not forgo global structures in order to be able to compensate locally for possible total losses, e.g. due to pest infestation or natural disasters. Consumers have a lower prioritization regarding the assessment and change in values with regard to sustainability than producers assume. It can be assumed that consumers' purchasing habits will return to the pre-Corona level once the Covid 19 pandemic has subsided.
For retailers and producers, a paradigm shift towards more sustainability is more likely to take place. There will be a mix of conventional and sustainable food production, with regional and organic products gaining a larger share of the market. The online food trade will also develop. Where it is still open. However, it is completely different whether in urban or rural areas.

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KISS MARIETTA – SZAKÁLY ZOLTÁN – KONTOR ENIKŐ: TRENDS IN GLOBAL AND HUNGARIAN FOOD TRADE

Institute of Marketing and Commerce, Faculty of Economics and Business, University of Debrecen, Debrecen,
[1]e-mail: kiss.marietta@econ.unideb.hu
[2]e-mail: szakaly.zoltan@econ.unideb.hu
[3]e-mail: kontor.eniko@econ.unideb.hu

Abstract: The aim of the study is to uncover the global trends of food trade, as well as the Hungarian trends flowing thereof, in order to better help food merchants in their work of developing and executing strategies. To reach the aim of the paper, we used secondary research, revealing the phenomena in the food trade by studying up-to-date sources of information. First, the changes in current general and food consumer/buyer behaviour were examined. Next, we focused on general trade and food trade trends. We identified ten trends as well as their relations to each other and to consumer/buyer behaviour trends, but given the size constraints, we now deal with only five general trends: hyper personalization; consistent online and offline shopping experience; convenience products, services and shopping; e-commerce; social media marketing. Today's food merchants in Hungary must adapt to the identified trends; moreover, they need to get ahead of the changes in order to make and carry out successful future strategies.

Keywords: food trade, food retailing, global trends, consumer behaviour

1. INTRODUCTION

Today's domestic food retailers and wholesalers can't withdraw from the trends of the global sector: they must know them, adapt to them; what's more, they need to get ahead of the changes in order to make and carry out successful future strategies. This is why the purpose of our study is to show an overall picture of the global and domestic trends of food trade, to help food merchants in the strategy development and execution process.

Both at home and abroad, the trends of food trade are first and foremost moved by the changes in consumer/purchasing behaviour, regarding food. Thus as a starting point for our study, we take aim at these changes, which have strong ties to one another, and then identify the food trade trends that spawn from these, which also are strongly tied to each other. From among these trends the first five are basic commercial trends: hyper personalization; consistent online and offline shopping experience; convenience products, services and shopping; e-commerce; social media marketing, which naturally have an effect on food trade, while the further five primarily deal with food: hyper personalization; consistent online and offline shopping experience; convenience products, services and shopping; e-commerce; social media marketing. Given the lack of space, we are only dealing with general trends here.

2. GENERAL TRENDS OF CONSUMER, PURCHASING BEHAVIOUR

A very distinct circle of consumers (primarily generations Y and Z, who make up consumer markets in a constantly growing number) are no longer satisfied with low prices; they would like more: comfort, speed, offers tailored to the individual, and above all an

experience (KPMG 2019). The Internet can easily satisfy those needs.

A growing percentage of the world has access to and uses the Internet, which is giving more power than ever before into the hands of the consumer. With its help, they can conveniently search for information, compare alternatives, choose the best products, services (based on their price, convenience and other preferences), and they can even purchase them from home. Though only 4% of food purchases take place online, more than half of shoppings are influenced by the net, meaning more than double in size in only two years (Deloitte 2019).

Running parallel with the spread of Internet usage, more people utilize social networks, a trend strengthened by the dissemination of smart devices. Globally, 75% of consumers are influenced by social networks during shopping (Vividfish 2017a). There are, however, differences between the generations, with the highest influence on generations Z and Y (Salpini 2017). Consumers themselves generate content in social media by sharing their lives' every moment with the world. Besides the B2C market (Business-to-consumer) the use of social networks in the B2B market (Business-to-business) is increasingly characteristic (Vividfish 2017b).

Sustainable purchasing clearly enjoys priority in the eyes of the new "green" generation. A third of consumers choose products based on their environmental and social impact (Sustainable Brands 2017). Social media helps even more in the advancement of this trend, because sustainability's various aspects – the locally acquired ingredients (that is short supply chains, SSC), recycled packaged and freedom from plastic, food waste, resource-friendly plant-based nutrition – have become one of the central topics of social media conversations (KPMG 2018a).

In connection with nutrition-related diseases more and more consumers are following individually tailored, special diets, be it

plant-based (vegetarian, vegan) diets, be it sugar-free, lactose-free, gluten-free or any other "free" diet. In parallel with this, the demand is also growing for functional, organic, "green" foods. This trend implies the fact that consumers like to know and to understand what ingredients end up in their food, which highlights the importance of transparency and traceability (Olayanju 2019), along with that of short supply chains, and local, seasonal products. Social media is also strengthening the huge global health and wellness trend even more, as through it, consumers can now more than ever share their healthy ways of life, for example, what type of healthy foods they eat. The trend is clearly led by young consumers (generations Y and Z) (KPMG 2019; Olayanju 2019). Aside from consumers' expectations, businesses are being swept in that direction by the many measures implemented (e.g., taxes, warning labels on product packaging, the advertisement restriction of such products) to decrease the consumption of unhealthy foods and drinks (KPMG 2018a).

3. GENERAL COMMERCIAL TRADE TRENDS

3.1. Hyperpersonalization

One of companies' answers to consumers' individualization trend is hyper personalization: the use of real-time, behavioural data so that the business can provide contextualized communication and offers to a given person in a given situation. They use such modern technology for this like artificial intelligence (A.I.), facial recognition, mood analysis, and cloud-based enterprise resource systems (KPMG 2019; Sana Commerce 2019).

In connection with the health and wellness trend, consumers much rather consider real-time, personalized food products to be in demand, something that ever spreading new technology, genetic tests (Olayanju 2019), as well as digitalization and robotization

make possible. Genetics-based meals and nutrigenomics are currently in their infant stages, but it is expected in the future to grow in popularity.

3.2. Consistent offline and online shopping experience

Today the experience during shopping is also important (experiential retail or retailtainment). Experience, however, means totally different things for the traditional brick & mortar business with only physical shops, than it does for the newer, hybrid, physical and online brick & click (or click & mortar) merchants, and for those e-merchants with only an online presence. Merchants who also have a physical presence offer the shoppers face-to-face experience – shoppers can actually interact with the product itself; it can be watched/seen, smelled, and touched, which in the case of food products is extraordinarily important. Moreover, the social aspect of shopping takes place as well in these cases, for while shopping one can talk with friends and neighbors, etc.

In e-commerce the definitive points of the shopping experience are: the design of user interface; the measurement of and alignment to shopper response; the ads, discounts, and commercials tailored to individuals (this connects to hyper personalization); and the flexible, helpful multi-channeled customer service. In spite of this, the offers based on customer data – which demand database marketing techniques – are today rather scarce in practice in Hungary, as only 19% of Hungarian merchants use it (Gki Digital 2017).

The role of physical shops is without a doubt changing. One study said, more than half of shoppers prefer physical channels and yet only 23% of them enjoy the shopping experience in-store (KPMG 2017). Despite this, Hungarian shoppers still need the physical presence of shops, the new direction will be blazed much more in the combination of online and traditional channels. This tendency

is also shown very well by the fact that the dealers that start up purely online web stores have their roots in establishing traditional shops, pick-up/drop-off points, and showrooms. Therefore, successful retailers will be those who provide multi-channeled shopping experiences and ensure the integration of various channels (Gki Digital 2019b).

Other parts of the digital strategy beside e-commerce also add to the shopper's experience through tech-based, in-store convenience features that make shopping faster, easier and more effective. These might be the following: self-service cash registers (22% already uses, 65% would use it in the future), mobile coupons (18% vs. 65%), mobile shopping lists (15% vs. 64%), dealer's frequency customer apps with which they provide information and deals to the buyer (14% vs. 63%), use of hand-held scanners (12% vs. 70%), use of store wifi for information-gathering and receiving offers (12% vs. 66%), use of store computers getting acquainted with elements of product lines (11% vs. 68%), as well as QR code usage for information-gathering (11% vs. 65%) (Nielsen 2015).

Shopper experience is also able to be improved with other techniques and technologies, e.g., surmising how much time it takes for customers to finish shopping, and based on this opening the appropriate number of cash registers. Naturally, for this, it is also necessary for the dealers to gather and to process the potentially large amounts of data. Today however, in the area of Big Data and data mining, the retail sector performs rather weakly (KPMG 2018a), for example, a study says that only about half of the participating companies used real-time, location-based data in order to better understand their customers (KPMG 2018b).

Beside this, in the future to improve shopper experience, it's possible that a large part will be played by such technologies as virtual reality (VR), augmented reality (AR), as well as mixed reality (MR). With these technologies, effective, tailored marketing communication, or personalized deals can be created; products can

be displayed in interactive, 3D format, or even product instructions or ingredients can be more easily displayed with interactive packaging (Renner et al. 2019).

3.3. Convenience products, services, shopping

Consumers who are short on time more readily lean on time-saving, easily acquirable and consumable goods like pre-packed, ready-made foods and drinks (Olayanju 2019). They also depend on such services as food home delivery, fast-food restaurants, and e-commerce. The members of generation Y are the most prone to this, as 56.4% of them eat on-the-go, and 45.6% eat at least once a week in restaurants – a stark contrast to the older age group's 37.4% and 39.7% (Bakonyi-Kovács 2019).

The preference of convenience is also shown in where people choose to shop. Majority of sales, i.e., 62% of food and drink sales in developed markets take place in supermarkets and hypermarkets, but in this product category convenience stores are also significant players, boasting 20% of sales. In contrast to this, in developing countries this category is the most concentrated, though the role of hypermarkets and supermarkets is growing (currently at 34%), 45% of sales happens in traditional small businesses (Nielsen 2015).

3.4. E-commerce is growing ever stronger

In parallel with the spread of the Internet, e-commerce is also on the rise. It makes it possible for customers to conveniently, quickly, and cheaply get at needed products and services, which makes for higher customer satisfaction.

In 2017 global online retail sales reached 10.2% of all retail sales. Following in the footprints of technological innovation, expansion of online retail will exceed the traditional retail forms (Nielsen 2018). Similar to the global trend, we are experiencing the dynamic

growth of online retail in Hungary. In 2018, online retail sales showed a 17% growth compared to previous years, with this giving 4.5% of the total Hungarian retail sales (Gki Digital 2019a).

Based on Nielsen's survey, around the world a quarter of consumers already buy food online, and 55% of them plan to. Buying food online is more typical of the younger generations: In contrast to 22% of generation X, 17% of the Baby Boomers, and 9% of the Silent generation, 30% of generation Y and 28% of generation Z order food to be delivered. Likewise it is the younger generations who are willing to greater extent to take advantage of this service in the future as well (Nielsen 2015).

According to predictions, the networth of all online food and drink sales will be between 15-20% of global sales by 2025, more than ten times what it was worth in 2016 (Statista 2019). It is not by accident that many traditional retailers, the food retailers as well, entered into e-commerce, creating a hybrid, traditional offline and new online presence. In the case of food products, e-commerce is not yet that widespread like other products (e.g., consumer durables). Still, many domestic and foreign (e.g., Instacart, Good Eggs, Imperfect Produce, Grubhub, Uber Eats) examples of this construction can be found.

On the Hungarian market, the most online shoppers took advantage of Tesco Online Shopping (67%) and Auchan Online Store (27%), but they would happily take advantage of online shopping opportunities from Lidl (39%), Aldi (27%), Penny Market (26%), and Spar (23%) if they were available (eNet 2019). These ratios show that online shopping has incredible potential; beside the current competitors, more players are expected to enter the market. Those already on the market ought to be also considering expanding their areas of coverage.

However, the companies involved in e-commerce must deal with several restrictive factors too. One of them is that, regarding foods and beverages, the keyword is quality (flavour) and freshness, two

things that most consumers judge based on how a product looks. Thus, it's no wonder why they prefer first-hand experience (Sana Commerce 2019). Therefore the daily acquisition of fresh products, vegetables, baked goods, meats, and dairy products are primarily made in physical stores, in contrast with e-commerce's majority of heavy, bulk items like mineral water, soda-pop, and pasteurized milk (Gyöngyösi 2019).

It is also worth mentioning that food products of some of those in e-commerce following the health and wellness trend, are put into fresh, local, vegan, "free from" and organic categories, offering product variety which traditional offline stores don't carry. Moreover, for consumers short on time, these retailers deliver already portioned meals and ingredients (Nielsen 2015).

Beside "classical" e-commerce, technological advancement also gave rise to other innovative forms of commerce. One example is the virtual supermarket. In 2015, worldwide, 13% of consumers used these 2D surfaces (whether it be a printed picture or a screen) with the store's product-stuffed shelves ready to assist purchase, and 58% expressed willingness to try it, if they were available to them. Therefore this opportunity holds great potential (Nielsen 2015). Beside e-commerce and m-commerce (mobile-based commerce) some are already talking about a-commerce (automated commerce), i.e., consumers, who don't have enough time to shop themselves, "outsource" their purchasing to A.I.-based personal assistants (KPMG 2018a). Other new technological advancements like voice command operated smart speakers are making online shopping easier than ever. On top of this, besides price comparison websites various applications are already aiding in making the task of comparing prices easier (KPMG 2019).

Along with the B2C market, e-commerce has also encircled the B2B market, and further growth is expected to show. The consumer expectations of professional shoppers carry over into

the business transactions: they also would like attractive, user-friendly, easy-to-use webshops (Sana Commerce 2019).

3.5. The breakthrough of content marketing and social media marketing

The ever increasing intensity of consumer presence on social networks encouraged companies to lean more heavily upon social media marketing. The significant rise in social media expenses (20% yearly worldwide) shows this delay very well (KPMG 2019). In Hungary, among social media sites, Facebook almost became unavoidable for dealers: in 2017 92% of them had official Facebook pages. Most of them (68%) use the account for promoting products and sales and for paid advertising, but its customer service function has also become increasingly important (55% of them use it for this purpose) (Gki Digital 2017). Hungarian webstores typically represent themselves on Google+ and on Youtube, but Instagram is also becoming more popular (eNet 2018).

The domestic e-merchants already recognized that in order to reach the youngest shoppers catchy content marketing that serves their interest and information needs would play a big role. Some 55% of the webshops apply content marketing tools, most often having their own blog. The newest form of content marketing, i.e. influencer marketing, is still in its infant stage in Hungary (Gki Digital 2018), but based on foreign examples its role will become more critical in the years to come.

4. SUMMARY

The trends of food trade are defined by the changes that take place in the closely-tied food-related consumer/purchasing behaviour trends and general commercial trends.

One of the most important trends of consumer behaviour is that beside a low price, consumers desire convenience, speed, personalized deals, and above all experiences. The Internet and social networks play a major role in satisfying these needs. The Internet now more than ever gives power to consumers, and social networks influence the majority of consumers during shopping.
Those shoppers short on time increasingly go for time-saving, easily accessible and consumable food products, as well as for time-saving services and for e-commerce. In Hungary, like the global trend, we are experiencing the dynamic growth of online retailing. It's not by accident that many traditional retailers have stepped into online commerce, creating a hybrid presence. However, physical channels' future is undoubtable, especially regarding food products. In the future, both online and offline, many new technologies will help increase the shopping experience and will help provide personalized communication and offers.

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KORCSMÁROS ENIKŐ – CSINGER BENCE: THE POTENTIAL OF SOCIAL MEDIA FROM A BUSINESS PERSPECTIVES

[1] Department of Economics, Faculty of Economics and Informatics, J. Selye University, Komárom, e-mail: korcsmarose@ujs.sk

[2] Department of Management, Faculty of Economics and Informatics, J. Selye University, Komárom, e-mail: csinger.bence@gmail.com

Abstract: In 2020, 51% of the total population was an active social media user, which represents a 10,5% increase compared to 2019. The timeliness of social media is unbroken, an area that requires attention, as this type of activity influences the way businesses communicate with their target audience. Our aim is to determine how the subjects of our research feel and what importance they attach to social media in the life of enterprise. In our study, we conducted a quantitative questionnaire survey among the SME sector operating in two regions of Slovakia. In the course of our work, we have followed the path of the development of social media, the market presence of today's most popular platforms, and the many opportunities and challenges inherent in them from a corporate perspective. Our results provide a comprehensive picture of the importance of integrating social media into corporate life for the SME sector.

Keywords: corporate social media, opportunities, COVID-19, Slovakia, SME sector

1. CONCEPTUAL DEFINITION OF SOCIAL MEDIA

Social media is a set of media that users fill with content. Anyone can participate in social media, as it is a community where users have open dialogues with each other without control, mainly to make connections. Social media is thus a complex and extremely fast-growing digital platform that includes:

- community interfaces
- Internet forums
- image, music, video sharing sites
- diaries published on the Internet
- audio materials shared on the Internet (podcasts)
- web pages written, edited or managed by users (wikis)
- news gathering websites
- link databases

Social media has been specifically designed to fill this online interface exclusively with users with content with each other, thus generating additional content. Another advantage is that it is free for customers and cost effective on the corporate site. (Eszes, 2012)

In addition to the concept of social media, it is important to mention social networking sites, which are web-based services that allow users to create a public or semi-public profile within a limited system to compile a list of users they would like to connect with. (Boyd-Ellison, 2007)

Among the information tools, we can define so-called traditional as well as social media. In case the opportunity to comment is limited, sharing is not supported. Other features include the fact that the archives are finalized, unalterable, and difficult to access. In contrast, the defining elements of social media are characterized by seamless updating, unlimited real-time commenting, and freedom. Furthermore, archive materials are immediately available to users, publishing is done individually, endless, and sharing and participation are supported. (Eszes, 2012)

2. SOCIAL MEDIA PLATFORMS IN SLOVAKIA

Before the emergence of today's most significant social media platforms, based on the history of Slovakia in social media, it is worth mentioning and examining 5 different social media platforms, which are the following.

- Spolužáci.cz
- Lidé.cz
- Líbímseti.cz
- Azet.sk
- Birdz.sk

The first community platform examined was Seznam Spolužáci, which was an Internet community server whose main goal was to transform classmates into a community. Students had the opportunity to share messages, photos, videos on a virtual

whiteboard, and the platform also allowed them to structure their own profile, insert photos, and set a nickname. The website also provided an opportunity to create its own department, and the founder could also appoint an administrator. The platform was most popular in the 25-35 age group. (Čapek, online)

The year 2018 marked the end of the social platform, mainly due to the fact that the number of new users has been steadily declining year by year. (Sblog, online)

The next website was launched in 1997 as Lidé.cz. Similar to the previous platform, Lidé's user base started to decline steadily with the advent of more and more social media platforms, and then continued to operate as a dating site in 2014, but this change did not save it either, two years after Spolužáci a social website ceased to exist. (Slížek, online)

The third platform worth mentioning was based on a completely unique concept, as users of the site had the opportunity to vote on how sympathetic other users were. Like Myspace, Líbímseti has lost interest in its user base by simply turning the platform boring over time. The sale took place in 2010. (Brejlová, online)

Azet.sk was an extremely dominant and rapidly evolving community platform. Its predecessor is a dating service established in 1997. The creation of Azet.sk can be traced back to the year 2000. Its development was extremely fast, and in 2005 it also launched two news sites. In 2009, it created a number of additional sites and began working on acquiring companies for growth. In 2012, it launched a website with real estate ads and a website of a Slovak daily newspaper. The website still operates today, but no longer as a social media platform, much more a daily news site. (Azet.sk, online)

The last platform examined is none other than Birdz.sk, which began operations on December 4, 2000 in the form of an online magazine. However, the platform has been called Birdz.sk since 2001 and we can talk about it as a social platform since 2004, although at that time users only had the opportunity to get acquainted with the site. After the website's fifth anniversary, it evolved into a platform where users could register, create their own profiles, upload photos, blog and communicate with each other. It was the first company to launch a micro-blogging system. Since 2009, the website has become increasingly popular among users of video blogs and TV shows. In 2013, the creators of the platform switched to adaptive web design, which allowed it to be used on mobile phones and tablets. The platform still works today. (Birdz, online)

3. OPPORTUNITIES IN SOCIAL MEDIA

The importance of social media in business is growing at an extremely rapid rate. As more and more businesses feel the need to connect to social media platforms, the social media industry is expected to become increasingly popular in the coming years. As a result, individual businesses need to take advantage of the benefits of having an online presence. Not only because it is a kind of expectation, but rather because a large part of the target audience is present on one of the social media mentioned earlier, so they are able to connect with individual consumers. As a result of the presence of the business brand itself on the mentioned websites, it generates and realizes more business and is able to satisfy the needs

of the customers at a higher level, thanks to which it facilitates the digital marketing activities of the company. (Keran, 2019)

Organizations need to keep up with ever-expanding social media platforms in order to influence their target audience. As a result of the dialogues generated by the companies, an extremely large amount of information about the company's product / service can be spread on the platforms. However, in order to survive in the long run, companies need to respond to these dialogues. Marketing professionals have the opportunity to observe and influence these dialogues, which creates two-way communication between the consumer and the company. Social media offers them the opportunity to stay in touch with their customers as well as to work together to develop / improve a product / service. It is important to keep in mind that relevance, uniqueness and creativity play a key role in this activity. (Csordás et al., 2013)

Platforms provide a tremendous amount of opportunities for interaction, in addition to active communication, providing opportunities for instant feedback, building communities, and reaching new customers. Social media also benefits companies financially without having to promote their product / service with the help of a huge marketing team. (Assaad & Gómez, 2011)

The goals of well-designed marketing campaigns by a business will only be successful if its strategy focuses on triggering activity. A key factor is also for the company to offer a "story" to its consumers, as in today's world, the emphasis is on human relationships. (Marketingprofesszorok, online)

4. CHALLENGES IN SOCIAL MEDIA

In addition to the many benefits provided by social media, it is important to examine the challenges that businesses face in terms of presence on each platform. As mentioned earlier, social media is evolving at an extremely fast pace, but this is a serious challenge as platforms are constantly changing, more and more websites are appearing and this is difficult to keep track of. It is a challenge for them to know exactly what information needs to be tracked and developed in order to be able to perform analyzes. From a financial point of view, while being present on social media is cost-effective, sales do not always follow consumer needs, and it is important to be aware that each post can have a huge impact on the life of an organization. Certain ethical constraints should not be forgotten either, as improper influence on brand communication very often leads to consumers losing credibility with the company. It is also important to emphasize social value creation in addition to achieving commercial goals. Most consumers are not at all aware that companies are observing, which also raises more and more ethical issues. In addition, misinterpretation of monitoring data is a critical factor. With the right solutions, challenges can become opportunities that give organizations a competitive edge. (Zhang & Vos, 2014)

5. RESEARCH METHODOLOGY

The aim of our study is to provide an insight into the corporate role of social media in the life of small and medium enterprises. In the course of our research, in January 2021, we conducted a

quantitative questionnaire survey on the life of small and medium-sized enterprises operating in the Nitra region within Slovakia. Our 27-question questionnaire was developed using Survio and Google Form Builder software and sent to the SME sector in the form of direct mail. In addition to general company information, our questionnaire covered social media coverage, the use of feedback, future plans for social media, and the success of traditional marketing tools used in the past. 311 small and medium-sized enterprises joined our study.
During our research, 2 research questions and 2 hypotheses were formulated.

RQ1: Nowadays, what role does social media play in the life of small and medium-sized enterprises operating in the Nitra district?

RQ2: What are the future plans of the research subjects for social media?

H1: Small businesses are present in a much larger number on social media than medium-sized businesses

H2: Businesses that plan to expand the company's presence on social media would most likely implement their plans by involving influencers.

As a first step, the data were coded using Microsoft Excel, after which the hypotheses were examined in the SPSS program using cross-tabulation analysis. A significance level of 5% was determined during the evaluation.

6. RESEARCH RESULTS

The results of our first hypothesis are presented in Table 1, during which we hypothesized a relationship between the size of firms and their presence in social media. The result shows that the two variables under study are significantly related, as the value obtained in the cross-tabulation analysis is higher than the level of significance implied, i.e. the assumption that small businesses are present in greater numbers in social media has been confirmed, than medium-sized enterprises. In our opinion, the main reason for this is that it is extremely important for small businesses to use marketing tools that are cost-effective and that it is important for them to stay in touch with their target audience.

Statistics	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	1,032[a]	2	*,597*
Likelihood Ratio	1,021	2	,600
N of Valid Cases	311		
		Value	Approximate Significance

Nominal by Nominal	Phi	,058	,597
	Cramer's V	,058	,597
	Contingency Coefficient	,058	,597
N of Valid Cases		311	

Table 1 : Analysis of the first hypothesis

Source: Owned editing based on primary data collection

In the case of our second hypothesis, we assumed that there is a correlation between the expansion of the future presence and the way of its implementation, which is presented in Table 2. Similar to our previous hypothesis, the number of responses in this case was 311. Based on the obtained result, it can be said that there is no significant correlation between the two variables studied, as the obtained value is greater than 0.05. Based on these, it can be stated that the null hypothesis is acceptable during the second assumption.

Table 2 : Analysis of the second hypothesis

Statistics	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	135,177[a]	21	*,000*
Likelihood Ratio	165,348	21	,000
N of Valid Cases	311		
		Value	Approximate Significance
Nominal by Nominal	Phi	,659	,000
	Cramer's V	,659	,000
	Contingency Coefficient	,550	,000
N of Valid Cases		311	

Source: Owned editing based on primary data collection

7. CONCLUSIONS AND RECOMMENDATIONS

As mentioned earlier, we formulated two research questions in our study. The first figure shows the distribution of presence in social media to the reader in relation to the size of the businesses. Based on the results, it can be stated that micro-enterprises are the most present in social media in the studied region, i.e. this kind of presence is the most important for them. They are followed by small businesses and closed by medium-sized businesses. However, based on the figure, it can also be said that many companies from the SME sector are not present on social media platforms, which is mainly due to the fact that they are not aware of the opportunities and benefits provided by social media. In today's society, it is extremely important to have a first impression in the hands of the business, which social media platforms provide a full opportunity. Furthermore, as mentioned earlier, this type of presence provides visibility to organizations, giving them up-to-date information about their target audience, their ever-changing needs, and the ability to communicate with them.

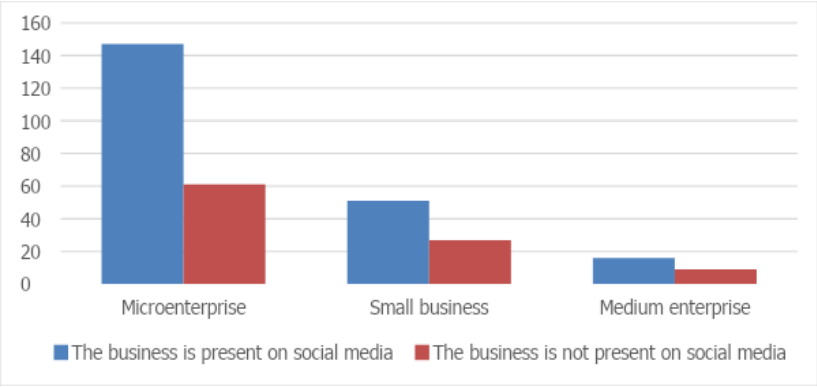


Figure 1 : Distribution of social media presence by business size

Source: Owned editing based on primary data collection

Many people think that advertising is expensive, in our opinion, in today's world, there is only one more expensive thing than advertising, namely, if the business does not advertise. For this type of marketing strategy to be successful, businesses need to be present on platforms where their target audience is most numerous. It is also important to hire the right person for the job. In this context, companies also have the opportunity to retrain their own employees, recruit new employees, hire young, ambitious trainees and involve external companies. It is also key to keep track of their own target audience, who are the most motivating force in everyday life and are able to learn from both their mistakes and their successes. In addition to competitors, great emphasis should be placed on feedback from their own target audience to increase efficiency and increase the current consumer base. In our second research question, we sought to answer how the examined SME sector views the future expansion of its presence in social media

and how to implement it. Figure 2 illustrates the results in this regard.

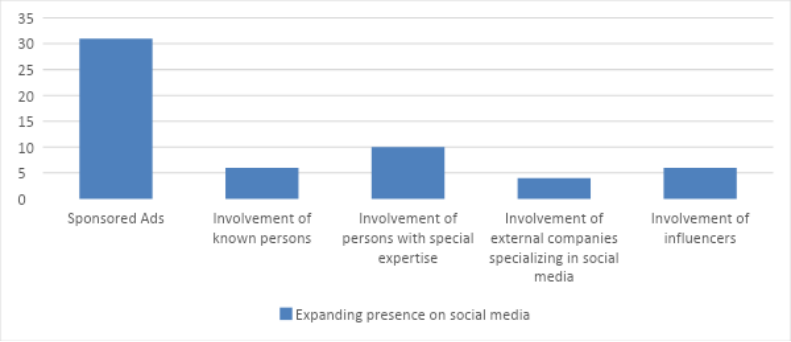


Figure 2 : Distribution of ways to implement future expansion of social media presence

Source: Owned editing based on primary data collection

Slightly less than 50% of respondents (43%) would be willing to expand their presence on social media compared to the current situation. As the figure illustrates, most businesses would implement this type of expansion by involving sponsored ads, followed by involving people with special expertise. We encourage businesses to monitor social media trends, monitor the presence of their own target audience, and adopt platforms that prove to be most important to their target audience. Nowadays, the application of so-called influenza marketing is extremely popular. We encourage SMEs in the SME sector to involve influencers in their marketing activities with whom their target audience can best identify. It's important to keep in mind that it's never too late to start and move into the online space.

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IOAN-DAVID LEGMAN - MANUELA ROZALIA GABOR: INCREASE ECONOMIC EFFICIENCY BY IMPROVING CUSTOMER SATISFACTION

[1] "G.E. Palade" University of Medicine, Pharmacy, Sciences and Technology of Targu Mures; daveione@yahoo.com

[2] "G.E. Palade" University of Medicine, Pharmacy, Sciences and Technology of Targu Mures; manuela.gabor@umfst.ro, rozalia_gabor@yahoo.com

Abstract

Today the goal of companies in the market continues to be to maximize profit.The main research elements in this work were aimed at systematizing theoretical concepts of how various aspects of increasing and assessing customer satisfaction in the economic activities performed at the level of society can be improved.One of the elements sought was the analysis of the evolution of customer satisfaction, the determination of mechanisms for assessing customer satisfaction by applying their own methods in relation to the classical economic indicators (profit, productivity, cost), develop and propose solutions for growth and economic development at society level by increasing customer satisfaction based on the results of this research. The general methodology of research was based on three types of research: fundamental, applied and empirical. Analytical procedures such as observation and reasoning have been used.

This is why we have put a new system into the fore in the form of an indicator that involves both customer satisfaction and economic elements that measure economic activity itself so that we can talk about economic sustainability based on continuous innovation.

KEYWORDS: customer service, management, sustainability, economic efficiency, analysis

1.Introduction

If we were to compare our way of living with that of our parents, there is a clear difference in terms of consumption, today it is much more than fifty years ago. (Legman, Blaga 2019)This increase in consumption can be seen, for example, in a simple look at the existing appliances in the kitchen or the number of cars per capita. Well consumption differs from one family to another, because income and needs are different. In order to explain these changes, reference is often made to the "laws of Engel" which highlight the existence of a hierarchy of needs.

The rise in the standard of living is primarily affecting comfort goods, which is why some thought that thanks to this law, rich societies would increasingly tend to become service societies (Didier,1992). When the economy loses its balance, it can either not produce enough to cover its needs or suffer from too little demand and over-production (Tanzer, 2017).

The maximum of our time is not the saturation of the hungry, but the sick ones, if it is very simple to make the hungry happy by

giving them food, but the feeding of the village is a growing problem whose solution is used to advertising, marketing.

As the consumer society gained ground, services have been on the bottom-up trend over the last thirty years. The purchase decision is still influenced by price, quality and brand. In a competitive market, it is preferable to adopt an effective strategy precisely in order to be able to resist in the future. Thus Michael Porter identified the three types of strategies that companies can adopt to cope with competition: The strategy of the focused effort, the strategy of differentiation and the strategy of global domination through costs (Porter,2008). Each has particular features, all have certain advantages, but it depends on each firm how they are implemented and most importantly not all firms achieve the same result. Differentiation is expressed by uniqueness, it can be an aspect of the way a person conducts his business, a way that customers can consider to be a particular feature. Differentiation may refer to products, services, points of sale and prices (Cook,1994). Price is an essential element in the market both when a firm is emerging and when it wants to differentiate itself from the rest. Price policy was a rather often discussed issue in the literature, but in practice the way to solve is different from theory.

The philosophy of any client-centered company should be the client first of all. This should be based on the continuous improvement of both the products and the services the firm offers in the market. From this we can infer the importance of customer analysis and satisfaction. Research in recent years has taken some approaches that reflect the assessment of customer satisfaction

from different perspectives. These approaches include both quantitative, statistical and behavioral instruments.

Measuring customer satisfaction is one of the most important elements that have come to the attention of companies and organizations in all fields (Hill, 2007). As Lord Kevin said in the 19th century "if you cannot measure something, you cannot understand that" (Saxon, 2007).
Therefore, customer satisfaction should be identified in measurable parameters. This is one of the reasons why customer satisfaction continues to increase in business attention. More and more companies in the market economy are choosing customer satisfaction as a performance indicator. But in terms of customer satisfaction as an indicator within a company, it is quite difficult to motivate employees strictly based on it. Customer satisfaction as an indicator involves all staff within the firm directly related to the customer. It motivates employees to achieve the highest standards and constantly increase labor productivity.(Fade, 2020)

From a traditional perspective, a consumer is the person buying goods and services from different entities. According to Maslow's theory the basic needs motivating a person are survival needs. When these needs are not met, the individual will use his or her energy to meet them.
Potential customers can be considered as people who want to buy different goods or services, people who have reason to carry out these purchase transactions, the person who has the necessary cash, the person who has access to the locations where these goods exist.
In many cases the customer is not the consumer, and more can be

involved in the procurement process with different roles, each contributing to this process.

2.Material and Methods

Based on the traditional formula of the SPC indicator, some adjustments were needed in terms of its applicability. These adjustments consist primarily in adapting the indicator to the courier activities carried out in the company. If in online commerce the interaction between the employee and the customer is based on a telephone call, chat or email, in the case of the courier the interaction is often direct face to face. In both situations the customer satisfaction must be maximum.(Stauss, 2019)

Within the courier service company, the Map (weighted arithmetic average of customer satisfaction) was applied by email sent throughout the day to customers in which they expressed satisfaction/dissatisfaction as a result of their interaction with the employee of the company. This element shows us the degree of satisfaction with the quality of transport, the quality of communication with employees, the promise of the employees from the customer's perspective is assessed, but the customer's opinion on the company's prices on the market will also be taken into account.

An employee of the courier company delivers on average about 60 packages per day of different sizes. The company's employees' program is flexible. It ranges from 7 hours/day

to 12 hours/day. There are situations where employees, for some reason, have been out of work. The other items used to calculate the SPC indicator are: T (weighted average unit delivery time), WmL (average labor productivity), and ∑c is (sum of delivered packages).

According to the SPC indicator, in July, 31 employees were in the red (weak) area with an index below 0.10 points, representing 46% of the participating employees. In the yellow (average) area, there were 34 employees with an SPC index between 0.10p and 0.20p, which represents 51 % of the total. Only 2 employees are in the open green area (good) with an index exceeding 0.20p, which represents 3% of the total 67 employees. All this information can be observed in Table 1.

Table 1 Presentation of the SPC indicator at firm level - July 2020

Number of employees / SPC	Relative number	Absolute number
SPC<0.10	46%	31
0.10<SPC<0.20	51%	34
0.20<SPC<0.30	3%	2
0.30<SPC<0.40	0%	0

SPC>0.40	0%	0
Σ	100.00%	67

Sources: Own calculations based on information collected from the firm

Continuous innovation is needed to meet customers' needs, respond to their needs and maintain a high degree of competitiveness. Analyzing the program implemented it was considered that employees were having difficulty in putting packages properly into the utilities they used. These difficulties were also encountered in the warehouse where there was unused space for certain reasons.

As a result, the use of VR/AR technology in which employees had different refresher sessions were introduced to increase the efficiency of their employees in the use of storage space, i.e. customer satisfaction, labor productivity, etc.(Legman, Gabor 2020) In these programs where VR technology was used, employees were able to experiment with different methods of arranging packages in different storage areas. The arrangement of packages has been experimented with in both classical warehouses and various trucks.

Customers expect the packages to be delivered on time in optimum conditions. Deposit Management systems (WMS) are playing an increasingly important role. The purpose of implementing the SPC indicator was not to remove these management systems but to present some aspects of the workflows at the Agent level. Another problem could be the delay of orders due to the long time spent

preparing them. This may damage the credibility of agents to their customers.

The SPC indicator brings a real picture within the company of the relationship of customer satisfaction – employee performance, an important element in increasing company efficiency. To increase this employee performance it was necessary to introduce the SIAR program. This program consists of the SPC indicator, the ITA method and the AR technology, which is technology would use virtual world elements in real life (Legman, Gabor 2020). Employees in this way can see in advance how packages are arranged in a specific building, storage space, transport unit, etc. The use of the specialization program in virtual space (VR) is for a limited period followed by a break period. This is because virtual space causes certain health problems for users of VR devices.(Filipowiak, 2019)

This program aimed to specialize employees on how to sort units by size, adapt to different deposit spaces, in other words, the mixed reality part was experienced as well.

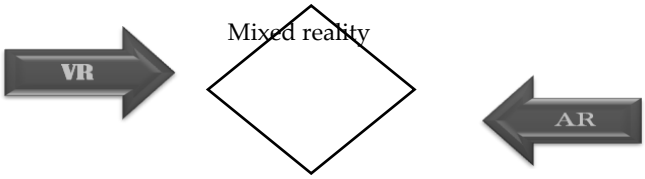


Figure 1 – "Virtual reality" and "Augmented reality" important elements of mixed reality

Source: Legman,I.D., Gabor R.M. Enriched reality technology - base element in industry 4.0, ACTA Marisiensis, 2020



Figure 2 How to arrange packages in VR

In August from the perspective of the SPC indicator the situation looks different as follows:

Table 2 Presentation of the SPC indicator at firm level - August 2020

Number of employees SPC	I elative numb er	A bsolu te numb er
SPC<0.10	13%	9
0.10<SPC<0.20	76%	51
0.20<SPC<0.30	11%	7
0.30<SPC<0.40	0%	0
SPC>0.40	0%	0
Σ	100.00%	67

Sources: Own calculations based on information collected from the firm

Table 2 shows a decrease in the number of employees in the red zone of the SPC indicator, a decrease of 33 percentage points, i.e. an increase in the number of employees in the yellow area from 34 to 51 employees. Also positive is the increase in the number of employees in the open green zone of the SPC indicator, i.e. in the range of 0.20 p to 0.30p; here we have an increase from 3% in July to 11% in August, an increase of 8 percentage points. In September from the SPC indicator the situation looks like this:

Table 3 Presentation of the SPC indicator at firm level - September

Number of employees **SPC**	**Relative number**	**Absolute number**
SPC<0.10	7%	5
0.10<SPC<0.20	81%	54
0.20<SPC<0.30	11%	7
0.30<SPC<0.40	1%	1
SPC>0.40	0%	0
Σ	100.00%	67

Sources: Own calculations based on information collected from the firm

In September, the number of employees in the weak area was reduced to 5; a decrease of 39 percentage points compared to July 2020. Also this month, we have the first employee to get to the very good area of the SPC indicator with a score of 0.31.
A brief analysis of the period studied indicates that economic activity is increasing in terms of employee efficiency.

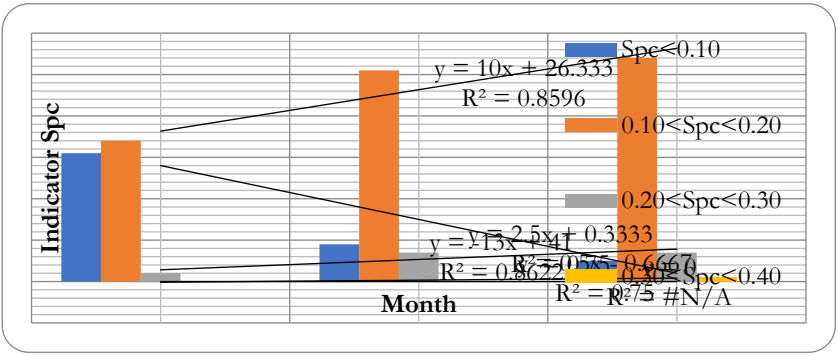


Fig.3 Fluctuation of the SPC indicator – period July to September

Sources: Own calculations based on information collected from the firm

3.Results and Discussion

Looking at the three months from the SPC indicator, from July to September, a trend can be observed for employees in the red sector (weak area) of the SPC indicator to the yellow area (medium area)

of the SPC indicator. So if in July we had 31 employees in the weak zone, in August the number reached 9 and in September the number of employees fell to 5.

Table 4 Evolution of the economic indicators used for the achievement of the SPC indicator

Indicators	July	August	September
Map SPC	0.105	0.132	0.139
ΔMap SPC%		25.71	5.30
WmL	8.976	9.197	9.465
ΔWmL%		2.46	2.91
∑C	80798	95292	102826
ΔC%		17.94	7.91
Hours worked/day	6.901	7.783	8.116
ΔL/day%		12.78	4.28

Sources: Own calculations based on information collected from the firm

Some elements related to the creation of the SPC indicator show that the economic situation of society is on the rise. If we look at the weighted arithmetic mean of the SPC indicator, we can see a 25% increase in August as compared to July, and a 5 percentage point increase in September as compared to August.

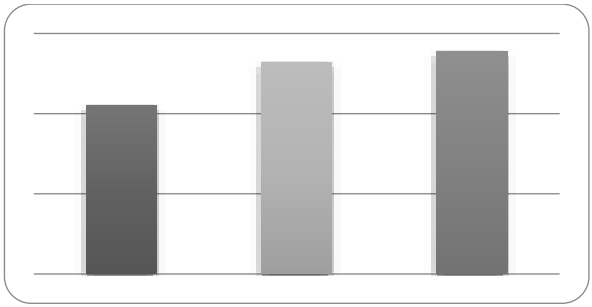


Fig. 4 Evolution of the SPC indicator at company level between July and September 2020

Sources: Own calculations based on information collected from the firm

There is also a 2% increase in the change in average percentage labor productivity in August as compared to July, i.e. an increase of almost 3% in September as compared to August. The number of packages delivered was also steadily increasing, so if in July 80 798 packages were delivered in August the number reached 95 292 an increase of around 18%, the upward trend continues in September to reach 102 826 packages delivered, an increase of around 8% in September compared to august.

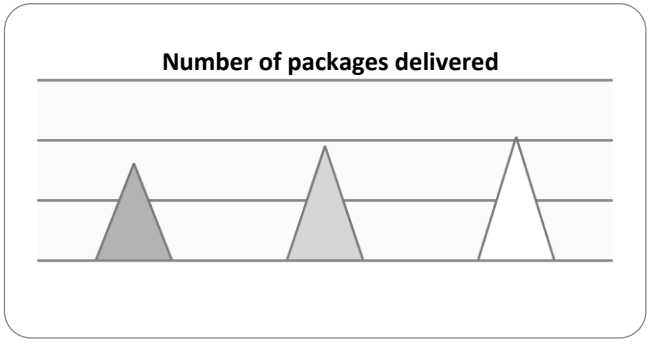


Fig.5 Status of packages delivered at branch level during the period july-september 2020

Sources: Own calculations based on information collected from the firm

All these elements have led to an increase in the economic efficiency of the courier company, which is also reflected in the economic data of the company. Thus Table 5 shows the main economic indicators of the courier company.

Table 5 Evolution of economic indicators for the courier company July-September 2020

Economic indicators	July 2020	August 2020	September 2020
Turnover	44630	45728	47059
ΔQP%		2.46	2.91
Profit	5219	5966	7500
ΔPr%		14.31	25.71
Total costs	39411	39762	39559
ΔCT%		0.89	-0.51
Number of employees	88	88	87
Eerfp	1.13	1.15	1.19
Eecfp	0.88	0.87	0.84
Rate of return	13.24	15.00	18.96

ΔRprCT%		13.30	26.35
The commercial rate	11.69	13.05	15.94
ΔRprQP%		11.56	22.15

Sources: Own calculations based on information collected from the firm

ΔQP% – percentage change in turnover

Eerfp- economic efficiency in terms of factor yield

Eecfp – economic efficiency in input consumption

ΔRprCT% - percentage change in rate of return

ΔRprQP%– percentage change in the commercial rate

As for the turnover indicator, an increase of over 2% can be observed in August as compared to July. The company's profit also increased in August as compared to July by more than 14%, the upward trend continued in September when it reached lei 7500 representing a 25% increase in September as compared to August.

The company's expenses remained at the same ceiling in August as compared to July, with a slight decrease in September as compared to August. As regards the economic efficiency of the yield of the inputs, this is continuously increasing over the 3 months. The second indicator of economic efficiency, the one on input consumption is on a decreasing trend.
The rate of economic return is also on the rise in August from July

by 13 percent and an increase of 26 percent in September from August.

Table 6 Annual economic situation of the courier company

Month	Q	QP	CT	Pr	QPmg	Cmg
January	81264	41783	38944	2839		
February	84568	43642	39232	4410	1859	288
March	83697	42788	39697	3091	-854	465
April	82269	44786	39888	4898	1998	191
May	81674	45631	40597	5034	845	709
June	80697	43965	38671	5294	-1666	-1926
July	80798	44630	39411	5219	665	740
August	95292	45728	39672	5966	1098	261
September	102826	47059	39559	7500	1331	-113
October	99687	45899	39946	5953	-1160	387
November	97364	44991	38440	6551	-908	-1506
December	101678	44658	38796	5862	-333	356
TOTAL	**1071814**	**535560**	**472853**	**62617**		

Sources: Own calculations based on information collected from the firm

Q- output/units delivered

QP- turnover

CT –total costs

Pr – the profit

QPmg – marginal turnover

Cmg – marginal costs

The economic activity of the courier company is quite stable in terms of the economic indicator profit, which is positive throughout the year. (Capelle, 2014) At the end of the year, the company totaled 1 071 814 pieces dispatched, providing a turnover of lei 535 560. Economic data show that between July and September 2020 some changes took place, with the peak of the company's turnover reaching 47 059 lei in September. Adaptation to market changes must also be reflected in the management of society. Employee performance evaluation systems must be continuously improved. (Downing, 2020) The Company-wide SIAR program reflected the ability to improve the economic performance of the company. Regardless of the area of activity in which the SPC indicator is implemented, as long as it is properly adapted and used the results will reflect an economically real situation for the company.

4.Conclusion

Even if a company manages to achieve economically positive results, it does not guarantee that it will also be successful in the market. Competition is a hallmark of the market economy, an element that sets the market in motion and continues to push economic participants toward permanent development.

Irrespective of the field of activity, the SPC indicator can present a real situation of the economic situation of the company vis-à-vis its clients, as long as it is properly applied. From the analysis presented in this paper, some aspects of how to implement and adapt this indicator to different companies can be distinguished.

The SPC indicator analysis confirms the two assumptions underlying this work, firstly that any growth and economic development program requires continuous improvement of the economic indicators used, and secondly, in terms of performance assessment systems, innovative adjustments are needed, which of course can also use elements from other sectors of activity.

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MOLNÁR JUDITH:
THE TIP OF THE BALANCE IS APPROPRIATENESS

Hungarian University of Agriculture and Life Sciences,
Doctoral School in Management and Organizational Sciences,
Kaposvár Campus
molnar.judith@phd.uni-szie.hu

Abstract: Over the past few decades, interest in local products has been growing steadily around the world. Consequently, scientific interest in better understanding the different consumption patterns and attitudes underlying the consumption of local products and the use of local services has increased. A systematic literature review approach was used to identify literature on local or global product consumption attitudes. The primary findings of the systematic literature review are: (a) most of the research deals with consumer attitudes, habits and consumer personas; (b) many studies result in the development, exploration and further research of a new innovative method; (c) the link between local product and sustainability is very prominent; (d) almost all studies make recommendations that decision makers can incorporate into their strategic processes; (e) very few articles deal with the economic impact of buying local products and global products.
To verify the results of academic research, I present the case study of the Appropriate Local Shop.

Keywords: local products, local services, sustainability, relevance

1. Introduction

According to the author "A product or service is local if it contains largely local raw materials, is produced by a local workforce, serves primarily local needs, and is consumed or consumed locally." This definition contains four essential elements: the raw material used is important to be highly local; the workforce that performs the processing or the service must be local as well; the community or visitors should need the product/ the service; and the product/ service is used close to the place of production. These essential elements also clearly emphasize the environmental awareness and sustainability of the local product, as the constraints on local raw materials are tighter than those on global ones (eg. fuel), they stem from needs and not desires, they keep labor in place and there is no need for transport.

A very similar definition was not found in the literature, as the globalization trend is very strong, and the consumption of local products appears more as a patriotic activity in the literature (ethnocentrism). This term is completely missing from the European Union's legislation, and short supply chains make some reference to it.

At the same time, the approach of favoring the local workforce again raises economic policy issues, as most of the local products in Germany are produced by Romanian workers. But can it also be that a product produced within Europe is all considered local?

The impact of the local product as defined by the author on the local economy can certainly be demonstrated. This would also be worth addressing.

In the author's opinion, the definition and delimitation of the local product corresponds to a research topic. It is almost clear that the purchase of local products and services contains emotional elements.

What has become certain in connection with the systematic review is the multidisciplinarity in this topic: to examine consumer attitudes, it is necessary to involve sociologists and psychologists, as the research of consumer habits is not of an economic nature.
When a shopper buys a local product, he or she believes that his or her favorite store, artisan, or producer can continue to do the job he or she is best at, thereby sustaining the local economy. According to: https://atlasofthefuture.org/project/local-products/ „there are a lot of people that still want to buy from local producers, not only for the socio-economic point of view, but because they know that local producers can offer good quality products and they're part of their local community. Moreover, you can find new amazing products that you wouldn't know that exist if you had only looked at big retailers or online and even as a tourist, you could discover real local products that souvenir shops do not have." Their motto is: "Think Global. Buy Local" to discover an amazing and unique interesting product.

2. Methodology

Topic

A systematic literature review approach has been used to explore the literature on local versus global product's consumption attitude. The main aim of the study was to summarize the motives and barriers that consumers face when consuming/using local products. The author is looking for the answer to what research has been on the topic in the last 11 years, what methods have been used in the research worldwide and what results have been obtained. She is also interested in what research directions the articles outline. And further on she is interested in another very important topic: what lessons do research provide for decision-makers; what strategies are needed at the local level to increase the

turnover of local products? That is, the author needs to know the antecedents of the research.
Hypothesis set up by the author
Consumption of local products increases for two reasons:
• People choose local products based on their experiences, sustainable considerations, and inner beliefs
• Economic assistance is developed by governments to strengthen local product production in the name of sustainability.

Research questions

With Systematic Review, the author is looking for answers to the following questions:
1. How can consumer attitudes and habits towards local products be measured and tracked within a given region?
2. What other professions and research areas need to be involved to get relevant results?
3. What innovative results have the research achieved so far?
4. How prominent is the issue of sustainability in research on local products and consumer habits
5. What recommendations did the research make for decision makers?
Along these five questions, the selected literature is examined.

Key words, inclusion, exclusion criteria

The key words used for the research: local product or global product/consumer attitude or habit/

Inclusion criteria

Systematic literature review utilized five diff erent inclusion criteria:

1) studies should focus on consumer attitude or habit in context of local product or global product, 2) studies published during 2010-2020 3) studies published in English language, 4) attitudes were measured, 5) title, abstract,

keywords and, sometimes, introduction were examined to evaluate if the focus was on consumer attitude of local product consumption.

Exclusion criteria

Systematic literature review utilized four exclusion criteria: a) relevance, b) review, books thesis dissertations were ignored, c) duplicate studies, and d) studies before 2010.
Databases : Google scholar, Science direct, Scopus
3334 articles were found, and finally there were 72 articles left. Of the 72 articles, 41 are very important and 31 are worth using.

Key values arise from SR

Research criteria:

The following research criteria were followed during the evaluation of each article:

1. Is the article targeting consumer attitude and behavior, cultural aspects, including personality?
2. Does the article give proposals for decision makers?
3. Does the article have innovative ideas, which can be themes for further research?
4. The topic of sustainability is addressed in the research.
5. Is the article interdisciplinary, multidisciplinary?
6. Are economic aspects included in the study?

Distribution of papers per criterium and evaluation strengths

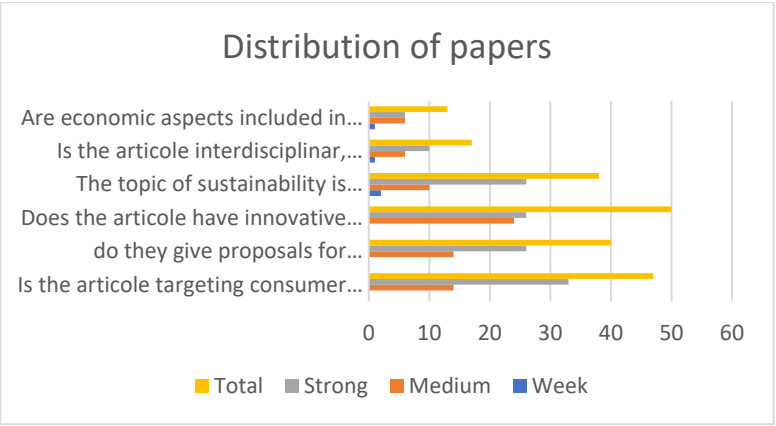


Figure 1- Own research

Findings:

• Very few articles address the economic impact of buying local products versus global products when considering consumer attitudes.

• although the author did not explicitly search for it on the topic of sustainability, a lot of studies deal with it quite strongly

• The results of many studies are the development of a new, innovative method, their exploration and further research.

• Most of the research deals with consumer attitudes, habits and consumer personalities.

• Almost all studies formulate recommendations that decision makers can incorporate into their strategic processes from the corporate level through local decision making to the international level.

Geographical distribution of research

The research covers all continents.

Research methodologies

There is a wide variety of research methods in the mapped research., like integrated literature review, focus group discussions, case studies, representative survey, etc.

Research methodologies used in papers

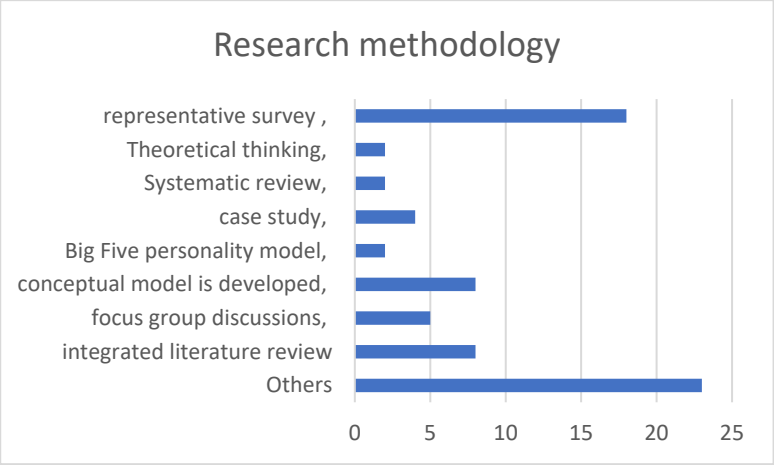


Figure 2- Own research

Important findings from research

Most of the studies read deal with the environmental and sustainability aspects of local products and draw attention to how much more sustainable it is to choose a local product instead of a global one. It is important to understand the importance of this fact already in the product design process: "Understanding its environmental implications (and thereby dematerialization potential) is regarded pertinent and timely."(Kohtala 2015)

According to Ghislain Dubois and others, "through their consumption behavior, households are responsible for 72% of global greenhouse gas emissions. Thus, they are key actors in reaching the 1.5 °C goal under the Paris Agreement. However, the possible contribution and position of households in climate policies is neither well understood, nor do households receive sufficiently high priority in current climate policy strategies.(Dubois et al. 2019) Their research investigates how behavioral change can achieve a substantial reduction in greenhouse gas emissions focusing among else on consumption

which is one of the most dominant components of household footprints.

Another important environmental aspect is the packaging of the local products. Potential pathways illustrating how zero-packaging could overcome current market limitations are presented in a research.(Beitzen-Heineke, Balta-Ozkan, and Reefke 2017)

Culture and socio-economic status play a significant role in environmental impacts and influences the consumption of green products.(Ritter et al. 2015)

The feeling of patriotism, attachment to place, cultural belonging is the subject of several studies. The role and importance of national identity in consumption choices is investigated in a research, and it develops "a theory for product patriotism, defined as how consumers construe their identity through nationally-iconic product consumption."(Spielmann, Maguire, and Charters 2018)

On another interesting theme is the consumer ethnocentrism.

Important ideas for decision makers

A very important strategic element for decision-makers is to revitalize and develop the local economy, if possible, in a sustainable way. Most of the studies reviewed make recommendations to the decision maker based on their research. They provide decision-makers with a wide range of "advice" from the corporate level to the regional but also national level. He who has ears can hear!

A priority for decision makers is to develop policies that explicitly seek to integrate agricultural, environmental, and nutritional objectives to reduce food related greenhouse gas emissions at the global, regional, and national level. (Garnett 2011)

The findings of on other research are to support future policies and actions focused on providing information and knowledge about environmental and health contribution of the green products to the consumers, producers, companies, and society.[18]

The primary outcomes of this systematic literature review highlight the need of implications for scholars, managers, and policymakers interested in better understanding issues related to organic food consumption.(Kushwah et al. 2019)

Other priority for decision makers is to develop policies that explicitly seek to integrate agricultural, environmental, and nutritional objectives, regulations targeting areas such as less packed food or more local and organic farming need to be supported and even be cherished by the public. (Dubois et al. 2019)

One of the economic aspects of consuming local products is the willingness to pay (WTP) for local and organic foods. There is a study which investigates the interaction between personality traits and consumers' preferences for both local and organic food products.(Bazzani et al. 2017)

Further research ideas

By studying the selected literature, attention is drawn to the following new research directions: need for more (and more diverse) empirical research in "distributed production", further connecting production and consumption of local products, further progress is issued on what needs to be done to go beyond 'good examples' and on what actions and strategies are able to share and spread success stories of sustainable production and consumptions to different contexts and settings(Blok et al. 2015), research in social innovations for promoting sustainable development and transformation towards more sustainable consumption practices.(Jaeger-Erben, Rückert-John, and Schäfer 2015)

The definition and delimitation of the local product corresponds to a research topic. It is almost clear that the purchase of local products and services contains emotional elements.

3. The tip of the balance is appropriateness (case study)

"The "Appropriate Shop-Helyénvaló" is an oasis in the desert of consumer society." (Kolumbán Gábor)
Through the systematic literature review, the author seeks to justify the Appropriate Shop.
In Romania, a few NGOs registered their own businesses. Entrepreneurship requires a different mindset than that used by NGO leaders. The requirements of a market economy call for profit-oriented thinking, and this is difficult to balance with faith in the future. The Civitas Foundation from Székelyudvarhely has taken on a very ambitious task with the "Appropriate Shop" (Helyénvaló) food hub. It sells food products from small farmers in the area through a short distribution chain, without resellers, to the local population and tourists arriving in the area. An additional task was to launch a web shop when food ordering is not yet widespread in the Romanian market.
Both tasks require time, patience, and hard work. The company employs 3 people, 2 salespeople and a business manager, and two others from the foundation support their work (marketing, project management, event management). Economic indicators clearly show a slow but steady increase in revenues. The company still needs at least 2 years of financial infusion to reach the sustainability point. This means that through its hard work, Helyénvaló Ltd., as a social enterprise, helps local producers and consumers to find each other in a way that honors both environmental and human factors.
It also implies that the local population gets healthy, local products and small farmers survive, and thus indigenous landscape management in the Szeklerland is being maintained.
The "Appropriate Shop" Project, the food hub does not fundamentally change the economic life of the Szeklerland. It only

tries to bring back the sense of community action that communism has destroyed in this area. It calls on the conscious consumer and the small producer to reach out, as they are beginning to realize the importance of locally produced goods and their health and economic benefits.

In Szeklerland, social enterprises do not yet have a real tradition, although if we honestly observe the traditions of the past centuries, all the families of the orderly Szekler village functioned as a micro social enterprise. There was no deep poverty in the Szekler villages, there were no excluded people, because the community had a duty to take care of the poor and the injured. The goods were often produced together, so the lands and forests were cultivated, so houses were built. The cooperative movement of communism broke this tradition and forced the fellow villagers who had been watching each other into the cooperative. The changes of 1989, the new land law passed in 1990, made it possible to get back their stolen lands, but without the means to cultivate them. To this day, there are settlements where returns have not yet been resolved. Nevertheless, small producers have multiplied in Szeklerland, and many people enjoy being self-sufficient, no one must account for their work. At first, they settled on self-sufficiency, then they started to produce for the market slowly. Unfortunately, the legislation does not really differentiate between small and large producers, so it is very difficult for them to meet the multitude of animal health, food safety, public health, and consumer protection regulations.

The registration of the "Appropriate Shop" food hub was preceded by a decade and a half of community work by the Civitas Foundation. Reading the literature on food hubs, Kloppenburg's article defining the criteria for sustainable food hubs came in handy to justify the existence of the shop.(Kloppenburg et al. n.d.)

The food hub is not just a shop, but a meeting point, an educational space, a program organizer, which brings the producer as close as

possible to the consumer. It is the embodiment of the short sales chain, which also performs environmentally conscious, social and community organization tasks.

4. Discussion

This study provides a systematic review of the literature on consumer habits and attitudes in relation to the consumption of local products and the use of local services. The review clearly suggests that interest in local products has increased worldwide. It has been found that sustainability lighting is present in more than half of the literature (38 articles), but there are recommendations for policy makers to increase demand for local products in the spirit of sustainable development. Research has used a wide variety of methods to examine their topics. The emphasis is on the questionnaire survey, but case studies, comprehensive analyzes, new model suggestions are also present, and a lot of very specific methods.

Furthermore, there is a great need for a more precise delineation of the local product and for research to help spread the need to consume local products more widely.

The big question for the researcher is whether there is a political will to curb globalization to give local products more space?

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ANDREA, OLSOVSZKYNÉ NÉMEDI: CHALLENGES AND EXPERIENCES OF DUAL TRAINING IN HIGHER EDUCATION

Hungarian University of Agriculture and Life Sciences, Institute of Economic Sciences, Kaposvár Campus,
olsovszkyne.nemedi.andrea@uni-mate.hu

Abstract:
As a continuation of earlier primary research, the results of a further focus group interview helped to create a questionnaire, which I aim to complete on Campus in the first round, and to extend it to dual students in similar profile courses in peer institutions.
The opinions and perceptions of the students participating in this form of training are first-hand feedback that will help to analyse the situation and rationalise the training.
I plan to continue the research by interviewing partner companies to get a full picture of the effectiveness of dual training.
With proper marketing, this form of training can also be a competitive advantage in higher education institutions.

Keywords: students' opinions, skills, motivation, getting a job.

Introduction

Dual training is a new direction in higher education, whereby fresh graduates gain work experience to complement their theoretical training, helping them to build their professional competences and help the labour market (Dual Training Council, 2015). This competitive knowledge is a huge advantage in launching a career (dualisdiploma.hu)

The introduction of dual training in higher education in Hungary started in 2015. The development of these trainings is a priority task for higher education policy, as higher education plays a significant role in supporting economic processes and promoting economic growth. There is a growing demand from employers for higher education institutions to provide the practical competences, skills and abilities needed in specific fields (Máté 2015; Szabó-Szentgróti and Gelencsér, 2018).

Education contributes to ensuring that students who leave the university meet the needs of the labour market. The implementation of a number of projects helps the further development of dual training, with curricula, training programmes and subject programmes tailored to the needs of companies (Lakatos 2015).

The legislative background of dual training is constantly being updated by the legislator (with regard to vocational training contributions and support for training development) in order to promote and popularise dual training (Berényi and Kraiciné 2017).

According to Zimányi's (2016) study, students in dual education are significantly more motivated compared to their peers participating in traditional education. He sees the expansion of professional and practical knowledge as a strength of the training, while he saw a weakness in the overload of students and in the difficulties of mentoring related to practical training. Companies "see dual training as a tool for quality youth education and therefore accept additional costs" (Zimányi 2016).

The international mobility of university students has been increasing steadily over the past decades. The proportion of students studying or doing their internship abroad is also on the rise (Kasza 2017). Alternatives to this need to be sought in the context of dual training, if students wish to take advantage of the mobility opportunities offered by this training.

According to the research Kocsis (2020), students choose this type of training because they want to gain professional work experience and find a well-paid job. The main goal of 39% of respondents is to be able to choose between different jobs after graduation, while 35% would like to find a job in the place of their traineeship.
In his research, Berényi (2020) examined the academic performance of students participating in traditional and dual training at two universities, and found that dual training has a clear beneficial effect on academic progress. Kocsis (2020) came to the same conclusion, and his research showed that a higher proportion of students in dual training have an intermediate and advanced level language exam, and they want to improve their knowledge, and therefore their future goals include applying for a master's degree. Students report that they are more confident in using the language, have better time management and are more responsible. Students 'contact capital also grows and gains benefits from their training that will have a positive impact on their academic career. Competences such as critical thinking, collaboration, negotiation techniques or other soft skills also contribute to graduates becoming potential employees. These skills can be crucial even during a job interview and their experience contributes to their effectiveness and development (Kocsis 2020, Szabó-Szentgróti et al., 2016).
In their questionnaire research, Varga et al. (2020) found that dual training partners clearly consider the knowledge of dual students to be better as the training time progresses, compared to traditional trainees who have spent their traineeship with them. In the era of the coronavirus epidemic, if education is provided in digital form, it is a company-specific question whether those involved in dual training need to be present in person or they can work from home and keep in touch with their mentors thanks to the "home office" option. If so, students not only save the cost of travelling between home and the training location, in the spirit of environmental

awareness, but also gain time for further learning and research and reduce the possibility of further spread of the virus (Varga 2020). According to Zimányi's (2016) research, the biggest disadvantage of dual training is the overload of exams, yet students in dual training are more motivated and more successful.
It is important for the company to train employees who are as qualified as possible, who have excellent language skills and who are able to work in teamwork and corporate culture. Dual training is considered to be the best way to train the next generation, as students are in almost daily contact (Zoljánszky 2016).
In 2016, our institution (formerly Kaposvár University) also introduced this form of training in two of its faculties. All of this inspired me to research this training from the student side as well.

Material and Method

The topicality of the subject is rooted in the growing role of dual training and the problem of reconciling the labour market and higher education. My research aims to provide feedback on the effectiveness of dual training. I chose a questionnaire survey as the research method, which was conducted online in January 2021. The basic population of the survey was the dual students of the Kaposvár Campus, which is 21 persons due to the small number of items, but for the former Faculty of Economic Sciences it resulted in a complete completion of 17 persons (76%), 4 persons from the former Faculty of Agricultural and Environmental Sciences (24% of the respondents). 62% of the respondents were female and 28% had joined this form of training in the 2nd semester.
Areas covered by the questionnaire: reasons for choosing the type of training, expectations, evaluation of dual training - expectations and satisfaction; language skills, mobility, plans with a degree in hand.

The data were processed using the excel statement chart
The research can be considered as a pilot research due to the small number of items, and I plan to increase the number of items among the dual students of the other MATE (Hungarian University of Agriculture and Life Sciences) campuses, so that real conclusions can be drawn about the students' assessment of dual training.

Results and Discussion

When students applied for this form of training, they mostly chose one of the Internet platforms (university website, facebook, felvi.hu) as the source of information, and 24% chose the friends who study in this form of training, and almost a third of them used the Open Day. to obtain information.
One third of the respondents applied for more than one place.
The main reasons given for choosing education and training were the aim of gaining earning potential and work experience, and a better chance of finding a job. Fewer and fewer people take their parents' advice into account.
Their expectations are dominated (74%) by the proximity to their place of residence and to the university, with an even split between large companies, SMEs and public institutions.

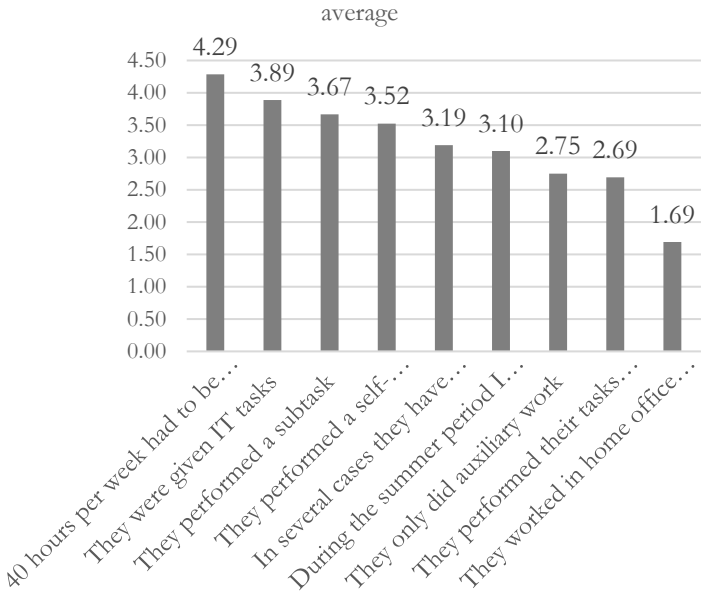


Figure 1. Judgment of work performance (average, on a scale of 1 to 5)

As shown in Figure 1, 40 hours per week had to be worked during the internship period, which is a legitimate expectation from the partner companies, as the students receive a significant cash benefit. They were mostly given IT tasks, data recording and analysis (mean:3.89, standard deviation:0.71). Most of them performed a subtask (3.67), but it is encouraging that the self-administered statement also achieved an average value of 3.52 on a scale of 5, so the students reported to be given serious tasks, which is more typical as the training progresses. Even at the time of the Covid epidemic, it is not typical for them to work at home office, this statement having an average value of only 1.69.

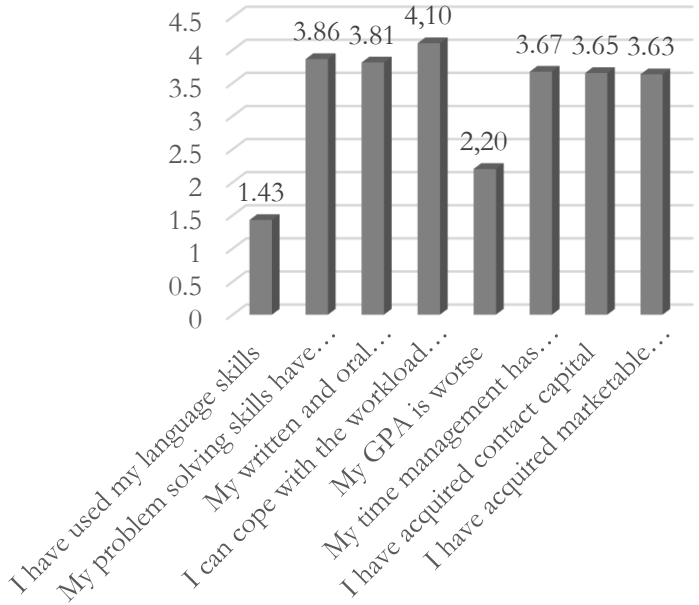


Figure 2. Competencies, advantages (average, on a scale of 1 to 5)

As shown in Figure 2, their problem solving skills stand out (3.86) and their written and oral communication skills (3.81) have improved. In their own judgement, they are better able to cope with workloads than their non-dual counterparts (4.10) and their time management has also become more efficient (3.67). They consider it an advantage that they have acquired contact capital (3.65) and acquired marketable skills, which increases their chances of finding a job (3.63).

They were not able to make much use of their language skills during their internship, depending of course on whether the partner company provided the opportunity.

In the following, I asked for their overall opinion on dual training, how important they consider the above to be and how satisfied they are with them. These two categories are combined in Figure 3.

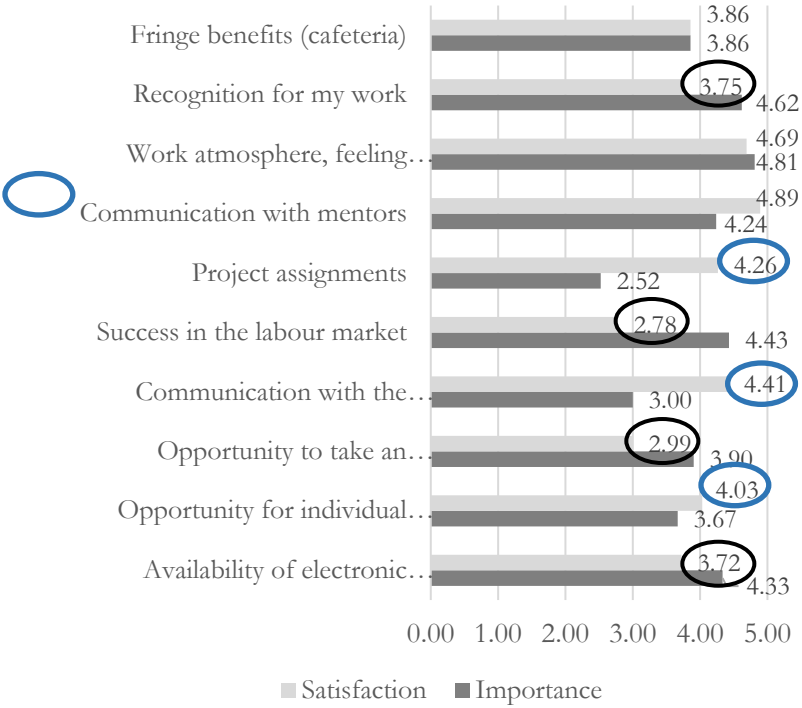


Figure 3 Aggregate opinion, deviations (average on a scale of 1 to 5)

Other fringe benefits are important to them and they receive them in the same way as employees (3.86).
The atmosphere at work is very important for them, so that they feel comfortable and satisfied (4.69). For the following four

factors, the average satisfaction rating exceeded their expectations (communication with mentors (4.89), project assignment (4.26), communication with NEPTUN group (4.41) and the possibility of individual consultation with trainers (4.03)), so they were really satisfied.

What they are not fully satisfied with is the recognition of their work, the acquisition of skills for success in the labour market, the individualisation of examination opportunities (pre-exams, reports) and the range of electronic learning materials. The pre-exam and the possibility of a separate report are expected on their part because it is more demanding if they have to work during the exam period.

Most consider a dual degree to be competitive (3.71).

I was wondering what their plans were after graduation. The majority of my respondents want to work (43%, 9persons), 38%, 8 persons want to continue their studies while working, and 1-1 persons who want to continue their studies without working, even abroad, or have other plans.

As the questionnaire was completed not only by currently active students, but also by students who had completed their dual training, I was further inquiring whether they had a job, whether the place of their dual training had become their job, and whether active students were planning to work there.

Twelve of the respondents have already graduated and 25% started work in their dual training place, one third are employed elsewhere and another third are jobseekers, while the rest have chosen other jobs. Out of the 10 currently active participants in dual training, 6, or 60%, are planning to find a job in their dual placement, which can be considered promising.

The usefulness of the dual training was rated 4.24 out of 5 on a scale of 1 to 5, and most of those who would apply now would choose this form of training again (90%, 19 people). These figures show the value of this type of training

And those who are hesitant at the beginning have the opportunity to join dual training from the 2nd semester, and the fact that 28% have taken advantage of this proves that they take this opportunity.

Conclusion

Secondary research confirms that their competences are greatly improved during the dual training, especially their communication and problem-solving skills, and other soft skills that help them to get a job.
They can work under pressure, and this does not affect their academic performance negatively, nor does it challenge them to balance study and work.
They also have no particular problem with project assignments, but they don't really consider them important. Overall, they feel comfortable in the place of their internship.
What they are not really satisfied with, so their experiences are below their expectations, is the recognition of their work, the scope of acquiring knowledge related to success in the labor market , the individualisation of exams and assessments, and the electronic learning materials.
By extending the research to a wider audience, substantive suggestions can be drawn from exact results.

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SECTION F 1: Management

DÂMBEAN CAMELIA ANGELICA - MANUELA ROZALIA GABOR: EMOTIONAL INTELLIGENCE AND STRESS INVOLVED IN HUMAN RESOURCE MANAGEMENT IN THE MACHINE BUILDING INDUSTRY

[1,2] University of Medicine, Pharmacy, Science and Technology" G.E. Palade" from Târgu Mureş, Gh. Marinescu street, Tg. Mureş, Romania e-mail: [1]dambcamy73@gmail.com, [1]dambean.camelia-angelica.20@stud.umfst.ro,

[2]manuela.gabor@umfst.ro

Abstract

This study brings to the fore a topical issue in today's society, namely the importance of emotional intelligence in interpersonal relationships and especially in an organization, the link between emotional intelligence and job satisfaction and occupational stress. Any organization carries out a succession of activities, stages, operations through which economic goods are obtained for customer satisfaction. In any organization, the role of the manager is to make decisions and for the employees to start actions for its operationalization.

Due to the fact that the term emotional intelligence has been introduced on the market for several years, this notion is substantiated and has a special efficiency in managerial activity. The scientific issue is argued by the possibility of establishing the limits of the theoretical bases, the methodological representations of the identification of the organizational stress and of the emotional intelligence in the circumstances of the application of a certain managerial behavior.

Keywords*: emotional intelligence, stress, communication management, emotion*

1. THE GOAL AND THE OBJECTIVE

The goal is to observe the relationship between emotional intelligence and stress that is ubiquitous, trying to manage stress at work in order to increase the quality of production.

The objective of this research highlights the emotional intelligence and stress of people who are involved in the organization in Tg.Mures.

Objective 1 - Assessing the level of emotional intelligence

Objective 2 - identifying an instrument for assessing the level of occupational stress

Objective 3 - identifying an instrument for assessing the level of emotional intelligence

Objective 4 - investigating employees' opinions on occupational stressors

1.1 Literature review

Researchers such as John Mayer, Reven Bar -on, and Salovey Peter who have studied emotional intelligence have concluded that it encompasses five important areas that help develop an individual's emotional intelligence. These areas are self-awareness, emotion control, inner motivation, empathy and establishing and directing interpersonal relationships (Paladi, 2002). Horia Pitariu considers that emotional intelligence consists in the individual's ability to know his own feelings and those around them, to be able to motivate ourselves (H. Pitariu).

According to D. Goleman, emotional intelligence has two important components, namely one of personal order which consists of self-awareness, motivation and self-control or self-control and the other of social order which consists of empathy and social skills.

In the opinion of Robert Wood and Harry Tolley, all the elements intertwine in a complex way, there is a fundamental system that crosses them all. An individual with self-awareness, that is, knowing his own feelings, and with good self-control will be able to know other people's feelings and empathize with them by establishing positive, friendly relationships (Wood R., Tolley H., 2003). Stress is the body's response to a situation in which individuals are unable to meet the required requirements (Cooper, Sloan & Williams, 1988). Bradberry states that people generally lack the skills to manage emotions when they have to solve challenging problems they encounter in their daily lives (Bradberry and Greaves, 2009). There have been researchers who have highlighted the link between emotional intelligence and the ability to manage stress (Lusch & Serpkeuci, 1990). Participants learn to develop interpersonal skills, clarify their doubts, ask for help from others and offer constructive feedback for others (Heaney et al. 1995).

Proponents of the concept of emotional intelligence have focused on emotional abilities and the relationship between them and the various aspects of mental life with their implications for everyday life. There are many in the literature research on the relationship between emotional intelligence and various aspects of mental life, such as performance at work, deviant behavior, job satisfaction, quality of interpersonal relationships, leadership and organizational behavior (Gottman, Silver, 1999; Brown, George-Curran, Smith, 2003; Mayer, Salovey, Caruso, 2004, Petrides, Frederickson, Furnham, 2004; Brackett, Mayer, Warner, 2004; Salovey, Grew, 2005, Trinidad, Unger, Chou, Johnson, 2005; Landa, Lopez-Zafra, Antoñana Martinez, Pulido, 2006; Hosu, Nastasa, 2008; Pantaziu, Năstasă, 2008; Nastasă, Dihoru, 2009).

J.M. Ivancevich and M.T. Mattenson developed a model that explains the causes and consequences of stress.

Work becomes stressful due to stressors which we must take into account in an analysis. Stressors can be the mismatch between what we want and what we can have or of what the environment gives us. We need a certain level of responsibility, but the service gives us too little or too much. It is necessary to have a certain amount of work, but either we do not get it at all - unemployment, or we receive too much - overwork.
Numerous researchers have identified sources of professional stress such as financial problems, bureaucracy, work overload, increased responsibilities and demands, permanent ambiguity and promotion criteria, prolongation of the retirement period (Abouserie, 1996; Blix et al., 1994; Second, 1994; Winefield et al., 2003). Stress seems to have become a feature of individuals' professional lives (Fisher, 1994).

2. METHODOLOGY AND METHODS

The Romanian company in which the study was conducted is privately owned, with activity based mainly on production, was established in 1994 with a production that represents over 60% of turnover of which 50% is intended for export. The company currently has a major share in mechanical processing, there are in the nomenclature over 200 parts and subassemblies of carbon steel, stainless steels or special steels. The company produces extraction and drilling equipment, in the construction industry, various spare parts for machines and equipment as well as parts and subassemblies for external and internal beneficiaries, being recognized domestically and internationally, with quality products at an affordable price, thanking customers both qualitatively and quantitatively and the management team in reducing stress at work, creating an optimal and relaxing climate.
The applied methodology consists of a questionnaire for measuring stress at work which consists of 25 questions and a

questionnaire highlighting the level of emotional intelligence, which consists of 25 items. Employees were observed and interviewed for 2 weeks in the winter of December 2020.
The group of people was random, consisting of 50 female and male subjects, with different ages and different degrees of schooling. The data processing was done with the help of the SPSS program, and after collecting the information, the following data were obtained:
Variables - addictive: -stress, emotional intelligence
Independent variable: sex, place of origin, seniority, age

2.1. Variable independent of the study

The first independent variable of the study is that of sex, and the entire experimental group was dichotomized and the distribution is as follows women and men:

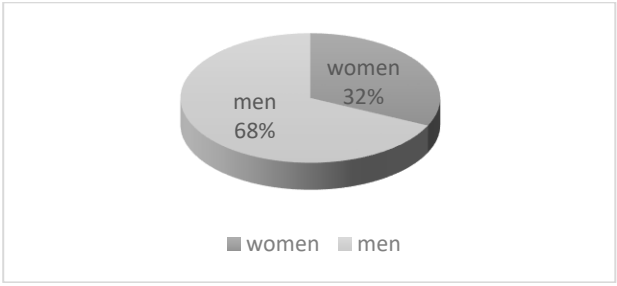


Figure 1 - Distribution of subjects according to sex
From the graph above we can see that men predominate, representing 68%.
The second independent variable is age, which has 5 levels, namely: 20-30 years;30-40 years; 40-50 years; 50-60 years; 60-70 years.

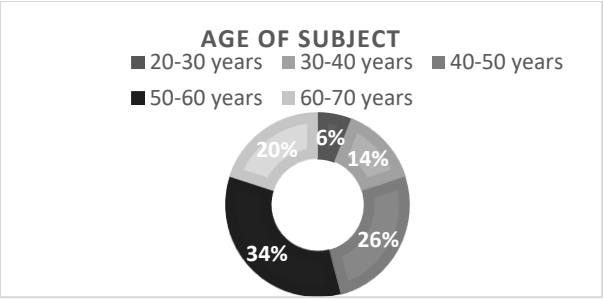


Figure 2 - Distribution the age of subject

Nowadays emotional intelligence can be an essential element of the connection between feelings, character and moral instincts.

The third independent study variable is seniority in the field of work. Another variable is the seniority in the institution which has 5 levels, namely: 0-10 years -3 = 6%; 11-20 years-9 = 18%; 21-30 years-14 = 28%; 31-40 years-13 = 26%; 41-50 years-11 = 22%

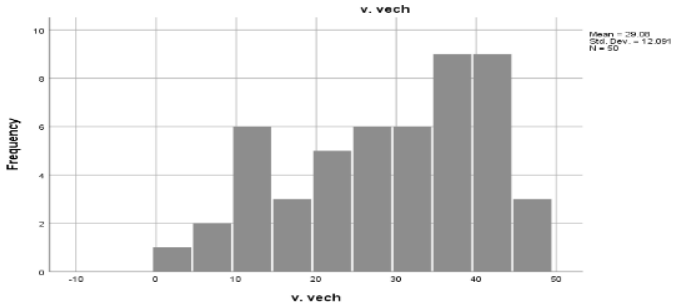


Figure 3 - The distribution of the subjects from the studied group according to the total seniority in work

From the graph above we can see that the highest percentage is between 21-40 years old, representing 54%, which means that people have experience.

The fourth independent study variable is seniority in the field of work. This independent variable has 5 levels, namely: gymnasium

studies; high school education, secondary; professional studies; post-secondary education; university studies, higher.
From the above data we can observe that the dominant group is of people with secondary education representing 82% being made up of those with professional representing 21%, gymnasium representing 2%, high school representing 49% and faculty representing 10%, the labor force being composed of skilled workers with an average age of 20 years, with a vast experience.

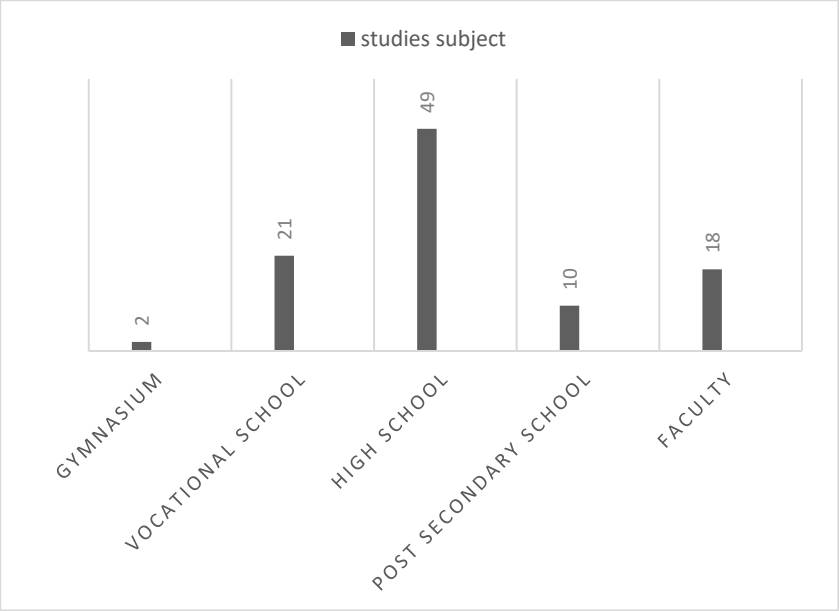


Figure 4 - Distribution of the subjects from the total group according to the education.

2.2. Dependent variables

The first dependent variable (RV) of our research is the EQ Test or Emotional Intelligence Questionnaire that highlights certain stages.

Emotional intelligence has 4 stages, namely:

emotional immaturity between 0-17 points; emotional balance between 18-21 points; normal emotional maturity between 22-24 points; emotional maturity between 22-24 points; perfectly emotional maturity is 25 points (Frietman emotional intelligence scale).

The distribution of the 50 subjects according to the degree of maturity or emotional immaturity is as follows: emotional immaturity; normal emotional maturity; perfectly emotional maturity.

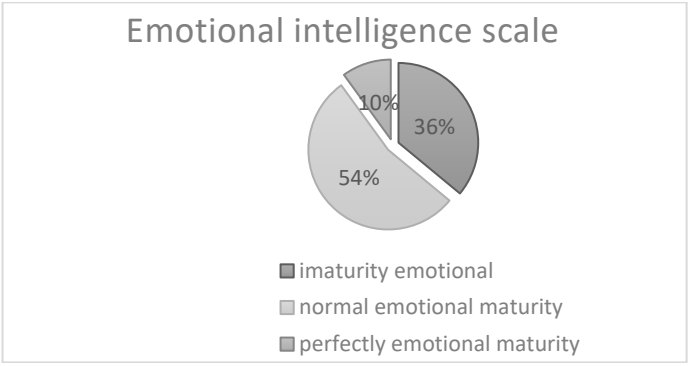


Figure 5 - Distribution of subjects based on the results on the EQ

The second dependent variable (RV) of our research is the questionnaire for assessing the level of stress (J.Chiriac) which highlights certain stages, namely: 0-7 points average stress;8-17 points high stress;18-25 points of exaggerated stress

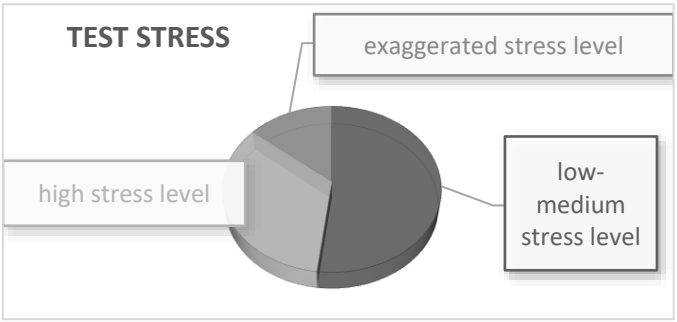


Figure 6 - Distribution of subjects studied in the stress test

As can be seen from our data, employees have a low-medium average stress representing 52% high stress level 34%, which dominates the exaggerated, its share being 14%. Given the current economic situation, it is understandable why the level of stress is quite high.

2.3. General hypothesis

A basic assumption underlying this model is that a prerequisite for organizational stress is that there are substantial differences in rewards and costs for those who meet the requirements and those who do not.

H1- there is a direct link between emotional intelligence and stress
H2-there is a direct link between age and sex
H3- there is a direct link between stress level and sex
H4-there is a direct link between emotional intelligence and sex
H5-there is a close link between emotional intelligence and age

3. RESULTS

The study used the total score of emotional intelligence, the average being m = 18,8324 and the standard deviation is 2.071

We analyzed the data using SPSS 20 statistical programs and performed descriptive statistical analyzes for the sample characteristics, t tests to evaluate the independence between the

dependent variables, and the level of statistical significance was 0.05 for a t = 64,270, and mean stress test is m=8.84, standard deviation is 6.310, and t=9.907. We went on to test the statistical correlation between occupational stress and emotional intelligence using the Pearson correlation coefficient. Following the calculations performed with the spss program, the following data were obtained, there is a moderate negative correlation between occupational stress and emotional intelligence (r = -0.294, p <0.05). Therefore, employees, who have a higher level of emotional intelligence, may experience less occupational stress and vice versa.

As can be seen, there is a significant close correlation at a significance threshold of p <0.05 between: Sex and seniority in the institution-0.289; stress and seniority -0.337; age and stress -0.361; emotional intelligence and stress -0,294.

From the table above we can see that there is a significant correlation at a significance threshold of p <0.01 between:

- Seniority in the institution and total seniority 0.508
- Age and seniority 0.933

Table 1 - Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	904.167[a]	957	.888
Likelihood Ratio	279.565	957	1.000
Linear-by-Linear Association	.903	1	.342
N of Valid Cases	50		

a. 1020 cells (100.0%) have expected count less than 5. The minimum expected count is .02.

Table 2-Symmetric Measures

		Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance
Interval by Interval	Pearson's R	-.136	.124	-.950	.347[c]
Ordinal by Ordinal	Spearman Correlation	-.079	.135	-.547	.587[c]
N of Valid Cases		50			

a. Not assuming the null hypothesis.

b. Using the asymptotic standard error assuming the null hypothesis.

c. Based on normal approximation.

Table 3- Model Summary linear

R	R Square	Adjusted R Square	Std. Error of the Estimate
.107	.011	-.009	.473

The independent variable is puncta STRESS.

Table 4- ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Regression	.124	1	.124	.554	.460
Residual	10.756	48	.224		

Total	10.880	49			

The independent variable is puncta STRESS.

Table 5- Coefficients

	Unstandardized Coefficients		Standardized Coefficients		
	B	Std. Error	Beta	t	Sig.
punctaj STRES	.008	.011	.107	.744	.460
(Constant)	1.249	.116		10.771	.000

From the above data we can deduce that only for the averages of the variables statistically significant differences were registered for a significance threshold of p <0.05. For the correlation values having a t calculated at a significance threshold p less than 0.05, they mean that it has statistical relevance, there is a direct correlation. From the table Independent Samples Test it can be deduced that only for the variable EQ averages there were statistically significant differences (p-value <0.05) and it significantly influences) and the stress level.

4. CONCLUSIONS

Factors influencing work involvement are the following:
Age and seniority. In general, the involvement increases with age and seniority in the company and this for several reasons:
On the one hand, as you get older, it becomes difficult to find another job outside the organization.
The individual will be inclined to bond more strongly to the present organization. On the other hand, involvement is a long process, and older people have had time to strengthen their ties.

There is a significant negative relationship between the level of emotional intelligence and overall stress level ($r = -0.294$, $p = 0.022$), emotional intelligence with the increase of a variable the other variable decreases.

But the results are not always very sharp and this is because the effect of age and age may intersect with the effect of other factors. There are frequent situations in which young graduates are heavily involved at the beginning of their careers, given their interest in gaining experience. Involvement will diminish when experience becomes a wealth" on the labour market. This factor most often leads to a decrease in involvement in the level of training, i.e., the higher the level of training of individuals, the less involved they will be. To explain how things really are, we need to consider. Due to the fact that a person with higher education has value and implicitly greater opportunities to find another job in another organization. According to the data from the statistical processing we can conclude the following: the distribution of sex is the same between the categories of stress significance, and the Independent-Samples Test Kruskal-Wallis being 0.487, which keeps the hypothesis null; the distribution of the age variable is the same between the categories of significance of stress, according to the Independent-Samples Kruskal-Wallis calculated Test with values of 0.036, which rejects the null hypothesis. The distribution of the EQ score is the same between the strs sign categories. Independent-Samples Kruskal-Wallis Test 0.016 for a significance storm of 0.05, and the null hypothesis is rejected. From the statistical data it can be seen that the subjects have a vast professional experience having over 50% of them 20 years worked in the field of work, most of them having an IQ located at an average level. Emotional intelligence is the ability to understand and manage both one's own emotions and those of others.

The concept is increasingly used, and some experts believe that people who show emotional intelligence have the ability to adapt their thinking and behaviour to the context or to achieve certain goals. Emotional intelligence is the ability to understand and manage both one's own emotions and those of others. The concept is increasingly used, and some experts believe that people who show emotional intelligence have the ability to adapt their thinking and behaviour to the context or to achieve certain goals.
Blocking cognitive mental capacity often causes us to act on impulse, to do or say uninspired and thoughtless things, and to damage relationships. Emotional self-control involves the ability to recognize and manage your emotions and be able to remain effective even in stressful situations.
Recommendations for stress reduction we propose the application of coaching stress management techniques and the hiring of an external consultant to improve the work environment and the introduction of methods and tools for quality engineering.

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ZSOFIA KARASZ:
THE IMPACT OF COVID19 ON THE SERVICES PROVIDED BY THE EDUCATION SECTOR WITH A SPECIAL EMPHASIS ON COMPARISON BETWEEN THE OBLIGATORY ONLINE AND THE FACE-TO-FACE EDUCATION

University of Pécs, Faculty of Business and Economics, Doctoral School of Business Administration e-mail: zskarasz@ibs-b.hu

Abstract

The aim of this paper is to submit a comprehensive analysis of the impacts of COVID19 on the education sector. The paper is designed to examine the differences between the online and the face-to-face education methods. The paper will also demonstrate the benefits and drawbacks of the two education methods based on the literature and the results of an empirical research conducted within the tertiary system in Hungary. The findings relating to the on-line education method is examined from the educators' viewpoints emphasizing the experiences and expectations of students. The presentation demonstrates the changing expectations of both the Educators and students relating to the effects of COVID19. Despite the negative effect of COVID19 on the education system, the study indicates that there are also opportunities that should be considered by the universities with regards to their services.

Keywords: COVID19, Higher Education, On-line teaching, Traditional teaching

Introduction

The COVID19 pandemic has a significant impact on higher education. Universities closed their premises and countries shut their borders in response. Higher education institutions were quick

to reschedule face-to-face lectures with online teaching, nevertheless these changes impacted upon the learning environment, examination methods, content delivery as well as the health and mental well-being of students and educators. The pandemic raises the question of education value offered by universities as well as the quality received by students. Universities need to readjust their learning environments so that digitalisation expands and complements student-teacher and other relationships by providing the same quality of education expected by the students.

The paper examines the effect of COVID19 on tertiary education and evaluates the efficiency and behaviour from the viewpoint of educators and students. The paper is structured as follows:

(1) The impact of COVID19 on tertiary education and teaching in general followed by

(2) an introduction of empirical studies from the students' and teachers' viewpoint as a result of COVID19.

1. Material and methods

The paper presents a critical literature review on the impact on COVID19 on tertiary education. The first part of the study is based on the theoretical framework by presenting the concept of the impacts of COVID19. The second part of the paper demonstrates empirical studies of the implications of COVID19 by emphasising the viewpoint of educators and students.

The limitation of the study is the narrow time factor. It evaluates the short-term effects of COVID19 on tertiary education between 2019 and 2021. It evaluates the short-term effects of COVID19 on tertiary education. The long-term social, psychological and personal effects of COVID19 are not discussed in the paper due to the above-mentioned limitations. The long-term effects of the

pandemic on the education system shall be the topic of further studies and evaluations to provide an appropriate framework for further studies.

2. Discussion and Result

2.1. The impact of COVID 19 on tertiary education and teaching in general

The impact of COVID19 on tertiary education identified by World Bank (2020) reported as of 8 April 2020, universities and other tertiary education institutions are closed in 175 countries and communities, and over 220 million post-secondary students—13% of the total number of students affected globally—have had their studies ended or significantly disrupted due to COVID19. In the world of the Internet, one assumes that many people have access to the internet and thus can easily switch from traditional to on-line education. According to Schleicher (2020) COVID19 has exposed the many inadequacies and inequities in the education system – from access to the broadband and computers needed for online education, and the supportive environments needed to focus on learning, up to the misalignment between resources and needs. The same result was justified by Marinoni et al (2020) in the IAU Global Survey that the infrastructures exist for communication, several institutions in all regions of the world report that an immediate challenge generated by the lockdown was to ensure clear and effective communication streams with staff and students. Students and educators not only faced the lack of infrastructure but were required to replan or even rethink their future education because of the non-predicted uncertainties. Several studies of Reisdortf et al (2019) indicate the existence of a „homework gap" between those who can access the Internet to support their schoolwork at home, and those who cannot.

As a result of this uncertain and unequal situation the dropout rates of universities have increased. Furthermore, the World Bank (2020) argues that a failure to sustain effective tertiary systems could lead to students drop out, unable to engage in active learning and being uncertain about the future of their education prospects. This statement is supported by Future and Education (2021) by stating that in the UK nearly half of the students (48%) have considered dropping out of university, or deferring a year, due to the financial fall-out of COVID19. In Japan Kakuchi (2021) recently reports that a drop in new and ongoing student enrolment linked the COVID19 pandemic's impact on families' economic circumstances and on students' mental health. Enrolments are certainly at a danger, not only at national, but international level as well. Copley and Douthlett (2020) argue that U.S. colleges and universities view international students as one of their best opportunities to boost enrolments, but due to the lockdown international students are on hold. These students were particularly affected as they have had to sort out the implications of university closures on their status on campus and within their host country. According to Schlerer (2020), 6% of tertiary students across the OECD are international or foreign, this share increases to 22 % in doctoral programs. In Hungary Tempus (2018) reported that approximately 40.000 international students arrived in Hungary with a contribution of 180 billion HUF to the GDP.

Apart from the tangible elements of education, the psychological state of educators and students should not be biased. Spending long hours alone in virtual meetings is a serious risk factor for healthy development. Arslan (2021) examined the negative effect of COVID19 on loneliness and psychological health and well-being. In line with this assumption Shailaya et al (2020) reported that both students and teachers were affected by infection-related fears, inevitable loneliness, disturbed routine, making way for adverse lifestyle habits. Faculty were discovered to be statistically

more techno-stressed, Boyer – Davis (2020) highlighted that thus attributes to the increased role of overload, insecurity, complexity, uncertainty and invasion brought about from the COVID19 pandemic. In addition, stressors such as the financial crisis faced by their families and many more further accentuate their vulnerability to mental health issues. Sahu (2020) even questions the long-term effect of mental health and how universities will manage to deal with that.

The pandemic also has an effect on public spending on education as funds are coming from the government. The pandemic may affect education budgets more quickly as public revenues decline sharply and governments review the prioritisation of education in national budgets (IIEP-UNESCO, 2020). According to the study of Al-Samarrai, Gangwar and Gala (2020) a prediction is made that if the share of government spending devoted to education were to remain unchanged, education spending would continue to grow but at significantly lower rates than before the pandemic. Thus, Schleicher (2020) identifies that in the short term some countries have implemented immediate financial measures to support students and education systems in coping with the disruptions and economic impact of school and university closures.

To the extent of academic context Onyema et al (2020) state that research activities were negatively affected because school closures and lockdowns limit researchers' ability to conduct research particularly in situations whereby face-to-face interactions with students and teachers are required or access to school facilities or research laboratories, were denied. School driven innovations and research were also cancelled during school closures. According to the IAU Global Survey (2020), 80% of tertiary education reported that research at their institutions has been affected by the pandemic. Similar assumptions are made by Sahu (2020) indicating the concerns of cancelled and postponed scientific conferences.

Due to the nature of „virtual" conferences result in lack of networking and communication.
Despite several negative effects, the challenges of education can be tracked by the quick spread of an education platform – such as Tedex, Udemy previously supporting mass education. Keri and Zakota (2020) question whether these education platforms will support education or rather become a new competitor among the portfolio of education systems.
To conclude, universities have responded to the shock of COVID19 incredibly well. This situation provided universities a great opportunity to stimulate a blended type of education that may support life-long learning. According to Govindarajan and Sristava (2020), digital learning environments have been predicted to disrupt management education for decades, most business schools have been slow in changing their educational offering; the crisis has forced a shift from physical to digital, in a matter of weeks. They also argue that teaching styles have had to change, and this may have a lasting effect. Teaching in the future will most likely be the quality of interaction, practical work and case studies conducted online and in person.

2.2. Empirical studies from the students' and teachers' viewpoint as a result of COVID 19

Lectures have rapidly switched from traditional to online education, in some countries even in a period of one week. The unexpected change to online learning became a measure of organizational agility, Wu (2020) argues that it would be impossible to pull off any alternative teaching plan without concerted action by faculty and support staff. Various platforms offered technologically enhanced approaches to quality education. However, the question remains open. Can these platforms substitute traditional face to face education?

Interestingly the basic assumption was accepted that the Internet is available in all parts of the world, but Adnan and Anwar (2020) indicate that online learning can only produce the desired results where students are having full access to the internet. As a result of technical and monetary issues this assumption is not always met. In Hungary, a thorough analysis was conducted by Tempus (2020) among 7779 higher education students from several institutions between the period of June-July 2020. Kasza (2020) underlines that almost 33 % of students reported some problems with infrastructure such as slower or no internet at all.

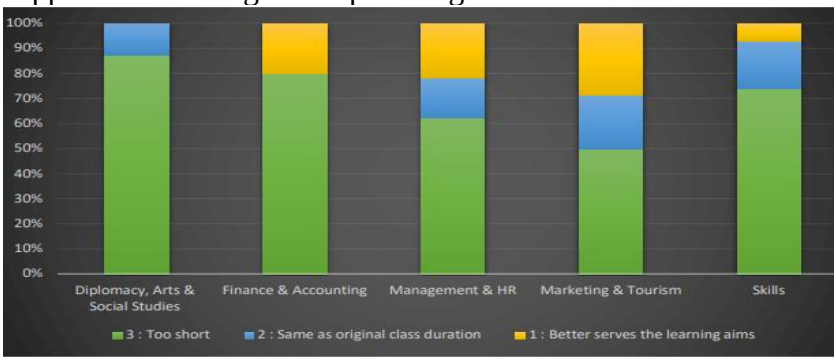
From the viewpoint of education, the IAU Global Survey (2020) reported that 91% of tertiary institutions have infrastructures in place to communicate with their students and staff for updates and information. Although the infrastructures exist, several institutions report an immediate challenge to ensure clear and effective communication streams with staff and students.

The question of productivity and concentration have been an evergreen area of researchers. Bailenson (2021) argues that education software are the essential tools for productivity, learning and social interaction, but being on videoconferences all day could be particularly exhausting mentally and physically. Thus, a new phenomenon of „Zoom Fatigue" has been born. Teachers were under pressure by providing quality education on unfamiliar online platforms. Boyer (2020) conducted an empirical study in the United States among 307 colleges and arrived at the conclusion that the faculty experienced significantly more technostress during the COVID19 crisis than before.

Similar indications were made at International Business School (2020), a private Hungarian university, with a sample of 147 professors online interviewed and 60 % indicated work related technostress during delivering the modules. András et al (2016) identified that education could be more efficient in the environment of smaller sizes as well as shorter sessions of 45

minutes. In accordance with the survey, IBS (2020) rescheduled classes by shortening the length of the sessions from 90 minutes to 45 minutes. Interestingly the same institute, IBS (2020) at the end of semester concluded that 45 minutes on-line sessions were unable to meet the desired outcome, therefore the length of the sessions switched to 60 minutes.

Table1: Experience with having half-length live sessions to support the learning of the pre-assigned material



Source: International Business School Survey, 2020

Table 1 demonstrates the results of the survey conducted in 2020 June among 147 staff members from different disciplines. Almost in all disciplines, professors were concerned with the length of the 45 minutes session. In addition, the size of virtual classes has also been modified. A traditional face-to-face class would consist of 25 students. Meanwhile online classes are only held in a size of 16-20 students to ensure efficiency. The emotional stage of college students also concerned researchers. Doung et al (2020) analysed 73,787 tweets from 12,776 Twitter college followers who posted tweets related to the COVID19 pandemic, in terms of the outstanding topics on several social issues. Significant differences in the sentiments expressed towards those topics between the users who are identified as college students and those of the general

population were discovered thus college students are shown to be significantly more negative.

Aristovnik et al (2020) surveyed the impact of COVID19 on the life of students in higher education. The survey conducted a sample of 30,383 students from 62 countries. The study reveals that amid the worldwide lockdown and transition to online learning students were most satisfied with the support provided by teaching staff and their universities' public relations.

Aristovnik et al (2020) examined the concept that studying from home commonly requires greater self-discipline and motivation to follow through online lessons, particularly in the earlier period when students are getting used to the new system, which might affect the feeling of an increase in study obligations. Indications were made of the workload of students and less than half the respondents reported that in the new learning environment their workload had become significantly larger. This global assumption is also supported by the empirical studies of Kasza (2020) who highlighted that due to COVID19, 40 % of Hungarian university students spent more time on studying than previously.

Time is crucial, in the virtual world, immediate responses from both the students and educators are required, however Zhong (2020) highlights that the lack of proper interaction with instructors is another major concern associated with online learning. Concerns have been raised regarding any content of the online course and are usually discussed with the given course instructor by email, which requires response time.

This assumption is also supported by the survey of IBS (2020) with a sample size of 670 where most students complained of receiving several information in the form of emails from more academic servers (Microsoft Teams, Neptun). This confusing situation was solved by the institute as they generated all information in one single email each day which contained all necessary information to each individual student.

Apart from technical and monetary issues, students also reported a few other difficulties like lack of interaction with the instructor, response time and absence of traditional classroom socialization. According to Britt (2006), conventional classroom socialization is another major shortage of online learning, students not communicating with their peers in face-to-face environments resulting in the lack of real-time sharing of ideas, knowledge and information. Adnan and Anwar (2020) argue the lack of on-campus socialization has caused difficulties for students to do group projects in distance learning mode as reported by 42.9% of students of a sample of 126 students. The result of this study also indicated that educational organizations need to improve their curriculum and design appropriate content for online lectures. IBS (2020) survey underpinned that BSc level students were facing difficulties of accomplishing assessments in time, 43 % of students reported difficulties of group assignment. Virtual classes cannot be of interest to students who are tactile learners. Toquero (2020) urges a stronger need for academic organizations to improve their curriculum and the usage of new instructional methods and strategies should be of utmost significance.

Exams and performance assessments were also moved to the virtual world. Stowell and Bennett (2010) hypothesized that administering regular course exams in an online format would reduce test anxiety experienced at the time of the exam and improve exam scores. During the pandemic researchers have the opportunity to test the above-mentioned assumption.

According to the IAU Global Survey Report (2020), almost 50% of the tertiary institutions are planning to carry out exams for the semester as planned, although the majority of them are through new measures. However, a regional variation could be tracked, 80% of the institutes in Europe planning to carry out exams, while exams are at risk of being postponed or cancelled at 61% in Africa.

The impact of COVID19 on performance was examined by Gonzalez et al (2020) summarizing that COVID19 had a significantly positive effect on students' performance. Furthermore, they also concluded that the pandemic changed students' learning strategies to a more continuous habit, improving their efficiency.
In relation to different segments, the global study of Aristovnik et al (2020) argue that in the context of academic work the pandemic has apparently had a strong impact on male students, part-time students, undergraduate students, applied sciences students, and students with a lower living standard.

3. Conclusions

The shift toward blended or hybrid forms of education is an ongoing process, which may result in „learning gap between" those taught online versus face-to-face (Burns and Scott, 2019). Whilst the lockdowns of tertiary institutions resulted in far-reaching consequences, the closure of schools and universities led to innovative methods of delivering education, ensuring that students continue to receive the same quality of education as before. Despite several negative aspects presented in this paper, this unique situation provides an opportunity to change some norms and behavioural patterns to the existing practices. There is no doubt that after tertiary education returns to normality, institutions will not face the same situation they have had before the pandemic. The negative and positive experiences gained by the education institutes shall be examined in the light of the existing academic framework. After long decades, this will be the time when education institutes are to correct their own "assessment papers" and they can correct and re-evaluate many animalities of the past. In other words, educational institutions are just about undergoing their own final exam.

Educational institutes can challenge the present situation by re-evaluating existing teaching methods and by offering a wider range of platforms. Furthermore, following the pandemic, universities will need to reinvent their learning environments so that digitalization expands and complements student-teacher and other relationships at the optimal level for all stakeholders.

In conclusion, the author agrees with the assumptions of Beech and Anseel (2020): namely that the pandemic raised major questions of academic research, since in the past few months it was evident that researchers were beginning to conduct research with business and society rather than about business and society. This phenomenon may well provide a stronger relationship between academics and societal actors. Despite the negative effect of COVID19 on the education system, the study indicates that there are also opportunities that should be considered by the universities in relation to their provided services. This would enable us to understand and appreciate the needs of students at different levels and stages.

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SOMAYEH KARIMAN-ISTVÁN KUNOS: EFFECTIVENESS OF COACHING FOR MANAGING ACCULTURATIVE STRESS AND DEVELOPING THE ORGANIZATIONAL PERFORMANCE AT MISKOLC UNIVERSITY

[1] Department of Economics, Faculty of Management, Miskolc University, Miskolc, e-mail: somy2012kariman@yahoo.com
[2] Department of Economics, Faculty of Management, Miskolc University, Miskolc, e-mail: szvkunos@uni-miskolc.hu

Abstract:
Improving multicultural organization performance is never an easy task. It becomes much more difficult when the individual who needs improvement faces other barriers at the same time. For example, when somebody decides to work in a foreign country, they will most likely face such challenges. Like for a football player who plays in an away game, the stress grows as the familiarities of life shrinks while the uncertainties grow rapidly. Thankfully, this stress-inducing condition has a name and is manageable. It is called acculturative stress. This paper`s goal is to explain the role of a coach for coping with acculturative stress and developing organizational performance at Miskolc University.
Keywords: Executive Coach, Internal Coach

1.Introduction:

The multicultural organization includes the diversity of cultures. According to Tylor (1874): "culture or civilisation, taken in its wide ethnographic sense, is that complex which includes knowledge, belief, art, morals, law, custom, and any other capabilities and habits acquired by man as a member of society". So, everybody has different attitudes and personalities. In organizations with different cultures, many problems and difficulties may occur. "These

difficulties is called acculturative stress and include, but are not limited to, language difficulties, difficulties adjusting to the organizational culture, misunderstanding, and complications in communication with colleague and manager, stress, anxiety, feeling of isolation, social experiences, culture shock, lack of appropriate accommodation, and any adoption in their daily life" (Wu et al. 2015). Acculturative stress such as language, academic, emotional, cultural, financial, social and political could have significant effects on acculturation (Pan et al. 2008). Also, they may have dramatic effects on psychological, social, and physiological dimensions of adjustment (Williams and Berry 1991). The volume of emotional support could also link with acculturative stress as indicated by inadequate parental social support (Thomas and Choi 2006). Acculturative stress has also been connected to intercultural competence which refers to effectiveness in intercultural interactions (Torres and Rollock 2004), and as the result could affect multicultural organization performance. According to our knowledge, Miskolc University needs the help of a coach for coping with acculturative stress among international colleagues in the organization.

2.Literature Review:

Acculturation is shaped by a U-s curve-shaped. According to Heine (2016), at the beginning, employees in the multicultural organization may experience a "honeymoon" period. This brief period lasted a couple of months, which is full of excitement. Employees in the new environment have novel experiences with more attention and interest from other colleagues. However, employees soon or late experience a "crisis" or "culture shock." International employees may feel homesick, missing their family in the host culture. It could be hard for them to make close friends, and they will even feel difficulties opening up a conversation with their colleague at the organization. Therefore, coaches by

providing plans and strategy could help them cope with their acculturative stress. The last stage is called "adjustment," where employees learn to adjust, learn language, customs, and learn how to interpret a new culture's systems. Friendships are built during this segment. So, in Figure 1, we would like to present these various stages.

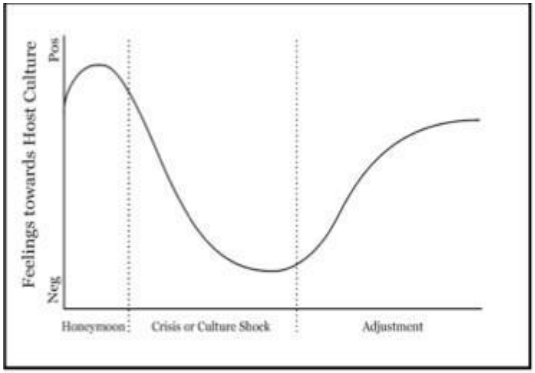


Figure 1. The Acculturation Curve
Source: Heine, 2016

We have already had a diversity of definitions concerning coaching. For Instance, Douglas and McCauley (1999) argue coaching is "an on-going, one-on-one learning process allowing people to reach their goals and objectives". One of the best definitions about coaching is related to Tom Landry, who argues that a coach is a person who tells you what you don't want to hear so that you can see what you don't want to see and finally you can be what you've always wanted to be.
(http://www.goodreads.com/author/quotes/108209.Tom_Landry). By using the acronym COACH, we can better understand the meaning of coaching even among the managers and employees in the organization:

- **C**ollaborate: The coaching relationship is collaborative with others.
- **O**wn: coach needs to examine her/his behavior.
- **A**cknowledge: coach needs to acknowledge successes through support and acknowledge an employee's problems, feelings and concerns.
- **C**ommunicate: Communication skills including listening, questioning, giving and receiving feedback are critical for success.
- **H**elp: the coach is not only a coach but an advisor, serving as a resource person and a guide to other resources, both inside and outside the organization.

After understanding the definition and the role of coaching, we would like to present the various types and characteristics of the coach and coachee respectively.

2.1 Types of Coaching:

Today we coach our teams, our players, our kids, our employees, or even our managers in the organization, so we have different styles of coach for each context, here we would like to present some types of coaching styles such as:

- Life coaching,
- Career coaching,
- Workplace
- Business coaching
- Executive coaching

2.2 Characterise of the Coaches in the Multicultural Organization:

There are several characteristics that could be considered as values for the coaches' performance in the organization. Coaches also need to know about themselves in their work, how they make

themselves before a coaching appointment, and how they behave during a coaching session. Besides, it is beneficial for coaches to know the diversity of cultures, communication skills, and compassion to specific needs of coachees if coaches are working cross-culturally and in different areas of the word because they can easily know how they have to open up and keep the wonderful communication with their coachees. Consequently, in Table 1, we are presenting some characteristics of Asian and European coaches in the multicultural organization.

Table 1: Characteristics of Asian and European coaches

ASIA COACH CHARACTERISTICS	EUROPE COACH CHARACTERISTICS
Cultural Awareness	Coach/Coached Relationship
Relationship-focused	Cultural Communication
Adaptable	Cultural Awareness
Credibility	Cultural Sensitivity

Source: Allen et al. (2016)

2.3 Characterise of the Coachee in the Organization:

The idea is to change the manager, and employee behaviors, and help them in managing their acculturative stress, from where he or she is to be and from where the coach wants him or her to be. Employees and managers should better know that coaching is not the same as counselling. The role of counselling is problem-solving directed at personal subjects that are affecting or have the possibility to affect performance. Very often counselling includes personal problems such as marital and family problems, emotional and psychological barriers, But in the organization, coaches try to change the employee's behaviors and skills with presumed increases in organizational performance. Therefore, employees as a coachee have to follow some characters such as:

1. Take the role of the coaching seriously
2. Keeping the appointments with their coach
3. Trying to change and accept the new behavior
4. Trying to figure out a solution to their problems. How to manage their acculturative stress
5. Finally, thank the coach for the new ideas and help.

When an employee knows who is acting the role of coaching, then they need to decide whether the coaching should be shown formally or informally. Coaching can be done using professional coaching services provided by an independent firm (external coach), or it can be done by the manager or by someone else within the organization (internal coach). In Table 2 and 3, we would like to display some advantages and disadvantages of both types' coaches respectively.

Table 2: Advantages and disadvantages of internal coaching

Pros	**Cons**
Built trust and respect	May not be able to modify communication style
No need direct cost	Coachee may be fear to question the recognised idea
Already interact with the coachee	Coachee may feel a new idea will not be received

Source: Frisch, 2001

Table 3: Benefits and drawbacks of external coaching

Pros	**Cons**
No day to day distraction	Cost may be high
Unaffected by culture and internal policies	Do not know culture or processes in the organization

Specialist skill and experiences	Availability may not match the short-term needs

Source: Frisch, 2001

The main and most important services existing by external coaches such as executive coaches are: firstly, skills coaching which includes a dynamic interaction between managers, employee and coach. It requires a careful process of observation, examination, negotiation and discovery. Secondly, coaching for performance involves interventions to remediation problems that interfere with managers and employee's job performance. Thirdly, in coaching for development, the concept of 'development' is used largely to mention the manager's competencies and characteristics required for a future job or role and may entail extensive growth. On the other hand, the internal coach tries to provide trust and integrity. He/she is always available in the organization for solving problems. In the next part, we would like to discuss the executive coach for developing managerial attitudes and performance very shortly.

2.4 Definition of Executive Coaching:

Executive coaching includes practical, goal-focused forms of one-on-one learning and change of the behavior (Hall et al.1999 and Peterson 1996). Executive coaching initiated in the 1980s with Thomas J., a financial planner in Seattle who was the first to initiate his clients' life planning consultations and in 1992 started Coach University, a training program for professionals and business purposes. The outcomes of executive coaching are changes in managerial behaviors, and skills with presumed increases in organizational effectiveness. The success of executive coaching is evaluated by affective reactions and organizational results. Qualitative comments are collected from the managers as participants and executive coaches as coaching

in the organization as a result both groups report favourable reactions to the coaching process.

As we have already mentioned, the main role of external coaching (executive coach) is improving and developing the manager's behavior and attitudes in the organization. Also, executive coaches help managers and narrow the focus on how to solve problems to achieve positive outcomes. After developing a manager' attitude, he/she could play as an internal coach in the multicultural organization for managing acculturative stress and improving performance among the international employees in the global market.

3. Methodology:

In our research, we use both primary and secondary data. We would like to use the questionnaire for collecting data. Questionnaires are thought, assumptions, solutions, and possible answers to the topic of the research. We are randomly employees at Miskolc University from a diversity of culture, to figure out how the manager as the internal coach could develop the employees' performance at Miskolc University. Unfortunately, COVID-19 didn't allow us to access more employees at university, so we examined only 21 of the employees from different cultures. On the other hand, our sample size was not large enough, so, it is not possible to perform a statistical test (ANOVA) to compare the impact of the manager to the employee's performance at Miskolc University. In this condition, only according to the presentation can be reported what results have been obtained based on the data observed in this study.

4.Finding and Discussion:

Of the 21 employees who filled the questionnaire, 51.7 % of responses were female and 48. 3 % were male. In table 4 and table5,

we tend to present the diversity of culture and employment status among the participants at Miskolc University respectively.

Table 4: Employees' nationality at Miskolc University

Nationality	**Hungarian**	**China**	**Iranian**	**Iraq**
Percentage	62%	28%	4%	4%
Number	13	6	1	1

Source: Own edition

Table 5: Employment status at Miskolc University

Employment status	**Number**
I am an employee	11
I am working in middle management or equivalent to that	3
I am working in senior management or equivalent to that	3
I prefer not to say	2
University professor	1
I am self-employed	1

Source: Own edition

After the general questions, we inquired about the employees' ideas regarding their manager's attitude and behavior. Table 6 shows our outcome.

According to Table 6, we can safely assume that the employee's perceptions of the effects of managers as the internal coach in their workplace are generally positive, only the sixth statement, which was about employee suggestion acceptance by managers, didn't reach conclusive positive results. We can assume that the managers use their coaching capabilities at Miskolc University.

Table 6: Employees' idea regarding their manager attitude

Manager Attitude as the Internal Coach	**Strongly Agree**	**Agree**	**Neither Disagree nor Agree**	**Dis agree**	**Strongly Disagree**
Managers are encouraged to develop the skills for future	28.6 %	52.4	14.3 %	4.8%	-------
Employees enjoy being part of the organization in handling any problems (Acculturative Stress)	19%	47.6 %	19 %	14.3 %	-------
Employees have the right to receive feedback about their decision as required	33%	23.8 %	42.9 %	-------	-------
Members in my organization are willing to accept changes	19 %	33.3%	28.6 %	19 %	-------
We believe in trusting each other to do the right thing	33.3 %	33.3 %	14.3 %	19%	-------
Managers confidence in the suggestions provided by the employees	14.3 %	28.6 %	33.3 %	23.8 %	-------

Source: Allen.L. (2010) and own edition

5. Conclusion:

Executive coaches try to develop significant abilities and skills for managers in various organisations. When managers become successful in finding out their goals and objectives, they can bring valuable sources for changing the employees' behavior in the organization. For instance, improving the employee performance can lead to an increase in productivity, may strengthen multiple responsibilities, can reduce anxiety and acculturative stress, and overall increase employee self-stem which finally can affect the employees' satisfaction, and by this method, bolster the reputation of Miskolc University among the others competitors. Finally, as in many qualitative and quantitative studies, our research also faced limitations (primary data and secondary data) about the role of coaching in multicultural organizations' performance. We would like to expand this to a future study that would cover all the effectiveness, strategies and models of the executive and internal coaches in the multicultural organization's performance. By our recommendation, international workplaces like the University of Miskolc should utilise external coaching more which would improve the managers' internal coaching ability to maximize productivity, improve synergy between co-workers of different cultures and backgrounds and further enhance positive behaviors and weed out negative ones, while taking in the constant feedback from the employees.

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DR. KOCSICSKA IVANA:

HEALTHCARE WORKFORCE MOTIVATION – A GLOBAL CHALLENGE FOR HEALTHCARE MANAGEMENT

PhD Student, Hantos Elemér Business and Regional Science Doctoral School, University of Miskolc

Abstract: The motivation of the workforce is one of the crucial factors, which plays a key role in the selection, development and maintenance of the workforce. This is especially applicable for the health care services. Although, there are several categories of the health care workers, doctors and nurses represent the largest groups and motivation plays an important role in their everyday work, with special regard to the current COVID-19 pandemic. It is extremely important to map the current situation at the national and international levels, as well as to explore the factors, which can influence the development of the medical workforce in the future. In addition to the favorable financial incentives, other types of the support, e.g. increasing young people's interest in the medical profession, optimal management of the Burnout Syndrome, constant cooperation at work and increased autonomy of the employees, could be also important factors in achieving adequate results.

Key words: maintenance of the healthcare workforce, intrinsic motivation, extrinsic motivation, workforce shortage, financial incentives

1.INTRODUCTION

It is a recognized fact, that healthcare workers have a vitally important role in an effective health care service providing and maintaining. This became an especially significant, sensitive and crucial topic since the beginning of COVID-19.

Physicians, nurses and other healthcare workers are standing on the front lines in the war against the pandemic. It is extremely important to recognize their contribution in keeping services working adequately as gatekeepers of the health care system.

I have formulated a few hypotheses as leading in this research. The essential one, which I would like to highlight is that the work motivation is one of the most important factors, which determines the quality of the healthcare services. I have assumed, that both internal and external components play significant role in work motivation and that the motivation of the healthcare workforce can be increased with both financial and non-financial incentives.

2.MATERIAL AND METHODS

In my current research, I have done the analysis of the domestic and international literature on the subject, the data published in relevant statistical databases, the most important media appearances and the results of the previous research performed within the field.

I have completed a cross sectional analysis of the data, which can serve as a basis for the establishment and elaboration of the further research goals. In order to evaluate the healthcare workforce motivation, I interpreted the reports of the World Health Organization (WHO), the Organization for Economic Cooperation and Development (OECD) and the International Labor Organization (ILO). In addition to that, I used data available at the websites of the U.S. Centers for Disease Control and Prevention (CDC), the English Nurses and Midwifery Council (NMC) and the Canadian Institute for Health Information (CIHI), in order to describe the measures for the provision, organization and replacement of the health workforce.

I have performed an analysis of more than 30 articles, as a considerable source of information about healthcare workforce motivation. This can provide substantial content and details for the further analysis of the phenomenon and new information, knowledge regarding the motivation of Health Care Workers. Also in addition, the experience and information gained during COVID-19 pandemic can help to create a new concept for healthcare human resource management and planning policy. Due to this, I consider it extremely important to analyze and summarize the results and experiences from the previous research on the topic.

3.RESULTS AND DISCUSSION

As the introduction to the analysis of the healthcare workforce motivation, it is important to define the work motivation in general. One of its well known interpretations determines work motivation as a set of energetic forces that originate both within as well as beyond an individual's being, to initiate work-related behavior and to determine its form, direction, intensity and duration (Pinder 1998).

Motivation is a psychological process resulting from the interaction between the individuals and the environment. Social cognitive theory (Bandura 1989) explains behavior in organizations in terms of the reciprocal causation among the person, the environment and the behavior itself, determined as previous successful or unsuccessful performances (Stajkovic et al. 2002). The mentioned environment includes, for example, the consequences from the organizational environment such as pay for performance.

Also, motivation can be determined as that which energies directs and sustains behavior (Porter et al. 1979). In accordance with this, there are three principal questions coming up during the

discussion about the motivation. The first and most important talking point is related to the question what stimulates the human behavior. Relevant inquiries as well, are what controls the motivation and influences its development and how certain behaviors can be maintained.

3.1. Main challenges in Health Care Systems

Health Care Systems worldwide are facing a lot of challenges, which are additionally increased during the current COVID-19 pandemic.

Even if we do not consider extra added tasks, which came together with COVID-19, there are still huge issues in healthcare related to other various reasons.

The main challenges include the following:

- Cumulative deficit/reduction in the health sector
- Lack of coordination between primary, secondary and tertiary care
- Gaps in health digitalization
- Burnout syndrome
- Shortage of health workers in many countries

The listed shortage of health workers has serious consequences on providing health care service (Eastwood et al. 2005), especially in rural areas. It should be also highlighted that maintaining the existing health workforce reduces recruitment costs.

According to the International Labor Organization (ILOSTAT) reports (International Labor Organization 2020), the developed countries have the largest health care sector and the biggest number of skilled health care workers, related to the total population. Considering all developed countries, the average number of health care workers per 10 000 inhabitants is 580. Observing particular countries, these numbers are definitely the

highest in Norway with 1 049 healthcare workers/10 000 inhabitants, Denmark with 901 healthcare workers/10 000 inhabitants, Japan with 860 healthcare workers/ 10 000 inhabitants, The Netherlands with 858 healthcare workers/ 10 000 inhabitants and Switzerland with 801 healthcare workers/ 10 000 inhabitants.

Table 1: Number of healthcare workers per 10 000 inhabitant presented for specific countries

Country	**Number of healthcare workers/ 10 000 inhabitants**
Norway	1 049
Denmark	901
Japan	860
The Netherlands	858
Switzerland	801
United States	682
Germany	669
United Kingdom	664
Hungary	322
Poland	281
Serbia	224
Vietnam	60
Niger	19
Malawi	16
Papua New Guinea	16
Mali	12
Vanuatu	9

Source: https://ilostat.ilo.org/covid-19-are-there-enough-health-workers/

Based on table provided above, it is unambiguous, that the second half of the country list includes Niger with 19 healthcare workers/ 10 000 inhabitants, Malawi and Papua New Guinea, both with 16 healthcare workers/ 10 000 inhabitants, Mali with 12 healthcare workers/ 10 000 inhabitants and Vanuatu with 9 healthcare workers/10 000 inhabitants.

If we look at those countries, which during the first wave of COVID-19 pandemic officially had the highest numbers of infected citizens (Austria, Belgium, Canada, France, Germany, Italy, The Netherlands, Portugal, South Korea, Switzerland, United Kingdom and the United States), we can say, that each of those countries has more healthcare workers (related to its population) than the global average (174 healthcare workers/ 10 000 inhabitants). The only exception is Iran, which has 99 healthcare workers/10 000 inhabitants. As it was mentioned previously, due to COVID-19 pandemic the healthcare systems worldwide got into focus and this revealed the fact that many countries were already struggling with health workforce shortages. Long working hours, low wages, inadequate levels of occupational safety and significant health risks have contributed to the phenomenon that many health workers left the professional field already years ago.

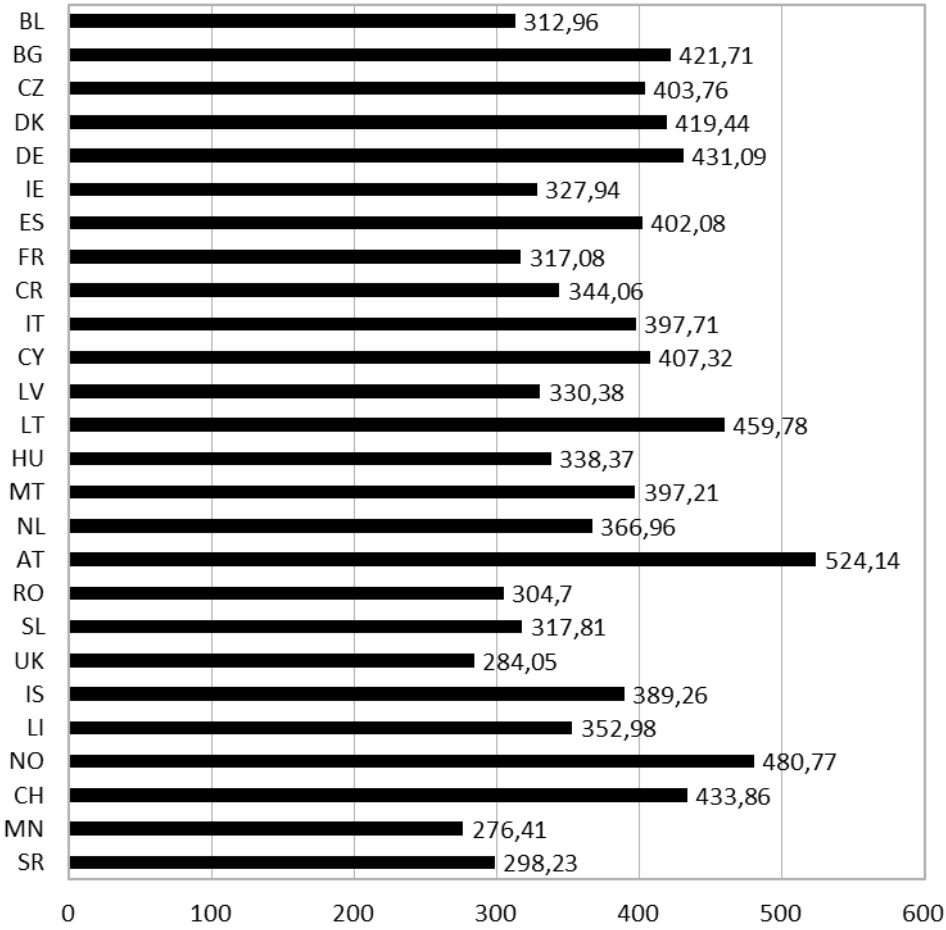


Fig. 1: Number of physician per 100 000 inhabitant in European countries (2018 data)
Source: https://ec.europa.eu/eurostat/databrowser

Considering the number of physicians per 100 000 inhabitants in European countries (based on Eurostat data from

2018), we can say that Austria is the leader in terms of coverage with physicians (524 physicians/ 100 000 inhabitants). Besides Austria, high numbers of physicians (related to the population) are observed in Norway (480 physicians/ 100 000 inhabitants), Lithuania (459 physicians/100 000 inhabitants), Switzerland (433 physician/ 100 000 inhabitants) and Germany (431 physician/ 100 000 inhabitants). In terms of the lowest coverage with physicians among European countries, there should be mentioned Montenegro (276 physician/ 100 000 inhabitants), Ukraine (284 physicians/ 100 000 inhabitants) and Serbia (298 physician/ 100 000 inhabitants).

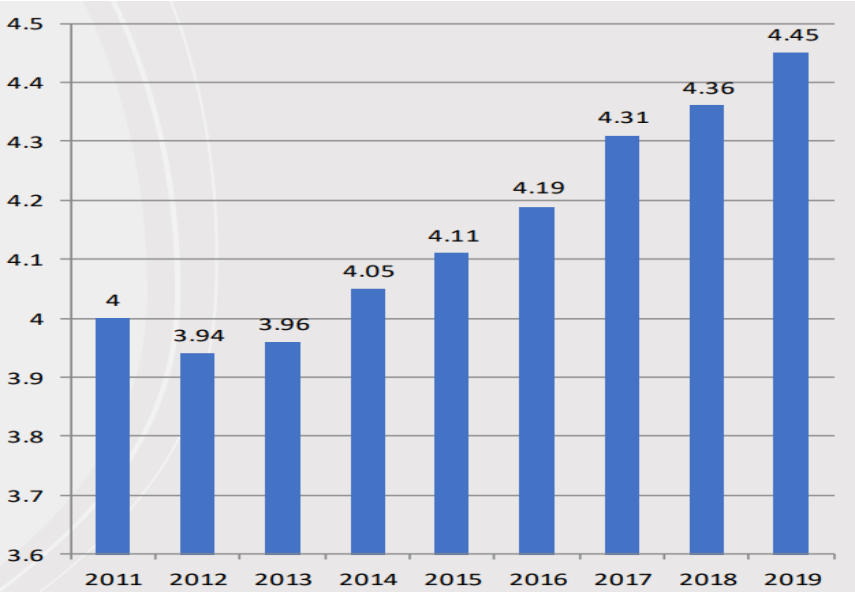


Fig. 2: Absolute number of nurses and midwives (million) in European Union (total) in period between 2011-2019
Source: https://ec.europa/eurostat/web/products-eurostat-news/-/EDN-20200512-1

According to the EUROSTAT data, in 2019 there were 4,45 million nurses and midwives working in the healthcare system of all EU countries in total (1,45 million in Germany, 656 thousands in France and 411 thousands in Italy). Also based on EUROSTAT data, the number of nurses and midwives in EU countries has been constantly increasing since 2011.

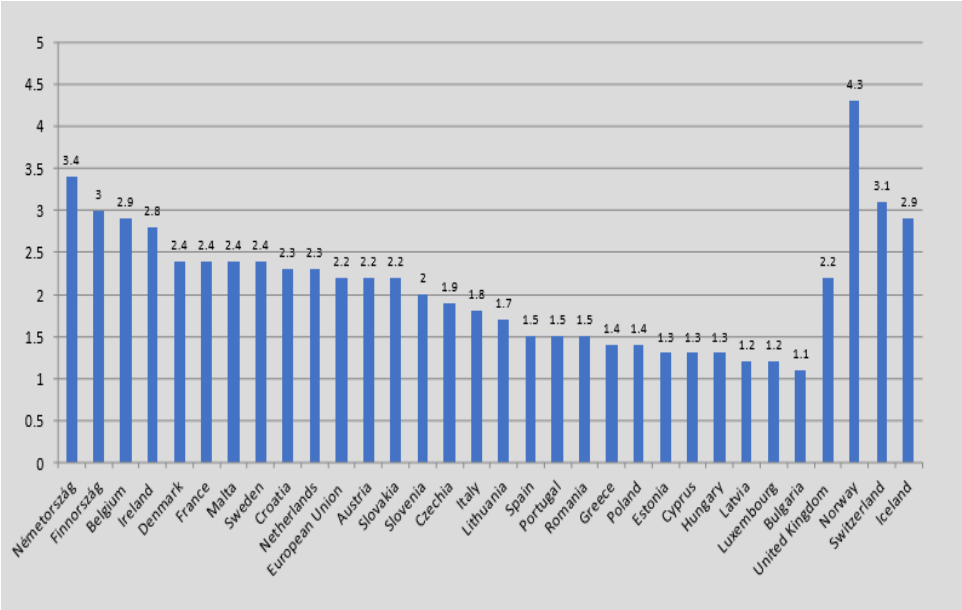


Fig. 3: Nurses and midwives (% of the total number of employees) – EU, UK, Switzerland, Norway (2019 data)
Source: https://ec.europa.eu/eurostat/databrowser

Norway is the country with the highest rate of nurses and midwives expressed in the percentage of the total number of employees (considering European countries), which is 4,3%. Also prominent percentages are observed for Germany (3,4%), Switzerland (3,1%), Finland (3%, Iceland and Belgium (both

2,9%). The lowest percentages are noticed for Bulgaria (1,1%), Latvia and Luxembourg (both 1,2%), Hungary, Cyprus and Estonia (all 1,3%).

Based on the OECD data, immigrants have great importance in the healthcare systems of the developed countries. In OECD countries the number of doctors, who graduated abroad, increased by 50% in the period between 2006 and 2016. That number reached almost 500 000 in 2016 (OECD 2019). Looking at 2016 OECD data, we can conclude that one of six physicians and one of fourteen nurses, who are working in healthcare systems of OECD member countries, graduated abroad.

The United States is still the most significant destination for immigrant physicians, followed by the United Kingdom and Germany. Also Canada should be highlighted in terms of health workforce migration. Looking at concrete percentages, 29% of physicians and 22% of nurses in the United States are immigrants (Gelatt 2020). In the United Kingdom, 13,3/ of healthcare workers are non-British (Alderwick 2019). In Canada, 26,4% of physicians and 8,5% of nurses came from other countries (Canadian Institute for Health Information 2018).

Based on numerous previous researches (eg. Salas-Vallina, 2020, WHO, 2020), the need for further research on healthcare workforce has emerged, in order to create innovative healthcare service models. Besides various things, the European TO-REACH project (EU project, 1 December 2016 – 30 November 2020) was created, which provided a favorable background for future research on accessibility, efficiency, equity and resilience of healthcare systems, as well as the sustainable development of research funding bodies (TO-REACH 2020).

3.2. Factors affecting the motivation of the healthcare workers

Discussing the factors affecting the motivation of the healthcare workers, we can say that there is a set of social (e.g. age, education), professional (e.g. professional experience, professional commitment) and financial aspects, which influence the motivation. The work motivation further determines the behavior of healthcare workers, their attitude and work performance within healthcare services (Moody et al .2006).

In terms of the origin of the motivation, we can distinguish internal (intrinsic) and external (extrinsic) motivation. The performance of highly motivated healthcare workers may also vary if driven by internal or external motivation (Moody et al. 2006).

Besides the determination based on the origin of the motivation, it is also crucial to mention that both personal and organizational factors influence the level of work motivation. The personal factors include two big groups:

- Background factors (demographic factors: age, gender; social status: family children; work related factors: qualifications, knowledge, work experience)
- Individuals' mindset and the evaluation/perception of the experiences

In case of nurses, considering the background factors, we can say that there are three generations of nurses and midwives:

- Baby Boomers (born between 1946 – 1964), which is, generally speaking, a generation of „workaholics" and self-centered healthcare workers, which expect to be involved in decision-making, to take their opinions and ideas into account and which are, on the other hand, more satisfied with the workplace benefits (Sparks 2012)
- Generation X (born between 1965-1980), a generation of self-confident, self- loyal (rather than loyal to the institution or to the system) nurses, which focus on the result (rather than on the process itself) and which are less

satisfied with the reward and work conditions (Sparks 2012)

- Millennials (born between 1981-2000), a generation, which prefers independence in work gaining prestige, as important element of the professional life (Kantek et al. 2013) and putting a lot of effort in building up good relationships with patients and their family members

Although there are some slight differences among different generations (Generation X and Millennial prefer overtime reward and premium, while Baby Boomers much more appreciate pension contribution), for all of them the proper reward (wage) is very important. In the case of the Millennial generation, lack of professional experience (due to still young age) and the underestimation of their performance by the more experienced colleagues, may lead to a constant stress and affect the good teamwork (circulus vitiosus).

Important internal psychological factors, which significantly influence the work motivation are (Hackman 1980):

- Experiences/knowledge about the importance of healthcare work
- Experiences/knowledge about the responsibilities on the working place
- Awareness of the possible results of the healthcare work, which can be effective or ineffective

Work conditions and workplace characteristics significantly affect the work motivation of the healthcare workers. Discussing the job characteristics, it is important to mention the significance of:

- Autonomy in work
- Clearly defined responsibilities
- Proper supervision
- Open communication
- Good interpersonal relationships

- Teamwork
- Equal opportunities for professional development

Working conditions, which may contribute to the increase of the work motivation are:

- Efficient workload management
- Sufficient resources (both human and financial)
- Pre-planned shifts and flexibility in schedule planning
- Adequate occupational medical service
- Satisfactory benefits

3.3. How to improve the motivation of healthcare workers

It is a general understanding that a greater emphasis needs to be placed on the motivation of the healthcare workers and the leadership should be more focused on the implementation of work motivation increasing measures. Also, considering human nature, for each individual assuring their own safety and well-being are paramount and only after ensuring these, they can take care of the others properly.

Discussing specific, work motivation increasing measures, the following should be mentioned definitely:

- Increasing the number of professional training opportunities for healthcare professionals
- Accomplishing low cost investments (e.g flowers planting around healthcare facilities, providing new, comfortable furniture for common areas in health care facilities)
- Non- financial incentives (e.g. more flexibility in employment agreements, support in professional development)
- Providing adequate infrastructure in the rural areas (e.g. building roads, ensuring adequate supply and communication)

- Improving the leadership and management techniques
- Ensuring proper handling of Burnout syndrome (physical and mental exhaustion resulting from a long-term, emotionally strenuous activity) for healthcare professionals

The post COVID-19 world will bring a lot of changes, including revisions and transformations in healthcare systems worldwide. The most important tasks for the post COVID-19 healthcare leaders will be the support of healthcare workers in managing the stress, ensuring health workforce diversity and increasing its mobility, obtaining shared leadership shared leadership among the team members and increasing social capital, with creating a work environment in which employees feel valuable and respected, resulting in greater workplace cooperation (Salas-Vallina 2020).

During COVID-19 pandemic, digitalization in healthcare services showed a significant development, which is providing an excellent opportunity for implementation of safe and efficient systems in everyday healthcare work, resulting in improving the work process (Azzopardi-Muscat 2019). The harmful effects of digitalization can be avoided by appliance of appropriate governance mechanisms that are able to adapt digital innovation into the goals of public health care. It is the responsibility of the governments to enable the development and use of technologies, which contribute to the future goals of the health system, by providing the right policy environment and incentives.

4.CONCLUSION

Based on the collected results from various previous researches (e.g. Franco, 2002, Moody, 2006) on healthcare workers motivation, we can conclude that the work motivation can be increased with both internal and external incentives. Including one and the other type of motivation in future initiatives, great results could be achieved.

Providing high quality and efficient healthcare services is one of the most important motivating factors. On the other hand, the work motivation determines the work behavior, attitudes and the performance of the healthcare workforce.

Definitely, one of the most important challenges that the healthcare systems worldwide are facing is the workforce shortage. Even in pre-COVID-19 period, many countries were faced with this shortage. It was dominantly characteristic of low-income countries, while the developed countries compensated this with the immigrant health workforce, resulting in current dependence on foreign healthcare workers.

One of the most important tasks for the future healthcare management is to organize and maintain the optimal use of the health workforce and to provide the supporting infrastructure. Also, digitalization in healthcare systems and psychosocial support of healthcare workers should be handled as priorities for the future.

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1. Author's address

Dr. Kocsicska Ivana
kocsicska.ivana @ gmail.com
1161 Budapest, József utca 71
Hungary

SECTION F 2: Management

KARÁCSONY PÉTER-KRUPÁNSZKI KORNÉL: ANALYSIS OF THE RELATIONS BETWEEN THE MANAGER AND THE EMPLOYEE IN HUNGARIAN SMALL AND MEDIUM ENTERPRISES

[1] Department of Economics, Faculty of Economics and Informatics, J. Selye University, Komárno, e-mail: karacsonyp@ujs.sk
[2] Department of Economics, Faculty of Economics and Informatics, J. Selye University, Komárno, e-mail: 123199@student.ujs.sk

Abstract: The goal of our research is to examine the relationship between management and employees in the case of small and medium sized enterprises. To support our research hypothesis, we conducted a survey during the spring and autumn of 2020 with 227 participants. The requirement for taking part in the survey was that the participant in question had to be working at a Hungarian small or medium sized enterprise. Following the regression analysis, we determined that satisfaction with management is explainable to a degree of 92,7% with independent variables. These variables where the manager's ability to perform their tasks, trust in management, clearly defined organisational objectives, job change and the attitude/mentality of the manager. These results may serve as a guideline for other researchers, helping them determine the direction of their research when examining the relationship between management and employees.

Keywords: leadership style, motivation, communication, organization, manager

1. INTRODUCTION

We spend a considerable part of our lives at work, which means that there will be a desire to make work a positive experience in a suitable environment with a suitable manager. We often hear other people complain about their bosses which often results in the individual considering seeking out another job (Chang 2017). Perhaps one of the greatest organisational challenges of the 21st century is for employers to find the workforce most suitable for achieving organisational goals. Before the coronavirus pandemic, western market economies including Hungary had to struggle to find good employees as the beneficial economic processes of the past decade resulted in labour shortages in certain sectors. Because of this in addition to gaining employees, the value of retaining talented employees also increased, which presented organisations with serious challenges

The relationship between management and employees and the closely related effects of the organizational behaviour is supported by several of the available international literature (Holtz and Harold 2012, Ohemeng et al. 2018). During our research we will attempt to explore leadership qualities and attributes that increase the satisfaction of employees, and which increase commitment to the organisation, loyalty, and the constant upkeep of organisational performance this entails.

To achieve the research goal mentioned above, following the introduction of the study, the most important literature on the topic will be examined which will be followed by a presentation of the research methodology, and finally we will present the key findings of our research. The closing segment of the study will contain the conclusions we came to during our research as well as references.

2. LITERATURE REVIEW

By examining the literature, we can determine that the concept of leadership cannot be precisely defined. Each author has a different way of thinking which results in as many definitions of leadership as there are authors. Just as with everything else, the progress of science also changed the definition of leadership. Fayol (1984) defined leadership in stages and thought of it as an element of management. Later it was expanded to contain the goal we wished to achieve through an organisational activity. This required human factors on the part of the manager that could be used to influence employees in the right direction (House 1996). All in all, it can be said that leadership is an activity through which the manager influences the employee to work to achieve a predefined goal. At the same time while influencing employees, the manager must also try to maintain the harmony of the relationship between the two parties (manager and employee).

According to Mahajan (2011) Lewin described 3 different leadership types in their comprehensive research. The main attributes of the 3 leadership styles are the following: the autocratic leader achieves a high group performance but negatively impacts mood and motivation. The manager is characterised by strictness, subjectivity, and independent decision-making. The democratic leader's employees are motivated, creative with a positive mood and are motivated by the manager towards teamwork. The manager's evaluation of employees is characterised as objective. In a laissez faire leadership the manager remains passive. In this style, the autonomy of employees is key. Here the manager takes on more of a consultant role. Bartha (2015) found that the most important qualities of a good leader are intelligence, confidence, initiation, and big picture orientation (seeing major patterns from an outside perspective). Ribeiro et al. (2018) also listed several important qualities for good leadership such as quick decision-

making, team player approach, marketable professional knowledge, experience and appropriate communication and consistency. We also used these qualities in our own research when inquiring about leadership qualities from participants. In their work Hopkins et al. (2014) highlight the importance of intelligence and contrast old and new methods of thinking. Several studies (Skipworth 2018, Wan et al. 2002, Khalili 2017) state that leadership qualities pay a pivotal role in the relationship between management and employees. Managers who are charismatic and have positive traits are more easily accepted by employees and thus are easier to lead.

Based on the above we made the following research hypothesis:

There is a significant correlation between the abilities and qualities of the manager and the satisfaction of employees, which also affects the relationship between the manager and employees.

3. RESEARCH METHODOLOGY

During our research we employed a quantitative research method. We chose the survey method because they are easy to use and are appropriate for descriptive, explanatory, and exploratory purposes. sampling began during the spring of 2020 and ended only during the autumn of 2020 because of the coronavirus. The survey took place in Hungary. We sent the survey online to the participants. We used the snowball method of sampling. This method can be especially useful if the population is difficult to approach or their members are difficult to identify and the usual channels are not effective. We were forced to use this method because of the coronavirus, as searching for participants became difficult amidst the government's lockdown policies. At the beginning we used our old university contacts and asked them to search for additional participants.

The survey was anonymous. The survey was preceded by a pilot research which was necessary to explore possible faults in the survey. After examining and sorting the completed surveys there were a total of 227 that we could use for our research. The survey contained a total of 25 questions which can be separated into two parts. In the first part we asked about general demographic details. The second part focused on understanding the relationship between the manager and employees, where we primarily employed a 10 level Likert scale, with 1 being "strongly disagree" and 10 being "strongly agree".
To analyse the data, we used Microsoft Excel and the IBM SPSS statistical application. At first, we tried to find a significant relationship among our variables using the correlation, which we used to examine the strength and direction of the correlation between the two variables.
By examining the demographic data, we determined that 70,5% of respondents were male and 29,5% female. The largest age group was represented by 18–30-year-olds with 39,6% followed by the 31-40 group with 33,5% and lastly by those above 65 years of age with 1,3%. In terms of residence, 41,4% of respondents lived in towns or cities, 47,6% in villages and 11,0% lived in the capital city. 33,5% of respondents had a high school degree and 65,2% had a university degree. 32,2% of respondents have been working at the same small or medium sized enterprise for 6-9 years, 16,7% for 3-5 years and 12,3% for over 10 years during the time of the survey.

4. RESEARCH FINDINGS AND DISCUSSION

The relationship between the manager and employees is best measured through satisfaction with the manager, therefore we placed great deal of importance on examining how satisfied employees were with their managers. Based on the results we can state that participants are more likely to be satisfied with their

manager as evidenced by the 6,44 average. 8,81% of respondents were strongly dissatisfied and 26,43% were completely satisfied with their current bosses at the time of the survey (Figure 1.).

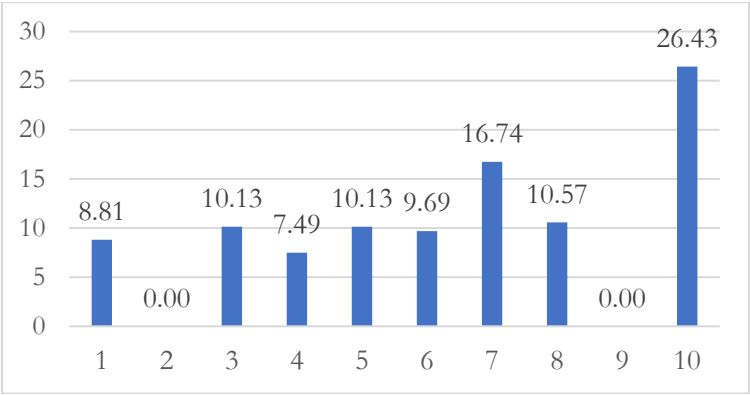


Figure 1: How satisfied are you with your current boss?

The importance of professional knowledge previously discussed in the literature was also a point of inquiry in the survey (Figure 2).

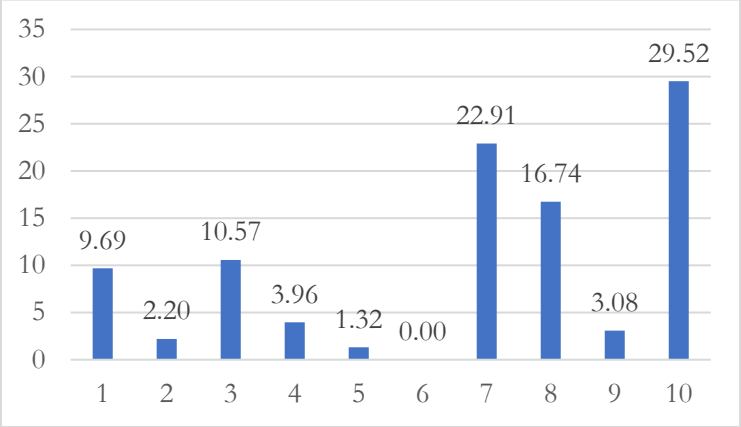


Figure 2: Do you think your boss possesses the necessary knowledge to perform their tasks?

We were curious to know how employees rated the professional knowledge of their immediate bosses. The statement that their bosses possessed appropriate professional knowledge to perform their tasks received a 6,85-average point by respondents. If we examine the issue through percentages, we can see that only 9,69% of respondents thought that their bosses did not possess the appropriate professional knowledge. In contrast 29,52% of respondents felt that their bosses possessed the necessary professional knowledge to perform appropriate quality management.

From the rest of the questions, we would like to highlight the ones pertaining to thoughts of switching jobs. It is evident from the literature (Korzynski 2013, Moosa and Panurach 2008, Blaskova and Trskova 2017) that employees' motivation is best maintained with money, so we were interested in whether employees would consider switching jobs and thus bosses for higher compensation. 76,65% of respondents would not be willing to change their jobs even for better pay, and those who would require a 54,62% increase in income. This means that employees are satisfied with their current workplace situation, work relationships and would not be willing to switch jobs even for a higher salary. The literature sources (Aisha 2013, Karam 2019) also confirms this finding as in today's world money is not as important of a motivator as workplace atmosphere, the effects of the work environment as well as the motivating effect of positive workplace relationships (including the relationship between the manager and the employee) which has been further strengthened by the coronavirus pandemic. In our correlation tests, we looked for the connection between questions alongside a maximum of 5% margin of error. For the evaluation we decided that if the absolute value is 0,4>X then the

correlation is negligible, and if it is X>0,7 then there is a close correlation. Based on the data from correlation test, we found a 0,819 positive correlation at a 0,01 level of significance between satisfaction with the manager and the abilities of the manager, meaning that the more satisfied someone is with their manager the more they think that their manager possesses the appropriate abilities to perform their tasks. Our results are in harmony with several other international studies which state that prepared managers with good abilities are better accepted by employees. Therefore, the source of authority comes from the manager's knowledge and abilities and not their position in the organisation.
A strong correlation on a 0,01 significance level with a 0,869 value is also visible between satisfaction with management and trust. This means that the more satisfied someone is with their manager the more they trust them. One of the best indicators of human relationships is trust, therefore it is of primary importance for the organisation that there is complete trust between the manager and employee as based on our own opinion this is the only way an organisation can operate successfully in the long term.
We also found a strong relationship between communication and satisfaction with management (0,764) at a 0,01 significance level, meaning the more satisfied someone is with their manager the more effective they consider their communication with their boss. Communication is essential in organisations and it must not be one-way from the top to the bottom. Two-way communication must be employed so that employees can freely express their opinions to management. Our results are also supported by the following international literature: Guest 1987, Koch and McGrath 1996, Goris 2007.
During our studies we concluded that the clearer the goals the manager defines are, the better the performance of employees. The significance level was 0,01 here as well and the correlation 0,860. Therefore, the establishment of clear goals motivates workers on

the one hand because they know what they need to achieve, and on the other they know what advantages achieving these goals will bring. Because of in addition to clearly defining goals, great emphasis must also be placed on performance reviews at small and medium sized enterprises.

To prove our research hypothesis, we used a regression analysis. For regression analysis we first need to define dependent and independent variables to complete the model. We chose satisfaction with the manager as the dependent variable, as we were curious to see how this variable was explained by independent variables. We subjected our data to the Forward selection where the program introduces a new variable until the new variable remains significant. Based on this we received 5 independent variables which were the following:

- manager's ability to perform tasks,
- trust placed in the manager,
- clearly defined organisational goals,
- job change, and
- the manager's mindset.

After this we examined the strength of the correlation which showed a value of 0,963 which is considered to be a strong correlation. Based on this the dependent variable is explained to a degree of 92,7% by the independent variables (Table 1).

Table 1: Model summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,963[e]	0,927	0,926	0,780

e. Predictors: (Constant), Do you think your manager possesses the appropriate abilities to perform their tasks? How much do you trust your manager? Are you planning chang to change jobs in the near future? Are you motivated by the manager setting clearly defined goals and showing the path to achieve these goals? Do you think your manager's mindset affects your performance?

g. Dependent Variable: How satisfied are you with your current manager?

Source: own research, 2020

After this we performed an F-test which indicates significance. Our value was under 0,05 which means there was a proven correlation between the two variables. This was confirmed by the t-test where the significance was also below 0,05. If we examine the Sum of squares value and divide the regression value (1713,383) with the Sum of squares value (1847,947) we will get the 92,7% explanatory value. The residual value is so low that it has no effect on other values (134,564).

Table 2: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1713,383	5	342,677	562,793	,000[f]
	Residual	134,564	221	0,609		
	Total	1847,947	226			

a. Dependent Variable: How satisfied are you with your current manager?

f. Predictors: (Constant), Do you think your manager possesses the appropriate abilities to perform their tasks? How much do you trust your manager? Are you planning chang to change jobs in the near future? Are you motivated by the manager setting clearly defined goals and showing the path to achieve these goals? Do you think your manager's mindset affects your performance?

Source: own research, 2020

Based on the results received during the regression calculation, it can be determined that employee satisfaction with management is primarily influenced by the abilities of the manager, therefore we consider this *research hypothesis proved*. Aside from this we also determined that trust placed in the manager and the clear definition of organisational goals also affected satisfaction with the manager. Based on the Beta values we can also state that the two greatest effects are enacted by the appropriate ability of the manager (0,437) and trust in the manager (0,383), however clearly defined organisational goals (0,226) were also important.

5. CONCLUSIONS

Based on our research we can state that employees are mostly satisfied with their managers in the examined Hungarian small and medium sized enterprises, which can probably also be attributed to the fact that the size of the organisation ensures constant contact and many people know each other by name.

Using regression analysis, we examined the relationship of satisfaction with the manager variables. Based on the results we can state that we have found a correlation between the satisfaction with the manager and the variable we have chosen with a strong explanatory value of 92,7% alongside a low standard error. For employees, the two most important sources of satisfaction with the manager were the abilities of the manager and their trust placed in the manager, however as a third factor, clearly defined organisational goals were also important. If organisational goals were clearly defined, then employees were more motivated. Based on the results it can be determined that if the manager does not possess the necessary knowledge then they have no legitimacy with their employees. Furthermore, without the trust between the two parties, effective cooperation is also questionable. The lack of trust may result in serious consequences within the organisation (e.g.: the withholding of important information on behalf of both parties), therefore managers should take care to build and strengthen trust. The frequency and efficiency of communication is essential today.

Our research has supported the fact that communication needs to flow both ways and it is not enough for the manager to just give orders, they must also listen to the opinions of employees and it is preferable to also involve them in the decision-making process. One of the positive outcomes of our research was that employees' communication with their managers was not accompanied by anxiety and could thus more openly discuss problems.

Respondents were mostly satisfied with their current workplace, and there were only a few who would consider switching for higher pay. This means that a good work atmosphere and a pleasant manager-employee relationship could play a large role in strengthening an individual's commitment to the organisation and thus ensuring low levels of fluctuation.

Based on the results of our study, we make the following suggestions for managers. The factors identified during the study that determine satisfaction with management should be taken into consideration at small and medium sized enterprises. At such organisations, the number of managers who are acknowledged in their field and possess the appropriate leadership abilities should be increased. In addition, special attention must be placed on creating a trusting relationship between the two parties (manager and employee), as this may increase satisfaction with the manager. Because of the size of small and medium sized enterprises, it is primarily the direct manager who can create the appropriate work atmosphere for employees. If this does not occur and the manager is unable to bring employees to their side, then work morale and performance may suffer in the long run.

In the future we plan on conducting another research based on the current one to determine the changes in the relationship between management and employees since the coronavirus pandemic.

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GÁBOR SZABÓ-SZENTGRÓTI - MARTIN GELENCSÉR - EDYTA BOMBIAK - BENCE VÉGVÁRI: THE SPREAD OF DIGITIZATION AND AUTOMATION: SOME ISSUES OF BASIC INCOME

[1] Department of Leadership and Management Hungarian University of Agriculture and Life Sciences, Kaposvár e-mail: szabo-szentgroti.gabor@uni-mate.hu
[2] Faculty of Social Sciences, Siedlce University of Natural Sciences and Humanities, Siedlce, e-mail: edyta.bombiak@uph.edu.pl

Abstract:

The global economy is currently hectic, thanks to rapid technological development and the pandemic situation of the past year. In our research, we sought to find out how potential workers think about the concept of a basic income and its impact on the labour market in the context of changing socio-economic changes. The results show that there is mixed support among potential workers for a basic income. Potential workers do not see it as the most important solution to solving the changed socio-economic problems, because they believe it will widen the gap between the rich and the poor.

Keywords: employment, basic income, robot, unemployment

1. INTRODUCTION

There are currently two very topical labour market issues in the world. On the one hand, the impact on the labour market of the economic crisis caused by the pandemic of the coronavirus, and on the other hand, the industrial revolution caused by automation. The two topics are closely related, but the focus of our paper is on the analysis of some of the labour market effects of the fourth industrial revolution. Opinions are divided on the replacement of human labour by robotic labour and its implications. The majority of analyses describe a huge change affecting up to hundreds of millions of jobs worldwide (C.B. Frey & Osborne, 2013; Manyika, 2017; Nedelkoska & Quintini, 2018).

As technology evolves rapidly, it is becoming increasingly urgent to examine the various changes in the labour market and equip workers with the right skills and competences to counteract change. With the staggering pace of advances in robotics and artificial intelligence, we are moving towards a world where robots and algorithms can be used to perform not only unskilled, repetitive jobs, but also far more complex jobs, both physical and mental (Harris et al., 2018). From factory packaging and assembly jobs to healthcare and finance, virtually every sector will be affected by the Fourth Industrial Revolution to some extent. This massive scale of change brings both opportunities and threats. It is even more divisive for the public and for researchers who are experts in the field.

The jobs that will disappear in the near future present us with two worldviews: one in which people don't have to work because robots do it for us, and we enjoy the 'fruits of their labour'. The other is a world in which the vast majority of people are unemployed: as existing jobs shrink at an ever-increasing rate, the number of unemployed increases, we enter a period of Keynesian 'technological unemployment', where someone becomes unemployed not for the traditional reasons, but simply because

robots have already filled all the jobs they could have. Common to both options is the disappearance, if not total, of work in the traditional sense. Again, this raises a lot of questions, questions that we cannot yet answer. Among other things, the loss of work means the loss of the most common and secure source of income available to people. No country or society today is prepared for this. The most obvious solution seems to be the introduction of a basic income, which has so far failed to gain ground, but which has been caused by the Covid-19 pandemic. The aim of our study is to explore the social perception of the subjective income in Hungary and Poland.

2. LITERATURE REVIEW

The world is undergoing major changes that are fundamentally transforming many aspects of human life. The spread of automation and robotechnology has already prompted many researchers (C.B. Frey & Osborne, 2013; Servoz, 2019) to analyse its impact on the workforce, while the pandemic has accelerated some of the processes of automation (Chen et al., 2020; Sharma et al., 2020) and completely new trends have emerged in relation to the employment of the workforce.

As the labour markets of the previous industrial revolutions were reorganised and jobs were lost, the workers concerned looked for new jobs, and this may be the case for the fourth industrial revolution. Today, however, adapting to a new job in a new field is a long process, and many workers may need retraining, learning new skills and competences, which is a time-consuming and costly task. One solution to this is dual training, which allows students to start working immediately after graduation, as they train the next generation of professionals (Olsovszkyné et al., 2018; Olsovszkyné and Olsovszky 2018). A basic income can be a key issue in this process. In view of the large projected job losses, it is also possible

that there will be some people who will not find work. They will also need support and there is no better alternative at present (Végvári, 2020). Based on current trends and lessons from previous industrial revolutions (Servoz, 2019; Kőmüves et al., 2021)), it is foreseeable that the impact of Industry 4.0 will inevitably lead to a reorganisation of the labour market.

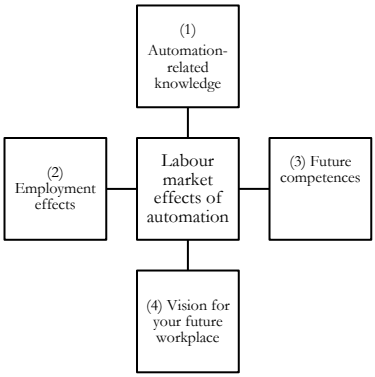
Economic actors have deliberately slowed down the pace of digitalisation and automation in recent years for economic (the relative high cost of robots), political (fear of social consequences) and legal (bans on the introduction of certain technologies) reasons. However, forced digital transformation accelerated significantly during and after the 2020 crisis (Zemtsov, 2020). Wealth inequality has become an increasingly widespread issue in the developed world. The world's leading economies and technology innovators have enjoyed enormous financial success, while the majority of workers outside the technology industry continue to suffer from stagnating wages and rising living costs (Rotman, 2013, Kőmüves & Berke, 2021). As early as 1930, Keynes examined the phenomenon of unemployment as a result of technological progress. His paper (Kim & Scheller-Wolf, 2019) similarly discusses the labour market effects of technological progress. In his research, he seeks to answer the question of whether a life without job opportunities harbours a crisis of understanding and, in the case of technological unemployment, what will happen to the mass of people displaced from the labour market by the limited job opportunities in the world of the machine age.

One possible solution to the problems outlined is the introduction of a taxable income. The concept has been the subject of several experiments around the world, but has been received differently by citizens in different countries (Coelho, 2020a, 2020b; Kangas et al., 2019; Raventós, 2007).The European Union has also taken the initiative to explore the introduction of a basic income, the basic

aim of which is to ensure financial security and the possibility for everyone to participate in society (ECI, 2020).

3. METHODOLOGY

Using national and international literature, we have developed a research model that can be used to assess the labour market effects of automation and public attitudes in a complex way (Figure 1.). The questionnaire we developed included attitudes towards workplace automation and its impacts. In the context of this study, we focus on public perceptions of the future workplace and basic income.



(1) (European Union, 2017; C. B. Frey et al., 2016) (2) (C.B. Frey & Osborne, 2013; Manyika, 2017; Manyika et al., 2013; Oxford Economics, 2019) (3) (LaPrade et al., 2019) (4) (IFR, 2017) (World Economic Forum, 2018)

Figure 1.: Research model

Primary research was carried out in Hungary and Poland between 2019 and 2020. The target group was defined as the working-age population, and 525 evaluable questionnaires were collected. The survey is not representative.

The data were assessed and analysed using mainly descriptive statistical tools. Cross tabulation analysis and ANOVA were used to examine the relationships between background variables and individual responses. Pearson's Chi-squared ($\chi 2$) test was calculated to measure the statistical significance of the relationships between variables. In addition, the Cramér's V coefficient was also tested to determine the strength of the relationship in the cross-tabulation analyses. The results of the statistical tests were considered significant at $p < 0.05$.

4. RESULTS AND DISCUSSIONS

4.1. Vision of workplace

The global spread of automation is clearly transforming the workplace. Both researchers and members of society have two main approaches to the impact of these changes - positive and negative. It is clear that different segments of the labour market will be affected differently. There is also considerable debate in academic research about the scale of the replacement of live labour by technology. Based on the results of our research, 7.1% of respondents think that automation will be able to replace human labour in full. However, 73.7% of respondents think that automation will only affect certain sub-tasks of jobs and will therefore only be able to replace part of live labour and the optimistic approach (19.2%) is that automation will not be able to replace live labour at all. However, the correlation analysis also reveals specificities by target group. In particular, significant differences were identified between men and women ($p=0.022$; $C=0.129$) and between different educational levels ($p=0.021$; $C=0.130$), with men and social groups with lower educational levels perceiving a greater technological threat. A correlation may be that men are more likely to perform repetitive tasks, which are a primary area for automation adoption.

Based on a LivePerson (2017) survey of 2,000 US residents on automation, the results showed that a significant proportion of workers believe that many sectors and workers will be affected by automation, but not them and their own sector and job. Our research results suggest that, in contrast to the LivePerson (2017) survey, workers in Hungary and Poland perceive the threat of automation as the main issue. The majority of respondents believe that automation will affect a lot of jobs and put their own jobs in the threat zone (51.8%), with a smaller proportion of respondents who believe that automation will not affect many jobs (14.9%).

4.2. Basic income

An important issue in addressing the job losses caused by automation is the resulting unemployment. The best known and nowadays increasingly talked about basic income may be a step to consider. Universal Basic Income (UBI) is becoming an increasingly important issue as automation and technological unemployment spread. UBI is understood as a regular, fixed payment made by a country's government to all its citizens, regardless of financial, labour market and other factors (Raventós, 2007).

4.2.1. Eligibility of basic income

Work stoppages can occur at different speeds, requiring different, mild or even drastic measures, not only from workers individually, but also from employers and national governments. If automation occurs slowly and gradually and is offset by the creation of new jobs and the training and equipping of workers, both individually and within companies, with new skills at the same speed, drastic steps may be avoided. If automation is occurring at a tremendous speed and neither workers nor companies can do anything about it, then innovative steps may be needed. If the rate of job losses through technology cannot keep pace with the creation of new

jobs, we are talking about technological unemployment. Keynes put forward this idea in 1933, and it could well become a reality as automation-related technologies develop more rapidly and become more widely available. The solution to this problem is the subjective income, which, based on international experience, is assessed differently in different countries, as our research confirms (Table 1.).

Table 1. Assessment of basic income

Statement	**%**
Yes, it would completely solve the problem	6,7
It would help, but not enough to solve the problem	52,3
No, this concept would not work properly	32,7
No, this concept is unfeasible	8,3

The two extremes of the answer options - that the concept is unfeasible and that it would solve the problem completely - represent the lowest proportion of respondents. However, half of the respondents think that the concept would help to some extent to address the problem. The perception of the possibility of an imputed income varies across labour market segments. The results of the correlation test show that Generation Y and Z workers ($p=0.000$; $C=0.177$) and those with primary education and vocational training ($p=0.000$; $C=0.194$) show the strongest commitment to the idea of a basic income. This research result is noteworthy, especially for the motivations of the younger generation to work. We also observe differences between the two countries studied. The results show that respondents in Hungary are more sceptical and have a significantly more negative attitude than respondents in Poland ($p=0.010$; $C=0.145$).

In our research, we assessed how they would approach the issue of subject income in the event of a referendum. The majority of respondents (38.6%) would not be concerned about the introduction of a basic income and only 35.1% would be in favour and 26.3% against. Our research results show that women tend to be more in the "against" camp (p=0.000; C=0.203), while men are more in favour, as well as members of Generation X (p=0.000; C=0.243). Nationality is also a differentiating factor in the perception of the issue, with 50% of Polish respondents not even bothering to consider the issue, while the majority of Hungarian respondents would support the initiative (p=0.000; C=0.269).

4.2.2. Assessing the impact of basic income

One of the big questions from the workers' perspective of economic change is its impact on wealth inequality. Labour market polarisation - the disappearance of middle-skilled "middle-class" jobs - is still having an impact on wealth inequality.

The results show that the main negative effect is amplification, i.e. a large majority of respondents believe that the gap between rich and poor could widen further as a result of automation. This is confirmed by the research of Autor and Dorn (2013), who report a significant decrease in demand for medium-skilled workers, a moderate decrease in demand for low-skilled workers and an increase in demand for high-skilled workers, creating the potential for further increases in economic disparities. There is a significant difference in the perception of the impact of basic income on wealth inequality between the two countries. 80% of Hungarian respondents believe that basic income increases the gap between rich and poor. (p=0.000; C=0.384).

5. CONCLUSIONS

Workers are aware of the potential labour market disruption of automation. When talking about job losses through automation, the focus is usually on full jobs, but it is important to look at the issue at the sub-task level. There is a significant difference in the perception of the future job and the underlying income across the countries studied, which can be attributed to cultural and socialisation reasons. It can be concluded that Hungarian respondents are characterised by a sceptical attitude, while Polish respondents are more optimistic. The issue of a basic income divides society, as it does academia.

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GÁBOR SZABÓ-SZENTGRÓTI - JÓZSEF POÓR - ZOLTÁN MAJÓ-PETRI: HR CHALLENGES AND REACTIONS DURING THE PANDEMIC PERIOD

[1] Institute of Economic Sciences Department of Management and Leadership Sciences, Hungarian University of Agriculture and Life Sciences, e-mail: szabo-szentgroti.gabor@uni-mate.hu
[2]Institute of Economic Sciences Department of Management and Leadership Sciences, Hungarian University of Agriculture and Life Sciences, e-mail: poor.jozsef@uni-mate.hu
[3] Faculty of Economics and Business Administration, University of Szeged, e-mail: majoz@eco.u-szeged.hu

Abstract: The pandemic of the past year has posed enormous challenges to organizations. In the previous period, the labor market in Europe and within Hungary was characterized by labor shortages, and HR managers basically considered retaining employees to be the main challenge. In the spring of 2020, global constraints reshaped the labor market and significant differences emerged across sectors. In some areas, redundancy planning became necessary, while in other areas there was a strong demand for manpower. In our research, we asked companies operating in Hungary about the HR challenges caused by the pandemic and their effects. Based on our research results, it can be stated that the changes caused by the pandemic resulted in the emergence of new HR functions and transformed occupational health into an area of strategic importance.

Keywords: COVID-19, human resources management, HRM challenges

1. INTRODUCTION

The Hungarian economy has been on a dynamic growth path in the period leading up to 2020 and one of the biggest challenges in recent years has been labour shortages. The world has changed dramatically in the wake of the coronavirus epidemic, and the centres of gravity of labour force employment have shifted (Gelencsér et al., 2020). In recent years, the labour market in Europe, and in Hungary in particular, has been characterised by labour shortages, and HR managers have therefore focused on staff retention as the main challenge.

The pandemic of the coronavirus has also posed an unprecedented challenge for organisations. However, in spring 2020, global restrictions have transformed the global market and significant differences have emerged between labour market segments. In some areas, downsizing planning became necessary, while in others there was a strong demand for labour.

A research group was set up to study the labour market problem, bringing together 13 universities in Hungary. The research group is looking for answers to the question of how the human resource management practices of the Hungarian corporate/institutional sector are responding to the challenges of the coronavirus crisis.

The research group's priorities are:

- To help develop the link between theory and practice.
- To lay the foundations for further development of HR knowledge related to crisis and recovery through university cooperation.
- To collaboratively support the best possible foundation for national efforts to combat the coronavirus, including by enabling participants to disseminate results through the highest possible level of publications.

In the present study, we analysed the HR challenges and their impact on companies operating in Hungary during the first wave of the coronavirus epidemic.

2. LITERATURE REVIEW

In our study, we want to look at the HR challenges that companies have had to deal with over the past year as a result of the Covid-19 pandemic. The economic impact of the epidemic has been significant in most countries. It has led to a sharp drop in demand for labour in many sectors of the European economy and severe labour shortages in others. The current crisis is likely to lead not only to a general slowdown in economic activity, but also to a significant reallocation of economic activity (Costa Dias et al., 2020).

In one of its analyses, the ILO referred to the effects of the pandemic as a "labour market shock", which, globally, typically involved three HRM functions: staff, training and development, and maintaining the health and well-being of employees (Aurelia & Momin, 2020). In addition to the HRM functions indicated, the effects of the pandemic resulted in a number of organisational changes of strategic and operational scope. According to some researchers, the pandemic is expected to have an asymmetric impact, not only on different economic activities and occupations, but also on different groups of employees (Csehné, 2021; Jorda et al., 2020).

The asymmetries of impacts can also be seen in the various measures taken by organisational decision-makers to mitigate the effects of the pandemic at the micro level. In most cases, these actions are linked in some way to managing distance and rethinking boundaries. Related HRM research has also pointed to the difficulties posed by distance, particularly in the areas of employee

selection, training, support, health and safety, leadership and virtual collaboration (Caligiuri et al., 2020).

The COVID-19 epidemic is likely to have profound social, psychological, physical and technological consequences (Carnevale & Hatak, 2020) on the lives of employees and companies alike, forcing society to make lasting adjustments as they try to adapt to their drastically changed working environment.

The COVID-19 epidemic created a challenging and specific environment for human resource management: HR managers had to react quickly to the unknown situation to help employees adapt to the radical changes in their work (Carnevale-Hatak, 2020) and to support the leaders of organisations in creating and maintaining safe working conditions. The challenges of HRM caused by the COVID-19 epidemic have manifested themselves in society and the economy in different ways, which can be seen in the drastic changes in work-family balance and working conditions. It is also important to highlight some specific labour market groups, in particular singles and single parents, for whom the closures have caused particularly severe mental strain, which has also manifested itself in a decline in work performance (Caligiuri et al., 2020).

Learning from the crises of the past, we know that the way organisations respond to crises fundamentally determines their relationship with their current and future employees and customers (Agarwal, 2021), who are ultimately the key to their competitiveness.

In an international dimension, some authors have assessed that in times of pandemics, staffing, training and development, and maintaining the health and well-being of employees have become key areas (Berke et al., 2021), strongly supported by dynamically evolving HR technologies (Aurelia & Momin, 2020).

3. METHODOLOGY

The target groups of the research are businesses, non-profit organisations and public institutions operating in Hungary. A non-random, snowball sampling was carried out among the target group. Participation in the research was voluntary. The person who filled in the questionnaire could choose whether or not to include the name of the organisation being surveyed in the questionnaire. A total of 508 assessable responses were received during the data collection period. With regard to the sample, 85.3% of the responding organisations are privately owned companies, of which 26.6% are foreign owned. Of the remaining organisations, 11.6% are state and municipal organisations and 3.1% are non-profit organisations. In terms of number of employees, more than 70 percent (72.1%) of the responding organisations fall into the SME category.
Within the framework of our research programme, we have developed a research model based on which we can investigate through empirical research (on-line questionnaire survey) the challenges and changes in the human resource management practices of the corporate/institutional sector caused by the coronavirus crisis

Responses were collected through an online questionnaire that respondents could complete independently and/or with expert assistance. Expert support was provided through an online webinar interface and face-to-face attendance, giving participants a choice. The questionnaire was pre-tested. Based on the pre-test, visual modifications were made to the questionnaire and minor drafting clarifications were made. Data collection took place between 10 June and 30 July 2020. In line with the initial phase of the research and due to the nature of the data, descriptive statistical methods were used.

4. RESULTS AND DISCUSSION

4.1. The importance of managing human resources in a pandemic

One of the most significant impacts of the pandemic period is in the area of human resources. In our research, we investigated the role that respondents attribute to human resource management in Hungarian organisations. The vast majority of the organisations we surveyed (63%) defined human resource management as a strategic priority.
In addition to the strategic role of HR, the strong reaction of respondents can be detected in two other areas: firstly, that mass redundancies would be detrimental to the organisation in the long term, and secondly, that the retention of key people and talent becomes particularly important during a crisis. Closely related to this issue, more than half of businesses (54%) have taken steps to retain key staff and high performers despite the difficulties.

32% of respondents also say that their attitudes give them strong confidence that their organisation's unique, hard-to-replicate knowledge and expertise can help them out of the crisis. The associated increased importance of professional HR work is seen by more than half of respondents (55%) as moderately or strongly characteristic of their own organisation. However, almost 30% of respondents do not hold this view. Just as more than half of respondents do not believe in the approach that "crisis-related redundancies are harmful in the long term because significant intellectual capital is leaving our organisation". A relatively high proportion (35.8%) of respondents also reject the statement that "the importance of continuous and well-organised training is paramount to make our organisation less affected by the crisis".

Respondents' reactions to the last statement reflect an almost equal split (close to 25-25%) not seen for other factors. Respondents' views on rethinking working and employment conditions are therefore very different in the light of their skills and attitudes.
Respondents' reactions to the other statements are often quite similar, close to 25%-25%-25%-25%, reflecting a wide split. This includes the need to rethink working and employment conditions, or even the HR perspective on how to get out of the crisis. All this leads us to conclude that our respondents will have to find at least a satisfactory or sustainable response to very different situations in the light of their capabilities and opportunities in the pandemic period. This may vary by sector, by activity or even by company size, resulting in a diverse set of outcomes, which explains the diversity of responses.

4.2. Challenges, expectations and responses in human resource management

The key areas of perceived challenges in the HR field related to the virus situation have been collected through an open question. At the onset of the virus situation, the biggest challenge for organisations was effective internal communication, information and communication. These factors were followed by the difficulty of retaining staff, introducing/operating a home office, teleworking, and complying with health and hygiene regulations. Many also cited maintaining motivation, salary management, managing panic and developing digital processes as critical issues. The problems of effective internal communication and communication with staff are certainly linked to the work organisation tasks associated with the introduction of the "home office", which also featured prominently.
The challenges of workforce management require a multi-pronged approach, as the pandemic may cause both surplus and shortage of

labour (due to smaller or less order books on the one hand, and to split shifts and shifts on the other), the management of which will catch up with almost all employers with sectoral effects overlapping the Hungarian labour market. In addition, as already identified in a previous question, the health protection function of HR has been strengthened, as HR is also responsible for the development and implementation of workplace hygiene practices to reduce the spread of the epidemic.

International trends also show that as the effects of the pandemic ripple through the economy, the importance of HR functions is being reassessed.

In our research, we identified that many HR activities, especially the health protection function, seem to be strengthened in times of pandemic, with a focus on hygiene measures to reduce the spread of the epidemic. Already, Agarwal (2021) has indicated in his research that remaining constraints due to a prolonged pandemic period may have an impact on process health, which may manifest itself in reduced employee motivation and performance.

For the future, the health function of HR can be a key factor in maintaining organisational performance. Mental health protection, in particular minimizing employee fears in the Covid crisis, has been identified in the international literature as a HR managerial task (Ripamonti et al., 2020), which is supported by our results. In general, the reassessment of HR functions in Hungary is in line with the findings of Agarwal (2021), who is among the first to mention the importance of job security and personal health in his research.

It is a daily rumor in the world of work that the pandemic situation has triggered significant changes. In our survey, we also explored the changes in internal expectations of HR effectiveness. While about a third of the responding organisations do not have a separate organisation or job function for HR (Table 1), our results

show that expectations of its providers have increased substantially.

Table 1. HR department, evolution of expectations on the effectiveness of HR activities (n=508)

Determination	**Frequency (%)**
We do not have a separate HR department or job	36,8
Decreased	2,9
Not changed	27,2
Increased	33,2

Source: Authors' own research

Looking separately at those organisations with a dedicated HR department, the increase in expectations of HR effectiveness is striking: 52% have seen an increase in expectations of HR effectiveness, 43% have seen no change and only 5% have seen a decrease. In parallel with the change in expectations of HR effectiveness, the amount of tasks has also increased substantially: 61% of respondents believe that HR has more tasks to do today than before the virus crisis. The increase in the volume of tasks can be explained by a number of factors, such as the organisation of work from home, the practical adaptation of transitional employment rules or increased HR administration. Nevertheless, a third of respondents considered that the volume of tasks had not changed and 5.8% of respondents had experienced a decrease (Table 2).

Table 2. Evolution of the volume of HR tasks (n=508)

Determination	**Frequency (%)**
Decreased	5,8
Not changed	33,1
Increased	61,2

Source: Authors' own research

5. CONCLUSION

Based on our research results, we can say that the pandemic has resulted in the emergence of a new HR function: the pandemic plan (hygiene, health protection, isolation) has been transformed into an area of strategic importance. As a consequence, organisations need to be prepared to operate flexible work organisation solutions "on the fly" in the long term.

The long-term consequences of COVID-19 are currently unknown, but we can assume that its impact on organisational life will be decisive. The epidemic is a learning process for the whole world, as health experts predict that the risk of future epidemics is guaranteed.

The learning process can be captured in the fact that organisations that are forward-thinking can remain competitive.

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SECTION F 3: Management

Gokhan COSKUN:

LEADERSHIP - MOTIVATION INTERACTION

Faculty of Economics, PhD Student – Management and Organization, University of Miskolc (Hungary)
E-mail: gokhan.cskun@gmail.com

The aim of this paper is to reveal the importance of leadership-motivation interaction and relationships. In this study, the importance of management or managers to have leadership qualities and the necessity of managements to have the necessary knowledge and skills to increase the motivation of employees in the organization are emphasized.
In the first part, leadership and motivation concept are examined. In the second part, the necessity and importance of leadership and motivation are examined. As a source: information from books, articles and on the internet-sources are used.
As a result of the study, more attention should be paid to leadership and motivation tools. In addition, one of the most important factors affecting the future and success of a company is the leadership and motivation levels of the employees in the management department. Since the best leadership style would not be chosen, it is envisaged that these leadership types behave according to socio-cultural conditions.
Keywords: Leadership, Motivation, Management
JEL Classification: M00; L29

1. INTRODUCTION

In order to emphasize the importance of leadership and motivation in the historical process, the importance of this increasing day by day, the insufficient importance of the administrations to these issues and the leadership and motivation wherever there is

management, "leadership motivation interaction and relations" was chosen as a study subject. In addition, as a result of the spread of economic, political and socio-cultural relations with globalization, the way for businesses to do business on a global scale has been paved. The private sector is at the forefront of this. Because in the private sector, with a modern management approach, managers and personnel are selected from experienced, intelligent and educated people and the necessary motivation conditions are provided for them.

Especially in developing countries, administrators and personnel are assigned to institutions with a traditional management approach, not experienced, intelligent and educated people, but political and interest-based appointments are made. As this disregards justice and transparency and prevents the due dignity of employees, it lowers their motivation and makes them feel unhappy. Therefore, the aim of stating that decision makers should not take into account the experienced, intelligent, successful and those who have received management / leadership training in the selection of managers for businesses or institutions, the purpose of stating that they should give up wrong and traditional situations and attitudes was also effective in the selection of this issue.

2. PURPOSE AND PLAN OF THE STUDY AND USED METHODS & TECHNIQUES

Leaders or managers; Understanding the importance of leadership and motivation issues will contribute to the understanding that willing and enthusiastic effort, which will bring more attention to employees, is important for organizational success and at the same time is the key to success for them. Therefore, it will contribute to the subject of knowing the benefits of leadership and motivation tools and theories and how to use them to ensure employee satisfaction, organizational commitment and job satisfaction. At the same time, it will increase the efficiency and competitiveness of the enterprise. Knowing that employees need to be motivated

will contribute to the belief that the performance of motivated employees will increase and, most importantly, the success of the manager, employee and the organization for common goals is a collective success.

2.1 Importance of Study

In today's world where international trade is gaining momentum, intense competition is experienced, technological developments are present, access to information is easier and communication opportunities are increasing; For businesses to survive in these competitive conditions, both senior and mid-level managers must have leadership qualities. These leaders should know where and how they will mobilize the employees of the organization, under which conditions they will enable them to work more efficiently and effectively, the necessary incentives and encouragement tools that employees will provide by seeing the organizational goals as their own goals, and at the same time, using motivation tools very effectively and morale and motivation is of paramount importance in keeping the organization alive and lively.

The study consists of 2 parts. In the first part; The concept of leadership, leadership characteristics and the concept of motivation, motivational features will be discussed. In the second part; The necessity of leadership and motivation will be discussed.

2.2 Methods and Techniques Used

This study was created by literature review. Written documents (books, articles, theses and internet resources) were used. In addition, professional knowledge and experience have been used as an employee of an enterprise.

2.3 Assumptions of the Study

The assumptions of this study are:

- A leader can achieve his/her goals without motivating his/her followers.

- It can be successful if the leader shows interest in both production and people in order to achieve its goals in organizations.
- Required by managers to motivate employees and identifying undesirable behaviours and subjecting them to a reward and punishment system accordingly increases the motivation of the employees.

3. LEADERSHIP AND MOTIVATION CONCEPTS

Leader; It is the person who enables and influences others to act towards a certain purpose. In other words, it is the person that a group of people follow and receive orders and instructions to achieve their goals. "A leader has to be realistic as well as creative and innovative. Imaginary goals and deceitful displays of interest undermine trust in the organization and have a depressing effect. A leader's character, temperament, strong and weak tendencies, skills and abilities to make judgments about himself will help him in the next steps he will take. " (I. Akat, G.Budak 2002)

"The leader, who can direct the audience according to their own wishes, is powerful. Kocal defines power as follows: "Power is the ability to influence others .." (T. Kocal 2013)

In the 21st century, the companies are also active in the competition conditions and know the basic concepts and features of leadership in order to continue these activities effectively. In this context, Bolat et al. They explain the contributions that leaders can give in the organization and some of their features as follows. (Bolat 2008):

• The Leader Should Be a Guiding and Directing: One of the basic conditions of being a successful leader in business life is to contribute to the development of the employees in the organization. For this, it is necessary to allocate time to the employees and guide them.

• A Leader Should Be Motivating: One of the important functions of leaders is to make their environment full of energy and enthusiasm.
• A Leader Should Be able to Manage Employee Performance: High motivation levels of employees in organizations does not mean that their performance is also high. The foundation of successful organizations is that both are high.
• A Leader Should Create and Develop an Organizational Culture: the core values and beliefs in an organization form the core of the organizational culture. Leaders also contribute to the formation of this culture and its transmission to employees. Therefore, leaders are the foundation of the creation of organizational culture and sustainability.

In the early days of the industrial revolution, managers and employers were viewed as more machines to increase the productivity of people. It is known that employers and managers resort to various punishment and coercive methods to narrow this time frame, as the physiological (food, drink and shelter) needs of workers and their families outside of work take too much time.

Ergin explains the concept of motivation as follows: "It contains some elements that activate human behaviour and determine its direction and duration. And these elements are examined internally and externally. If a certain job is done because it is interesting, exciting, and developer, that is, doing the job itself is rewarding; this intrinsic motivation is; but if the same job is done to get an external reward such as money, promotion or fame, it refers to extrinsic motivation. " (Ergin 2005)

Motivation Tools are discussed in 3 main articles. These tools are:

- Economic tools: "In order to increase the productivity of the employees, it is necessary to motivate them to work diligently. The role played by economic tools in motivating the employees is very important. Because employees want to be rewarded for their and their family's efforts to raise

social standards." (Berzek 1982) The strongest factor that pushes employees to work is earning a sufficient wage to sustain their life and, if any, the life of their family. It is known that the number of unemployed and unqualified workers is quite high especially in underdeveloped countries. The employee will try to give what the management expects of him when his fear is losing his job, which is his main source of income. For this reason, economic incentive tools are more effective than other tools among the motivation factors. (Erturk 2000)

• Psycho-social motivation tools: "Another group that needs to be addressed within the incentive tools is psychosocial tools. Until a short time ago, it was widespread that the motivation of employees in the business was largely possible through economic means, but today this view seems to be increasingly obsolete. Today, many business managers have accepted the fact that employees are motivated not only by economic means but also by a number of psycho-social tools." (Eren 2003) Depending on the analysis, managers should benefit from psycho-social tools and besides, they should make the employees feel that they value and always stand by them with their behaviours.

- Organizational and Management Tools: Among organizational and managerial motivation tools; Motivation tools such as unity of purpose, balance of authority and responsibility, participation in decisions, communication, job expansion, job enrichment, job rotation, improvement of physical working conditions, a fair and continuous discipline system and performance

evaluation are used by managers at all levels in an effective and systematic manner in the business. can be used. It is difficult to keep the employees happy in the business. Because the personality structure of the employees, their expectations from the company, their needs and job satisfaction are different.

4. THE NECESSITY AND IMPORTANCE OF LEADERSHIP AND MOTIVATION

"Leadership has existed in every period of history, it would not be wrong to say that a person with a hierarchical nature will not give up the leader in the future. People always try to realize the needs and interests that cannot be realized personally by coming together and forming a group with people who are under the pressure of similar needs and interests. " Therefore, they form a group with people with similar needs who have needs that people cannot personally achieve or cannot achieve. (Eren 2012) This enables them to reach their needs stronger and faster. As in the proverb "Unity is strength", groups unite and organizations, organizations unite and societies, societies unite to form races and nations.

Leadership ensures that events take place within an estimated measure. Although leadership is a respected and hard-to-earn talent and merit, it is seen by many as an easily acquired phenomenon. (Erturk 2009)

"Motivation is an issue that can only be argued about through the interpretation of behaviours. The person's behaviour shows motivation. Factors affecting motivation can only be understood through interpretation of people's behaviour. The behaviour of the person shows his motivation. Managers must interpret the behaviours of the staff and develop models, practices that motivate them according to the results of interpretation." (Serinkan 2008)

Motivation; It is the important energy of leadership, leader, business, organization and organization. Employees' adoption of

the common goals of the enterprise and the organization and being motivated in this direction will facilitate the work of the leader, as well as respond to the expectations of the enterprise and the organization. Likewise, the person in the business is important. Because the development of the business depends on the person who does it. What is important in terms of motivation is that people do things that are meaningful and valuable for them in an appropriate environment. Motivation will always be a problem, as long as the person does not perceive his job in this way. The following attribution is important in this regard: NASA official gave the following answer to the question "How do you motivate the astronauts?" "We do not motivate, but we are very careful about whom we choose." The emphasis here is choosing the right person for the job, more precisely, finding self-motivated people for a certain job. " (Kocel 2013)

4.1. Individual (Intrinsic) Motivation and Leadership

"Individual motivation is internal motivation and it is the self-motivation of the person. There are two stages to individual motivation. These are thought and action. The sincerely motivated person turns thought into action. And it moves towards the goal it sets. Because the first condition for success in life is to set a goal; The second condition is to act to achieve that goal." (Ayturk 2000) As the needs are met and satisfaction is provided, a higher requirement, a higher purpose and a target emerges and each need becomes a motivation tool for the individual. Individual motivation is based on needs, goals, and goals.

In addition, when leaders or managers meet the demands and expectations of the employees at a sufficient level and inform them in advance what is expected when they reach their goals and objectives, employees make a willing and enthusiastic effort.

"Intrinsic motivation is the natural driving force that pushes people into activity, keeps them active until they get what they want, and rinses when they are satisfied. The concept of effort

forms the core of sincere motivation. Effort is the cognitive, dynamic, and emotional power that goes into achieving a goal. The effort required by the employee to perform his or her duties depends on fulfilling the following conditions:"(Basaran 2008)
a) If the employee can perceive that he can satisfy his needs by performing the task;
b) If the result to be obtained by performing the task matches the expectations of the employee;
c) Employee decides to make an effort if result he obtains satisfies his requirements in terms of quantity and quality."
Therefore, if a job is to meet the needs and expectations of the employee, the employee will make the best effort. In other words, the person with purpose and goal has effective internal motivation. "The right thing to do here is not to work according to the person, but to choose the person according to the job." (Sungrtekn 2010)

4.2. Motivation Encouragement Tools and Leadership

Human behaviour is so complex and difficult to understand, it is not easy to develop general principles of motivation. "Personal differences between people are also one of the most important factors that create this situation. However, the important thing is to know the incentive tools that provide long studies to motivate people's work-related behaviours." (Eren 2012)
Motivation approaches and tools according to person, organization, business and society It is a very difficult task to develop. However, it is possible to benefit from various incentive tools to increase the motivation of individuals or organizations. These are generally accepted and mentioned earlier in the article; Economic Tools, Psycho-Social, Organizational and Managerial Tools. The important ones can be listed as follows:
Table 1: Motivational Incentive Tools

Economic Tools	Psycho-Social Motivation Tools	Organizational and Managerial Tools
Wage Increase	Appreciate	Unity of Purpose
Bonus	Independence in Work	Balance of Authority and Responsibility
Participating in the profit	Security	Participation in Decisions
Economic Rewards	Value and Status	Communication
Social Rights	Promotion Opportunities	Business Expansion - Enrichment and Rotation
	Psychological Assurance	Physical Working Conditions
	Environmental Compliance	Performance evaluation

Source: Eren, (2012) Org. Behavior and Management Psychology

Leaders or managers attach importance to the above tools and are used effectively, they able to increase the motivation of the employees. As a result, leadership and motivation are elements that complement each other.

CONCLUSION

In today's world, the change and competition conditions that come with globalization have affected business life and brought modern management approaches to the fore. In this direction, it has caused business circles to consider human as the most important factor in achieving organizational goals. The productivity of the employees of the organization contributes significantly to the productivity and efficiency of the organization. In other words, the achievement of the goals of the enterprises depends on the performance of the employees. Ultimately, the human factor comes to the fore.

Leadership; is a combination of leader, followers, and circumstances. It is very difficult for the leader to reach the set goals without motivating his followers. A leader is the person who triggers the organization and manages to maximize the motivational energies of the followers, knows how to handle things in a simple way, can be innovative and rational. Above all, he knows how to be honest, fair, moral and positive.

Motivation is a force that activates a person mentally and emotionally. It is impossible for an unmotivated person to engage in any activity. For this reason, it is difficult for an employee with low motivation to engage in their work. The leader or manager who wants to achieve organizational goals successfully must provide the motivation of the employee. For this, the employee should know how to motivate. The leader or manager should know that the factors that will motivate each person are different and meet their needs, wishes and expectations, goals and objectives in order to motivate employees.

Leadership and motivation are elements that complement each other. Leaders who have achieved outstanding success in history are the ones who motivate their followers very well. For this reason, leaders need to motivate their followers very well in order to achieve their organizational goals. In this study, the concept of leadership, its types and approaches, the concept of motivation, its tools, theories, and the effect of leadership and motivation relationship on work life have been examined and its importance has been revealed. The evaluation of the assumptions is as follows:

- "A leader can achieve his goals without motivating his/her followers."

This assumption has proved inconsistent. The leader must first of all be honest, moral and positive. It is someone who knows how to handle things in a simple way, can be innovative and rational. It is the one who takes into account the opinions of their subordinates and makes them feel that they work and keep their

motivation high. A leader is a force that triggers the organization and motivates the followers. It is difficult for the leader to reach the set goals without motivating his followers.

- "It can be successful if the leader shows interest in both production and people in order to achieve its goals in organizations."

This assumption has proved consistent. According to his work named Blake and Mounton Management Style Matrix Model; He explained how the leader should behave in order to achieve the goals in organizations based on two factors. These; interest in production and interest in people. Interest in production; Leader's attitude towards production such as new product development, policy making, process improvement, increasing sales and expanding the business were discussed. Human interest; Human-oriented issues such as creating good working conditions, instilling trust in the organization in line with targets, fair wage sharing and good communication with employees were discussed. A diagram is used to explain the relationship between these two factors and leaders. In this work, they only achieved work and people harmony in one. It is the case that there is a lot of interest in human beings and production.

- "Determining desired and undesirable behaviours by managers in order to motivate employees and subject them to a reward and punishment system accordingly increases the motivation of the employees."

This assumption has been partially correct. According to the consequential conditioning theory, managers need to identify desired and undesirable behaviours in terms of business in order to motivate employees. While employees should be rewarded in various ways when they do the desired behaviour, it should be stated that the behaviour is inappropriate for the business with an appropriate language but should not be punished. Because punishment; Rejecting the given job or task, conscious or

unconscious conflict, creating public opinion against the management, trying to catch the deficit and deficiency of the manager, and similar or more unwanted physical attacks.

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STEFANIE BRÜCKEL:
HOW THE INTEGRATION OF THE UN SDG INTO A TRADITIONAL MBA PROGRAM CREATES MORE RESILIENT MANAGEMENT PRACTICES – A CASE STUDY APPROACH.

ABSTRACT

Evidence from crises alike the Anderson-Enron affair, the financial crisis of 2007 or the ripple effects of the current COVID19-pandemic suggests that the prevailing (traditional) business school education fails to endow upon graduates the necessary tools of making decisions considering social, environmental and financial betterment (triple-bottom-line) when faced with challenges in their careers. Recent research suggests that the integration of sustainability as a key pillar into business school curricula results into a more holistic and resilient approach to business management practices. The purpose of this research is to provide a framework of the integration and implementation of the 17 UN Sustainable Development Goals into a traditional MBA program. To achieve this the methodology of a qualitative study was chosen, which explores and discusses the case study of a private MBA program using qualitative content analysis to analyze the empirical data collected from multiple stakeholders. Findings support the hypothesized gap between the highly welcomed integration of sustainability into MBA programs by all stakeholders and it being a key element in today's corporate management practices.

Keywords: UN SDG, business schools, MBA, paradigm shift, resilience

INTRODUCTION

During the last decade criticism amounted regarding the benefit and orientation of business school education (Bennis and O'Toole 2005; Caldwell and Boyle 2007; Beddewela et al. 2017). Whilst receiving a business and management degree in the past seemed to set one up for a path of success and a multitude of opportunities in different industries on the job market, recently the value of an MBA education steadily decreased (Muff 2012; Kolb, Fröhlich, and Schmidpeter 2017). The struggles of the education sector to adapt to the changing environments of social and business exchange or to follow through with digitalization are exacerbated by the current Corona pandemic. As the ripple-effects of economic and business failures in the past two decades alike the Enron-scandal or the financial crisis are still palpable, the question is being raised whether the business school education future leaders and managers receive today in fact prepares them effectively (Cuthrell 2020; Dua et al. 2020; Gallagher and Palmer 2020; Nagl 2020; Weinman 2020). Through this research the terms MBA and business school education are used synonymously. In answering the question regarding the effectiveness of business school education, the declared need of a paradigm shift gains increasing support in the research community. This paradigm is defined as a shift from a traditional business mindset that focused on the creation of growth and shareholder value (Dua et al. 2020; Heitz et al. 2020) towards a sustainable mindset and orientation, where business schools transfer their core knowledge regarding the leadership and management of business, corporations and organizations while at the same time focusing on the triple-bottom line, i.e. financial, social and environmental aspects (Berzosa, Bernaldo, and Fernández-Sanchez 2017; Godeman et al. 2011; Haertle et al. 2017; Hesselbarth and Schaltegger 2014). This area of research agrees that future business education needs to enable leaders to develop strategies that foresee the creation of enterprise

value and enhancement of human welfare of the same value (Venkiteswaran and Cohen 2018) and that the integration of sustainability is only possible if sustainability becomes a core element of holistic governance and not a mere instrument in a myriad of tools (Moon, Walmsley, and Apostolopoulos 2018).

Students pursuing a degree in economics such as an MBA degree expect to receive the skills required of them in their future career to become effective, efficient and productive managers and leaders. Especially in light of the current Corona pandemic many organizations are struggling with questions and obstacles they had to face never before and in the debate of how to handle this unexpected, unforeseeable situation in terms of economic management the term of resilience is frequently mentioned. Resilience, the ability to handle unforeseen obstacles, however, will not only be of value in the current situation, its integration as a core element into management and leadership practices can help to tackle future challenges beyond the pandemic as well. In fact, recently and up until March 2020 the global challenge most talked about and proclaimed to be of highest importance was climate change. Research in the field of sustainability in connection with higher education delineated the increasing importance of integrating the United Nations Sustainable Development Goals (in the following SDG) and UN Principles for Responsible Management Education (PRME) into business school curricula (Araç and Madran 2014; Aragon-Correa et al. 2017; Greenberg et al. 2017; Gonzalez 2018) in order to alleviate the detrimental actions business and economics are inflicting on the environment.

This research ties in with others indicating the reciprocal benefits of integrating sustainability into business school curricula to both organizations and business schools alike (Weybrecht 2020). The goal of this research is to draw conclusions from the case study and thereby develop a framework that identifies and illustrates the

antecedents and outcomes from the distinct interconnection of the topic of sustainability and management education. To set a common understanding of the three key concepts this research focuses on short definitions follow.

Definitions

Traditional vs. Sustainable MBA Programs

While a traditional MBA is defined by theories focusing primarily on increasing shareholder value and generating profit, in a sustainable MBA students are taught to pursue a stakeholder approach that still focuses on creating company value but at the same time keeps the environmental and social impact in sight and the former is not achieved at the expense of the latter two.

UN SDG

The UN Sustainable Development goals are 17 "call to action" categories with 169 targets tracked by 232 indicators that a global community consisting of 193 nations agreed in 2015 to achieve until 2030 (Muff 2012; Rosati and Faria 2019).

Resilience

Resilience can be measured on an individual as well as organizational level. Whilst resilient managers are trained in the capacity to "*overcome problems and respond effectively to unexpected issues"* (Cabral, Grilo, and Cruz-Machado 2012*)*, on an organizational level it means that *"[i]n the face of face of a crisis or economic slowdown, resilient organizations ride out uncertainty instead of being overpowered by it"* (Finn, Mysore, and Usher 2020).

In order to review and understand relations between those three key concepts, this research aims at answering the following

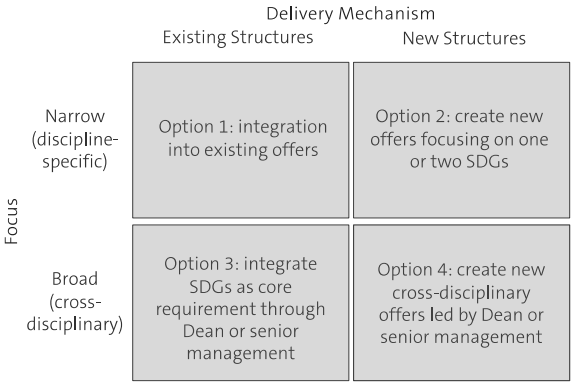
research question *"How does a sustainable MBA program create higher levels of resilient management practices?"* The following section presents the theoretical concepts on which this research is built upon, followed by a short depiction of the case study and methods applied. Subsequently, the results of the analysis will be described and discussed before the paper concludes including certain limitations to this research, which could be eliminated if pursuing the suggested opportunities for further research.

CONCEPTUAL FRAMEWORK

Integration of sustainability into business school curricula

On the way to providing *sustainable business education* business schools have the option to pursue either of the four options of integrating SDG into their educational offers as shown in Figure 2. Therefore, the choice exists between building on existing structures or creating new ones as well as allocating whether it is prone to provide rather discipline-specific or cross-disciplinary offers (Wersun et al. 2019). In reviewing which path to choose, business schools can relate to the UN PRME for a systematic pathway and should include both internal and external stakeholders, e.g., researchers and partnerships (Weybrecht 2020). Dean, Gibbons and Perkiss (2018) discuss that previously and in the *traditional MBA* the topic of sustainability was covered as an element of the CSR strategy of an organization, but since the effectiveness and efficiency of this approach has been limited (Rosati and Faria 2019; Dua et al. 2020), the pursuit of Option 1 or 2 allow for the *specialist approach* with a higher focus on the matter of sustainability, whereas Option 3 and 4 allow for students to focus on their chosen major while resting assured that throughout this study program the issue of sustainability is interwoven in all subjects, thereby pursuing a more *generalist approach*.

Figure 2 Options matrix for SDG integration across the business school



Source: Own adaptation of Options matrix for SDG integration across the business school, PRME Blueprint for SDG Integration (Wersun et al. 2019, 33)

UN Sustainable Development Goals (SDG)

The integration of sustainability into the business school curriculum can follow the path that was previously set by including CSR as a concept and thereby legitimizing the subject as part of the communication agenda (José Sá and Serpa 2020). Supported by the vast majority of countries having signed the UN Agenda 2030 with the UN SDG as an element thereof, it does not come as a surprise that they enjoy a broad and high level of global acceptance and are vastly considered to be a key transformative force in the business world of tomorrow and the future (Muff 2012). At the same time, however, while the acceptance and interest is high in applying and implementing the SDG, a widespread of challenges arise and hinder the shift in business attitudes towards sustainable

practices (Welford 1998; Sachs 2012; Rosati and Faria 2019). Rosati and Faria (2019) therefore postulate that organizations acting as an individual player will not succeed in applying SDG to their processes without the support of internal and external stakeholders working alongside them.

In this discussion, business schools as the epitome of the incubator for future generations of managers and leaders are conjectured to play an important role in the coming decade to reduce the friction of integrating sustainability as a core element to business (Muff 2012, 364). Within the 17 SDG, Goal 4 revolves entirely around the subject of *education* and Pizzi et al. (2020) identified education the connection of SDG integration and business as one of the four main threads in research over the last decade. Already at present times, a multitude of case studies are being published providing blueprints for how cross-disciplinarity enables the embeddedness of the SDG across disciplines in order to advance understanding of and action toward sustainability (Annan-Diab and Molinari 2017).

Eventually, Wu et al. (2010) highlighted in their research that for the integration of SDG as a key pillar in business education and thus a sustainable attitude becoming an inherent element of future leadership styles, the take-away needs to be that the win for the environment does not automatically mean a loss to the bottom-line or at least exceeds it. For this understanding to set in, however, a two-party paradigm shift needs to occur. Within the learning community and along the entire educational chain from elementary school throughout higher education and lifelong learning the pedagogical set-up has to shift towards self-directed learning mirroring the workplace of tomorrow (Benbunan-Fich 2012). On the other side, businesses have to value graduates with environmental and sustainability knowledge and provide tools in those areas for existing employees as well as increase the awareness

of the individual organization's contribution to both environmental as well as socio-economic issues (Wu et al. 2010, 521).

Resilience Model

While not desired for, the element of a crisis generally is expected to be a frequent element in personal and organizational processes. However, on a global level it is both more uncertain and rarer. Whereas global crises in the 20th century were defined by two World Wars, in the first two decades of 21st century a financial crisis had to be dealt with, the Corona Pandemic is currently struggled with and the climate change crisis will be a defining character of decades to come (Sneader and Singhal 2021). Even though, only in recent years the field of research in global crisis management accumulated, a larger body of research has been conducted on the organizational and institutional level in the past that can provide learnings. Branicki, Steyer, and Sullivan-Taylor (2019) review in their work common research strains into the subject and allocate them in a framework ranging from business as usual to extreme threats and from the individual to organizational resilience levels. Their conclusion agrees with the common tenor on resilience management practices which state that resilient organizations are characterized by strong systems of social support and positive organizational cultures, the capacity to react with flexibility and improvisation, the capability to act collectively, quickly, and across the whole organization and herein focusing on continued effectiveness over a long time without surrendering power, control, security or compliance (Hills 2000; Branicki, Steyer, and Sullivan-Taylor 2019; Finn, Mysore, and Usher 2020).

Lusch and Spohrer (2012) conclude in their research, that the world is more complex than ever and therefore inherently

characterized by dynamic and unpredictable events, which might stretch individuals to or even past their breaking point, but due to their resilience capacity they are still able to respond to and recover from those experiences (Branicki, Steyer, and Sullivan-Taylor 2019; Reeves and Whitaker 2020).

To best be able to respond and recover resilient organizations draw from a modular, interconnected ecosystem of stakeholders that utilize the framework of the institutions, its culture and technologies to combine forces in a collaborative and sociocultural process that faces complexity and economic uncertainty with the drive to create, design and execute innovation nonetheless (Lusch and Spohrer 2012; Finn, Mysore, and Usher 2020).

How these innovative processes can be structured to create sustainable supply chains was analyzed by Singh, Gupta and Gunasekaran (2018). By focusing on twelve common factors of supply chain management they were able to create a framework for resilience in supply chain management, highlighting as well that collaboration and coordination among stakeholders, process agility and the application of ICT systems is of crucial importance (idem, 6815, 6818).

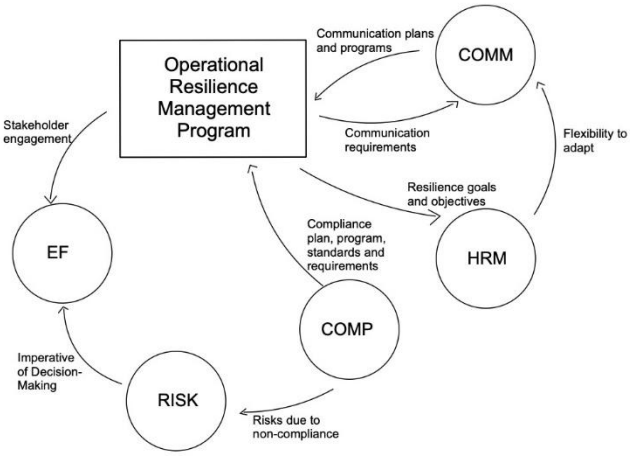
Lusch and Spohrer (2012) also combined the analysis of resilience in management practices with the strive for a more sustainable world. In their analysis they concluded that the shift from ecosystem to ecological thinking, the existence of both specialists and generalists in the common workforce as well as a stable leadership regime and a secure nestedness in a stable, reciprocally advantageous network is key (idem, 1497).

Basing itself in the findings above and further research, Boyatzis and McKee (2002), who in cooperation with Daniel Goleman included the element of *Emotional Intelligence,* proclaim the advent of a new style of leadership, which they called *resonant leadership*.

Resonant leaders have the ability to articulate unexpressed feelings, tensions and emotions of a group and translate these ongoing streams of challenges in the workplace into an adaptive workflow that dissolves dangers and utilizes opportunities (Gary 2002).

In response to the challenges that can arise from the fast-paced, highly dynamic and intricately intertwined business world of today, Caralli et al. (2010) published a technical report in cooperation with the Software Engineering Institute of Carnegie Mellon University and sponsored by the U.S. Department of Defense; the "*CERT® Resilience Management Model, Version 1.0 – Improving Operational Resilience Processes*" presents "an innovative and transformative way to approach" (8).

Figure 3 Adapted CERT® RMM Model, Resilience Category of Enterprise Management



Source: Enterprise Management category of the CERT® Resilience Management Model, Version 1.0 by Caralli et al. (2010)

The model the researchers developed is not only the result of years of research but also takes a holistic approach to managing operations and consists of four resilience categories (engineering, enterprise management, operations and process management) encompassing a total of 26 process areas. Figure 3 presents the adapted model (in the following RMM), which focuses only on the resilience category of the *enterprise management* and excludes the process areas *financial resource management* and *organizational training and awareness* as in conducting the content analysis it became apparent that the codes related to those two process areas developed no significantly reliable output. The remaining five process areas of *communication (COMM), compliance (COMP), enterprise focus (EF), human resource management (HRM), risk management (RISK)* and their linkages within the resilience area of *enterprise management* are reflected by the arrows in Figure 3.

As highlighted before, the traditional focus of an MBA program reflects an understanding that the main goal of an organization was to increase shareholder value through growth of the company, dividends or stock appreciation. In such an understanding measuring resilience in the areas presented in Figure 3 would become obsolete. Yet, resonating from the increased magnitude and frequency of global crises, companies and organizations increasingly extend their resilience management to a broader multi-timescale perspective (Reeves and Whitaker 2020, 3) that incorporates the creation and execution of well-structured, innovative multi-tier plans creating and accepting the potential of forgoing efficiency, financial growth and even performance for a defined period of time in the present for the sake of creating a more sustainable and environmental performance in the future.

The following introduction of the case study presents an institution of higher education which aims at providing its students with the knowledge, skills and tools to be resilient managers as defined so

far and analyze, where the link between resilience and the UN SDG are.

MATERIALS AND METHODS

The Case Study

The case study is a private university for higher education in Hamburg, Germany. The university, founded in 1998, is funded through tuition fees and industry scholarships and utilizes its flying faculty to provide -depending on the years of work experience at the point of admission into the program- either an M.A. or an MBA in "Technology Management" to its more than 600 alumni and currently more than 60 students. The student body consists of $^{2}/_{3}$ international students, mainly from India and the Americas, who live on residence and study alongside their German classmates in the evening hours of the workweek or on weekends. This way, the program can be studied part-time, either in combination with an engineering degree at a partner university or a full-time job. The mission has always been to provide high potentials with the skills and tools to tackle the challenges of tomorrow in an innovative and sustainable way.

In 2019, following a transformation process of three years, a new curriculum was introduced, where the topic of sustainability is intertwined in every module of the curriculum. The didactic concepts were adapted to include more self- and long-distance learning elements to prepare students for the future of work, where driven by digitalization and technological change the relationship between employee and leader shifts towards the former being the driver for action and the latter supporting, assisting and guiding in the process. With this curriculum students are trained in sustainability and technology management in a *generalist approach.* Whereas some competitors in the greater Hamburg area had to

cancel their enrollment for the Fall 2020 intake, the adapted curriculum established itself as the competitive advantage in times of the pandemic as students were looking for an education to prepared them not only in the skill of resilient management practices but equally important that allowed them to already prepare for environmental and social problems that will constitute the post-pandemic "new normal".

Whilst the core curriculum pursues the *generalist approach,* in 2021 despite the external circumstances, a new program with its own curriculum called "Technologies for Sustainability" is introduced. This program consists of one module focusing solely on each SDG, enabling students to pursue a more *specialist approach* regarding the overall of sustainability and to deepen their knowledge regarding one or more SGD they perceive as most relevant for their future careers.

Qualitative Content Analysis

Method

Since the research question focuses on contemporary events and does not necessarily aims at accounting for behavioral elements in the attempt to construct a framework through the single-case exploratory study (Yin 2003, 9,79), the method of *qualitative Content Analysis* (in the following CA) was chosen as it allows through systematic and qualitative interpretation to encode various bodies of texts into groups or categories based on selected criteria (Miotto, Blanco-Gonzalez, and Diez-Martin 2020). The method allows to analyze for the presence of words, themes or concepts within qualitative data based on which organizational phenomena can be defined in a reliable as well as replicable manner of individual and collective structures (Remenyi 1992; Wu et al. 2010). Qualitative texts are being investigated for frequency and intensity with which

concepts are mentioned through the body of text and subsequently content categories are set by the researcher (team) to count the occurrences (Awashty et al. 2019). This research did not associate any weights with the intensity and frequency of references, as this would have been perceived to be more useful if the analysis was aimed at differentiating the *specialist* and *generalist approach,* whereas this research aims at providing a framework that includes both.

Sample

The sample consisted of interviews conducted with $n = 34$ participants during the Fall semester 2020. Each respondent was interviewed only once and the sample comprises the main three stakeholder groups *students, partnerships and organization.* The *students* constituted the largest participant group, with 17 (4 German and 13 International) current students, from which 10 students study the program in a double-degree next to an engineering program and 7 students are studying in addition to a full-time employment, and 8 alumni (5 German and 3 International). In choosing these participants random sampling was applied. The *partnership* stakeholder group consisted of four participants, two executive managers of alumni and two current industry partnerships. Finally, for the *organization* two lecturers and three administrative staffers participated. The participants from these two groups were chosen deliberately since both the population and accessibility was significantly more limited compared to the *students* and *alumni.*

Procedure

Qualitative content analysis allows to define the sampling unit as everything ranging from characters, words, items through themes. Even though the latter increases the difficulty of the coding process, *themes* were chosen as the sampling unit as the author believes that different stakeholders would describe the concept of integrating sustainability into an MBA curriculum differently due

to the multi-layered dimension of this endeavor. The research focuses entirely on primary data collected through the unit of analysis which are the interviews.

In the development of the *codebook*, first a *code sheet* was developed that records all information relevant to the survey methodology (Macias et al. 2008; Awashty et al. 2019, 11) including the variables. This code sheet is the core element of what other researchers either define as *codeform* (Miotto, Blanco-Gonzalez, and Diez-Martin 2020) or *coding agenda* (Mayring 2000). In this process, a "dictionary" was developed through the identification of keywords provided in this research by the RMM and UN SDG, as well as their synonyms and by use of an asterisk * taking various endings into consideration.

In order to ensure the highest level of validity and reliability in the coding process and selection of codes, respectively, the author decided to rely on the *codes* used by Wu et al. (2010), Kolb, Fröhlich, and Schmidpeter (2017), Wersun et al. (2019) as well as by Miotto, Blanco-Gonzalez, and Diez-Martin (2020). This way inter-rata reliability, which is usually tested for by multiple coders coding the same text, is ensured despite the process being conducted by a single-author-researcher and thus personal biases of the author and subjectivity in the qualitative analysis should be reduced. Moreover, the validity of the constructs was established through those previous research designs. After a redundancy analysis, 49 codes remained, based on which a deductive approach to allocating the SDG and RMM was applied, allowing for a methodological controlled assignment and the constitution of both explicit definitions per code as well as defined coding rules for every category as defined by Mayring (2000).

The *coding process* was conducted manually by the author who is trained in various research methods and as single researcher was familiarized with the codebook. Due to the limited sample size

manual coding was still possible. Furthermore, due to the explorative character of the coding process each text could be assigned to more than one code as the mentioned theme could refer to different SDG or RMM process areas (Kiyatkin, Reger, and Robert Baum 2011, 5; Miotto, Blanco-Gonzalez, and Diez-Martin 2020). The resulting *codebook* presents the findings in a table with the following headers: *RMM process area, related other RMM process areas, code name, code description, relationship to UN SDG, example* and *stakeholder group* (from whom the example was taken).

RESULTS AND DISCUSSION

As mentioned above, the methodology applied resulted in 49 codes used to study the constructs represented in the units of analysis. The results of the content analysis produced frequency tables, where f (frequency) denotes the count of how many times a code was mentioned. This section deliberates on the perceived overall relevance of the SDG and the level of compulsoriness in a business school curriculum, the links between SDG and the RMM and concludes with showing content areas of a business school curriculum in which the topics of SDG and resilient management practices could be integrated.

Relevance of the UN SDG

A main goal of the transformation process for the university was to include sustainability as a core element throughout the entire curriculum in reflection of its vision and mission to equip leaders of tomorrow with the skills they need to act in accordance with all pillars of the triple-bottom-line. All stakeholders of the university, acutely aware of this orientation, were given an overview of the 17 UN SDG as well as some time to reflect on each goal before

answering the question, which goals they believe are the most relevant for business managers. Table 3 presents the frequency counts, making three distinct clusters become apparent.

The first cluster with $f \geq 30$ accumulated around those topics, which were already before the pandemic of utmost importance (13: Climate Action, 12: Responsible Consumption and Production) and whose importance has been specifically highlighted over the course of the pandemic (3: Health and Well-being). With a minimum of 88% of the interviewees mentioning these goals to be highly relevant, the individual awareness coincides with the increasing awareness of businesses and industry partners regarding their role nowadays and in the future in alleviating the negative impact of their contribution to the issues as well as play a more crucial role in supporting their employees and the communities they are anchored in regarding issues of health and well-being. An *industry partner* reflected on the shifted responsibility by stating:

"Not only since Greta Thunberg [...] everyone is aware of how the current actions of society deteriorate the climate. And business is -granted if only an element- yet, a big part of society. The traditional mind-set of "Greed is Good" and "Money rules the World" has been shaken multiple times in the last years but never before so much to the core as now with the pandemic."

A second cluster, which could be summarized as "planet- and economy-oriented goals", developed around nine goals which were mentioned between 20-30 times. Worth mentioning is, that only 74% of the sample specifically mention goal 8: Decent Work and Economic Growth as one of most relevant goals for business managers. However, comparing the statement of an *alumni* regarding goal 8

"What I love about my job is that there is a different challenge waiting for me every single day, but if there was no strategic management involved, I would not

know what to do, my boss would not know what to do, the company would crumble instantly."

with the argument of a current *double-degree student* regarding the selection of goal 9

"*I always thought the main priority for any company would be to generate money to pay its workers, but through my studies here I understand now that creating profit alone doesn't have to be the only goal for a company, being engaged in its community, support social causes and focusing on preserving the environment, all of this is what I define as economic benefit now."*

supports the choice of the procedure previously delineated; that the content analysis focuses on themes rather than the statements in general to discuss the arguments the different stakeholders provide. In fact, in the subsequent discussion the latter interviewee, who had previously not perceived goal 8 as relevant, reflected on his answer being more suitable to this goal after all.

Even though still allocated within the second cluster, in terms of frequency goal 4: Quality Education ranks only at 11th place. Given that the population from which the sample was drawn is strongly connected to the higher-education and management environment it can be argued that quality education is understood rather as a preliminary aspect necessary to proceed further in pursuit of a management education. The answer of a *part-time student* supports this notion:

"I am grateful to study in a Western country, having grown up here [...] it is encouraging to see, that in a free economy everyone who wants to receive a high-level education, can."

Table 3 Relevance of UN SDG for business managers

UN SDG		Total	%	Accum. %	Comp. %*	Elec. %*
13 Climate Action	CA	33	8,82%	8,82%	93,94%	6,06%
3 Health & Well-being	HW	33	8,82%	17,65%	90,91%	9,09%
12 Responsible Cons. & Prod.	CP	30	8,02%	25,67%	56,67%	43,33%
6 Clean Water & Sanitation	WS	28	7,49%	33,16%	82,14%	17,86%
14 Life below Water	LW	27	7,22%	40,37%	88,89%	11,11%
7 Affordable & Clean Energy	EN	26	6,95%	47,33%	76,92%	23,08%
8 Decent Work & Econ Growth	WG	25	6,68%	54,01%	92,00%	8,00%
9 Industry, Innovation & Infrastructure	II	25	6,68%	60,70%	72,00%	28,00%
15 Life on Land	LL	24	6,42%	67,11%	83,33%	16,67%
5 Gender Equality	GE	23	6,15%	73,26%	47,83%	52,17%
4 Quality Education	QE	21	5,61%	78,88%	71,43%	28,57%
10 Reduced Inequalities	RE	20	5,35%	84,22%	50,00%	50,00%
1 No Poverty	NP	17	4,55%	88,77%	52,94%	47,06%
2 Zero Hunger	ZH	15	4,01%	92,78%	33,33%	66,67%
11 Sustainable Cities & Communities	CC	11	2,94%	95,72%	45,45%	54,55%
16 Peace, Justice & Strong Institutions	SI	9	2,41%	98,13%	22,22%	77,78%
17 Partnerships for the Goals	PG	7	1,87%	100,00%	0,00%	100,00%

The final cluster, defined by $f<20$, includes the goals focused strongly on societal and institutional governance aspects and are perceived to be of higher relevance for students in the social and political sciences as a *part-time student* commented:

"In terms of aspects like peace and justice, governments have to be at the forefront. [...]

They need to set and arrange the frameworks in which businesses then can act and contribute towards achieving those goals."

The perceived need for a paradigm shift moving from a *traditional* to *sustainable* MBA constituted the approach of the university to provide its students with the opportunity to continue focusing on their core program and becoming a *generalist* in sustainable management practices or pursue the *specialist* approach by pursuing the newly introduced curriculum. By asking interviewees to state which goal they believe should in any case of the two approaches be included in the curriculum, it was the intent to draw conclusions

regarding which goals reflect the current need to extend knowledge in regards to managing sustainability in a business setting best. Referring to the right section of Table 3, a strong sentiment (≥ 50%) towards the overall compulsory factor of all but one goal (5; 47,83%) in the first two clusters is apparent. This strong perception of the necessity to include modules into the curriculum that distinctly focus on one aspect of the SDG supports the initiative of the university to provide the second curriculum.

Links between SDG and RMM

The organic nature of the SDG is to identify on a global scale societal, economic and environmental problem areas and how to resolve the connected issues. Obtaining mere knowledge about SDG is, however, perceived not to be sufficient in tackling the business challenges, especially if they arise in the context of a crisis scenario for an organizing. Therefore, on a skill level MBA students need to not only accumulate the technical knowledge regarding the SDG, but also be trained in resilient management practices. Therefore, a further aspect of the CA was to analyze, based on the constructs developed through the units of analysis, in what relation the RMM process areas, 49 sustainability codes and 17 SDG stand to each other. Table 4 presents the result of this two-step process. First, the constructs (codes) were allocated to the process areas of the RMM and secondly, an allocation between the codes and the SDG took place. Whereas, each code was assigned to only one process area, each SDG could be linked to multiple codes. Table 4 shows that based on the CA strong links exist between the RMM areas of *compliance* (COMP) und *enterprise focus* (EF) given the higher frequency allocation of codes and SDG. Secondly, a significantly weaker link is stated for the remaining three areas. The researcher expected that *risk management* (RISK) would show a higher frequency count of SDG aligned to the codes

as it relates strongly to the area of COMP, but the CA resulted in a differentiation between the orientation of the codes and the perception by the interviewees of how they are linked to the two process areas. Whereas the codes that the interviewees linked to COMP refer rather to adherence with environmental regulations and the topic of CSR and thus denote actions that are being directly initiated by the organization, codes linked to RISK show the common characteristic that they include external shocks and pressure to which an organization has to respond to, represented by codes like managing natural disasters or glocalization.

Reviewing the themes underlying Table 4, conclusions can be drawn for each of the other four individual process areas as well.

Table 4 Aligning RMM Process Areas, Codes, and SDG

Process Area	Codes	UN SDG
COMP	22	47
EF	14	27
HRM	5	13
COMM	4	9
RISK	4	12
Total	**49**	**108**

The process area COMP is linked both to the most codes and as well as SDG. Since *compliance* in the past was addressed mainly through conducting CSR reports it is not surprising that the codes connected to different aspects of CSR were linked to this process area. Next to the different environmental areas of energy, pollution and resource management, the code Sustainab* shows a strong connection to COMP. Thus, the analysis shows that prudence is a highly valued trait of resilience management practices as it

produces a precautionary attitude towards anticipating the areas in which crises could arise.

The process area of *enterprise focus (EF)* relates to second-highest number of codes, where the two themes connected mostly to the SDG revolve around the theme of stakeholder engagement and the triple-bottom-line. This provides evidence that resilience is fostered if processes are on the one hand structured in a more modular framework, allowing for organizations to be able to adopt their strategies rapidly, and on the other hand include certain level of healthy redundancies, which can be used as buffers in times of crisis. Eventually, through the strong interaction with different stakeholders, resilient management practices are characterized by a high level of adaptability and a mindset of trial and error in order to include and address stakeholder groups at their individual level.

Moving to the lower segment of Table 4 the analysis shows that the theme of diversity, meaning the allocation of multiple backgrounds and fostering a culture of critical thinking, is connected to the resilient process area of *human resource management (HRM).* The construct with the highest frequency relates to the themes defined by collaboration, human rights, and cultural diversity and understanding. Finally, of the four codes allocated to *communication (COMM),* the themes responsib* and trust are connected with three SDG each, showing that resilient management provides an embeddedness and alignment of the sustainability strategy with the goals and activities of an organization.

Integration of SDG and resilience management in business school curriculum

While the university in the case study has created the opportunity for its students to choose their *generalist* or *specialist* path, this final

analysis reviews how higher education institutions in general can include the combination of the knowledge about SDG and the resilient management skills of applying the lessons learned from the SDG in regards to sustainable management into their own curriculum. Table 5 provides a ranking of the top 9 themes that resulted from summarizing the entire codebook into the overachieving themes that can be transposed into a business school curriculum.

Table 5 Themes through which SDG and resilient management practices can be integrated into business school curricula

Process Area	Theme	Amount of Codes	Rank	Frequency
COMP	Corporate Social Responsibility	10	1	572
EF	Sustainable development	5	2	394
COMP	Sustainability	6	3	371
EF	Sustainable leadership	6	4	287
EF	Stakeholder participation	3	5	207
COMP	Environmental stewardship	6	6	169
HRM	Cultural diversity & inclusivity	5	7	86
COMM	Open and cohesive communication	4	8	76
RISK	Foresightful planning	4	9	48
Total		**49**		**2.210**

Once again, the topic of Corporate Social Responsibility leads the overview, with the term being mentioned a total of $f = 170$ amongst all interviewees. Only the theme defined by the code for Sustainab* was mentioned even more often with $f = 174$. Thus, already existing structures of this topic being introduced and included in business school curricula is a good starting point to build upon. In regards to the constructs included in themes 2 through 9 there is no significant deviation. As Table 4 shows, an allocation of all SDG to the codes was possible, and in

combination with the findings shown in Table 5 it can be concluded that all RMM process areas can be covered and connected to the education in and about sustainable management practices.

Depending on the path a business school chooses to follow (cf. Figure 2), a grouping of the themes above into four topics that relate to different aspects of management education is possible and would this way allow a business school to include at the most minimal footprint the combination of sustainability and resilience management into its curriculum. Themes 1-4 can be integrated in classes on ethical management practices or even entrepreneurship and themes 5 and 6 in classes on leadership and decision-making. While themes 6 and 7 are suitable for consideration in courses on communication or human resources, eventually themes 8 and 9 could be most effectively allocated in a course regarding strategic management.

CONCLUSION

This research utilized a content analysis to analyse a framework about the integration of sustainability into an MBA program through the UN SDG and how training in resilience management prepares future leaders to better handle organizations that find themselves in crisis. The findings from the case study support the hypothesized gap between a highly welcomed integration of sustainability into MBA programs by all stakeholders but it not yet being a key element in today's corporate management practices. Furthermore, resilience as a skill and leadership trait has gained increasing value for future leaders over the first three decades of the current century. This research highlighted opportunities within a business school to place a stronger focuses on resilient leadership practices and how they can be integrated in a curriculum to allow

for MBA students to choose themselves whether they aim for a generalist of specialist sustainable MBA education. Secondly, drawing from the case study this research provided links between the SDG and the areas of resilience which connect to business school education and thus provide a framework for business schools in general that aim at pursuing the shift from a traditional towards a sustainable mindset.

Limitations

Eventually, a few limitations this research faces shall be addressed, thereby providing potential future research areas. In terms of methodology, the most crucial factor to consider is the reliability level that can be achieved with only a single researcher. Additionally, in further research the sample size should be expanded or alternatively, other private business schools could be included as additional case studies. Moreover, two factors limit the replicability of the findings to all institutions of higher education. First of all, the university in the case study only provides Master Programs, whereas it shall not be excluded that the subject of sustainable management practices can already be relevant on a Bachelor level. Secondly, it is a private university financed by industry scholarships and tuition fees paid by the students creating a payment structure different from public universities. Finally, although the sample was small in terms of national and cultural background a respectable widespread was present and indicated that the elements of resilience vary widely between cultures. In future research a particular focus therefore could be place on the impact of cultural background in regards to which elements of resilience management are valued as most crucial as well as evaluate whether cultural or national backgrounds impact the perception of the integration of SDG into business school curricula to be crucial.

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AUTHOR'S ADDRESS

Stefanie Brückel stefanie.bruckel@ke.hu

Hungarian University of Agriculture and Life Sciences, Szent Istvan University, Kaposvár

H-7400 Kaposvár, Guba Sándor u. 40., Hungary

GELENCSÉR MARTIN – VÉGVÁRI BENCE – SZABÓ-SZENTGRÓTI GÁBOR: EXAMINING THE RELATIONSHIP BETWEEN EMPLOYEE WELL-BEING AND PERFORMANCE - A LITERATURE REVIEW

[1] Department of Economics, Faculty of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Campus Kaposvár, e-mail: gelencser.martin@phd.uni-szie.hu
[2] Department of Economics, Faculty of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Campus Kaposvár, e-mail: vegvaribence@gmail.com
[3] Department of Economics, Faculty of Economic Sciences, Hungarian University of Agriculture and Life Sciences, Campus Kaposvár, e-mail: szabo-szentgroti.gabor@uni-mate.hu

Abstract: The role of employee well-being has increased as a result of the COVID-19 pandemic. The study of the topic has a long history in the academic field, but it needs strong development in corporate practice. In this study, the authors examined the relationship between employee well-being and performance through secondary literature review. Based on the results, it can be concluded that employee well-being is positively related to individual and organizational performance. In this research, the authors compared the basic literature on the topic with recent research findings. Based on the research, it can be concluded that most of the basic models examined the topic along similar dimensions. The authors have developed a new theoretical approach as a result of the literature review. Based on the established model, the dimensions of employee well-being are organization and management, work-life balance, stability, trust, fairness, work atmosphere, working conditions and scope of activities, career and development, and personal characteristics.

Keywords: employee well-being, employee welfare, well-being at work, workplace well-being, performance, efficiency

1. INTRODUCTION

The study of well-being at work has a long history, but the topic had only recently become one of the most important areas of organizational operation. The COVID-19 pandemic has radically reshaped traditional human resource management practices, changed the place and way we work, reshaped workers' schedules, work-life balance, and social relationships at work. The pandemic has made it difficult for many economic actors to operate, which has created uncertainty in the labor market.

As a result of the changes, the role of the physical and mental well-being of employees in corporate strategies has increased. Research confirms that employee well-being is a desirable condition at both individual and company level, higher productivity from employee well-being has an impact on the company's performance, economic status, workforce satisfaction and commitment, so organizations that pay attention to employee well-being gain a competitive advantage in the long run.

In corporate practice, however, the study of the relationship between employee well-being and performance needs to be strongly developed, and the measurement of employee well-being is not very common even in large companies.

The aim of the study is to compare and evaluate the theoretical framework of employee well-being with secondary literature review and to create a comprehensive and new theoretical approach by synthesizing the models used in the research, which is suitable as a basis for strategies to improve employee well-being and performance.

2. LITERATURE REVIEW

2.1. The concept of employee well-being

Employee well-being is a key area of management research. However, the interpretation of the concept divides the opinion of researchers, so we do not have a precise and comprehensive definition (Diener et al. 1999, Forgeard et al. 2011, Keyes et al. 2002).

In general, the well-being of employees is determined by a combination of physical and psychological factors, the concept encompasses a number of work-related factors (Warr 1999). Juniper et al. (2011) argue that employee well-being is a complex concept, meaning more than just the general health of employees. Employee well-being includes, among other things, aspects such as career development opportunities in the workplace, the quality of leadership, the physical working conditions, and the physical and psychological health of employees.

2.2. The importance of employee well-being

Research shows that the strategic role of employee well-being is unquestionable. Table 1 shows the positive effects of employee well-being on employees.

Table 1: Positive effects of employee well-being at the employee level

Author	The positive effect of well-being
Roysamb et al. (2003) Lyubomirsky et al. (2005)	– Better physical and psychological health
Wood & Joseph (2010) George (1991) Wright & Cropanzano (2004) Zelenski et al. (2008)	– Better performance, better coping with stressful situations – Higher work capacity
Boehm & Lyubomirsky (2008) Connolly & Viswesvaran (2000) Xanthopoulou et al. (2007) Cropanzano & Wright (2001) Wright & Cropanzano (2004)	– Positive workplace relationships, effective cooperation – Higher levels of motivation and satisfaction – Helpfulness, confidence – Creativity, increasing productivity
Diener & Seligman (2002) Seligman & Schulman (1986) Seligman et al. (1990) Kubzansky et al. (2001) Howell et al. (2007) Lyubomirsky et al. (2005)	– Stronger immune system – Less sleep disorders – Decreased chance of burnout – Higher self-control and coping skills

Source: Based on Kun & Gadanecz (2019)

Based on the data in the table, it can be concluded that employee well-being has a positive effect on the physical and mental health of employees, workplace relationships, and the quality of cooperation between employees. Employees who are satisfied with their work are characterized by a higher level of motivation, productivity, and creativity, are able to make greater efforts, and manage stressful situations more easily.

Employee well-being also has a number of positive effects at the organizational level, as illustrated in Table 2.

Table 2: Positive effects of employee well-being at the organizational level

Author	The positive effect of well-being
Xanthopoulou et al. (2007) Wright & Cropanzano (2000) Budhwar (2000) Wright (2006) Fisher (2003) Pradhan & Hati (2019) Kőműves & Berke (2021)	– Greater organizational performance – More favorable work atmosphere – Better collaboration between staff – Higher levels of trust, satisfaction, and commitment – Less absenteeism, decreasing fluctuation – Decreased healthcare costs

Source: Based on Kun & Gadanecz (2019)

Employee well-being is closely related to an organization's financial performance and competitiveness, as it reduces health care-related costs, results in higher levels of organizational performance, fewer absences, and a decrease in employee turnover. In addition, it contributes to the development of an appropriate workplace atmosphere, improves cooperation and satisfaction between employees, and increases employees' commitment to the organization (Kőműves & Berke 2021).

Employers are beginning to realize that employee well-being has become a condition for competitiveness. At the organizational level, however, employee well-being can only be achieved through conscious strategies and targeted programs (Wright 2009). A prerequisite for measuring employee well-being is a measurement tool based on a comprehensive theoretical model that allows the development of conscious strategies and targeted interventions (Pradhan & Hati 2019).

2.3. Theoretical framework of secondary sources

The theoretical framework of the research is summarized in Table 3.

Table 3: Theoretical framework of the research

Model	Examined factors
Demand - Control Model	• **Demand:** work rate, time pressure, workload, unrealistic expectations • **Control:** independence, competencies, creativity
Demand - Control - Support Model	• Social support and assistance at work
Job Demand and Resource Theory	• **Demand:** work intensity, deadlines, emotional strain, working conditions • **Resource:** - **organization** (e.g.: salary, career, development opportunities, job security) - **relationship** (e.g., support from the manager and co-workers, team atmosphere) - **work organization** (e.g., clarity of role, participation in decision-making) - **tasks** (e.g., performance evaluation, variety, importance, clarity of tasks, independence)
Effort - Reward Imbalance Model	• **Effort:** time pressure, responsibility, workload, overtime, increasing demands • **Reward:** financial benefits, recognitions, career
Job Characteristics Model	• Variety of work, content of tasks, significance, possibility of autonomy, feedback
Person - Environment - Fit Model	• **Individual expectations:** lack of opportunities and matching of needs • **Organizational expectations:** lack of matching of requirements and capabilities

Source: authors' own editing

The Demand - Control Model can be linked to Karasek (1979), who hypothesized that employees' well-being is negatively affected by stress, which stems from job demands and control. Karasek (1979) described the demands as psychological stressors from the work environment, such as tense work pace, time pressure, workload level, or different and conflicting expectations. According to the model, control has two components. One component is control over skills, that is, the ability for an employee to capitalize on their skills, learn new things, and use their creativity in their work. The other component includes decision-making options for working conditions, such as self-scheduling.

Later, Johnson and Hall (1988) supplemented the model with a workplace social support variable, resulting in the Demand - Control - Support Model. The authors categorized factors such as emotional support from co-workers and superiors as well as help received during the task into the category of social support at work. Thus, in the improved version of the model, the quality of interpersonal relationships and the interaction between subordinates and managers are also included.

Demerouti et al. (2001) developed the Job Demand and Resource Theory, which takes into account virtually the same factors in workplace demands as the Demand - Control Model. The new approach, on the other hand, includes factors such as remuneration, career and development opportunities, job stability, employee relations, factors stemming from the nature of the job and the tasks, and the opportunity to participate in decision-making in the resources category.

In Siegrist's (1996) Effort-Reward Imbalance Model, in addition to job characteristics, the issue of fairness also plays an important role. According to Siegrist (1996), employees' well-being is negatively affected if the effort exerted at work, i.e., time pressure, responsibility, physical or emotional strain, and rewards are disproportionate to each other.

Hackman and Oldham's (1980) Job Characteristics Model also relied on job characteristics in modeling. Factors examined in the model include variety of work and skills, nature of tasks and responsibilities, autonomy, and work-related feedback.

The Person - Environment - Fit Model was created by Baker in 1985. According to the model, dissatisfaction in the workplace can come from two sources. One is the mismatch of opportunities and needs, i.e., when the employer is unable to meet the motivations and needs of the employee. Another source of dissatisfaction is the imbalance of requirements and abilities when there is no fit between a person's abilities and job requirements. The Person - Environment - Fit Model therefore takes into account individual competencies and motivations as well as the opportunities offered by the organization.

Regarding the examined models, it can be stated that the main emphasis was placed on job characteristics, the way of performing tasks, social factors in the workplace, the issue of fairness, and individual competencies and motivations. However, a critical remark can be made about the fact that the authors did not consider factors related to organizational culture, although identification with organizational goals and visions, uncertainty about the organization's economic situation, organizational changes, redundancies, and reorganizations significantly affect employee well-being and performance (Moorman 1991, Lynn & Kelley 1997, Burke & Greenglass 2001). Models also do not take into account physical working conditions, even though factors such as noise, lighting, temperature, air quality, congestion, and accident-prone working conditions fundamentally determine workers' physical and mental health (Hackman & Oldham 1980). The issue of work-life balance is also missing from the criteria for examined models, even though a number of studies support that work-life balance is the basis for overall satisfaction and well-being (Yildirim & Aycan 2008; Burke & Greenglass 2001; Siegrist 1996).

3. RESULTS AND DISCUSSION

Table 4 illustrates the theoretical model created as a result of the literature review, which was based on the models presented in the theoretical framework and other Hungarian and international literature. In the first stage of the model development, during the further literature review, we identified the shortcomings of the models in the theoretical framework and explored the additional factors that have an impact on employee well-being. In the second stage of model development, we grouped the identified factors based on professional-content similarities. In the established employee well-being model, we developed seven groups of factors and seventeen factors, which were compiled based on the literature referenced in Table 4.

Table 4: The theoretical model created

Dimension, authors	Examined factors
Organization and management Sargent & Terry (2000) Deal & Kennedy (1982)	- organizational culture, organizational size, - clarity of goals, instructions, - workload, stress, - support, attention, feedback, incentives, motivation
Work-life balance Yildirim & Aycan (2008) Burke & Greenglass (2001) Siegrist (1996)	- overload, stress, - multiple shifts, overtime, weekend work, - inflexibility of work
Stability, confidence, fairness Siegrist (1996) Burke & Greenglass (2001) Karasek (1989)	- organizational changes, reorganizations, redundancies, organizational stability - remuneration, decision-making, discrimination
Work atmosphere Johnson & Hall (1988) Klein (2001) Page & Vella-Brodrick (2009)	- social relationships, care, cooperation, conflict management, trust, communication
Working conditions and scope of activities Karasek (1979) Hackman & Oldham (1980) Siegrist (1996)	- physical environment, - competencies, responsibilities, nature of tasks, variety, - responsibility, autonomy, demand, pressure
Career and development Ewen (1967) Page & Vella-Brodrick (2009)	- development opportunities, trainings, - advancement, career
Personal characteristics Baker (1985) Kun (2002) Nemes & Szlávicz (2011)	- competencies, expectations, motivations, - coping with stress, willingness to cooperate

Source: authors' own editing

We incorporated factors related to organizational culture, organizational goals, clarity of managerial instructions, stress and strain from delegated tasks, and positive feedback, support, and motivation from managers into the organizational and leadership dimensions.

The work-life balance criteria have been considered as a separate category, and we have included in this dimension factors that have a negative impact on the well-being of employees by upsetting the work-life balance. Negative factors included emotional strain and stress on employees, as well as scheduling factors such as multi-shift or weekend work, overtime, or inflexible working hours.

The dimensions of stability, trust and justice also include factors that can be linked to organizational culture, so we have associated organizational change, restructuring, downsizing and trust in the stability of the organization with this category. Related to the issue of equity, we also paired the factors of remuneration, participation in decision-making, and discrimination with this dimension.

The factors of social support, cooperation, trust, tension between colleagues and communication together form the workplace climate dimension of our model.

In addition to the competencies required for the job, the nature of the tasks, the responsibility, the independence and the demands, the physical conditions of the work were classified into the working conditions and the job category.

We have classified the opportunities for training and professional development into the category of career and development.

Employee motivations, expectations, and competencies, as well as stress management and cooperation skills, were grouped into a separate category, the dimension of personal characteristics.

4. CONCLUSION

In our study, we examined the relationship between employee well-being and performance through secondary literature review. In the

course of our research, we examined the significance of employee well-being, assessed its positive effects from the employee and employer perspective, and reviewed the theoretical framework and relevant models of the topic. The theoretical approaches of the most significant models were compared with further results in the literature, and critical remarks were made about the shortcomings of the models. By synthesizing the research results, we expanded the previous theoretical approaches and created our own theoretical approach unifying the previous research results.

Based on the results of the secondary literature review, it can be stated that employee well-being is closely and positively correlated with performance and individual and organizational performance. Among other things, the well-being of employees has a positive effect on the health of employees, results in a higher level of cooperation between employees, improves the work atmosphere, individual efficiency, increases productivity, creativity, and stress tolerance of employees.

In organizational practice, the study of employee well-being is an area in need of improvement, but the results of research draw attention to the importance of the topic. Based on the results of relevant literature sources, employee well-being increases organizational effectiveness, reduces costs, contributes to more effective team cooperation, reduces employee absenteeism and employee turnover, supports employee satisfaction, commitment, and improves an organization's workforce retention capacity.

As a result of the secondary literature review, we identified seven dimensions of employee well-being in our theoretical approach. In our complex model, we identified and categorized seventeen factors of employee well-being along the dimensions based on professional and contextual relationships. After synthesizing the literature, we identified the following categories: organization and management, work-life balance, stability, trust, fairness, work

atmosphere, working conditions and scope of activities, career and development, and personal characteristics.

Within the limits of our research, it is important to emphasize that the study is based solely on secondary literature review. However, based on the results, we consider it important to highlight that the study provides novel results as it has placed the results of previous research on the topic of employee well-being and performance in a new dimension. The theoretical model created as a result of the research is suitable for establishing strategies for improving employee well-being and performance. Another research direction could be the development of a questionnaire-based measurement tool based on the theoretical framework, and primary research involving companies from different sectors.

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AYSE GUNALTAY- ÁGNES TOKÁR-SZADAI: MANAGEMENT CONSULTING AND THE VIEW OF CORPORATIONS TO MANAGEMENT CONSULTING: A CASE STUDY CONDUCTED IN CORPORATIONS OPERATING IN ISTANBUL

[1] Doctoral School of Enterprise Theory and Practice, University of Miskolc, HUNGARY, e mail: a.gunaltay1903@gmail.com
[2] Institute of Business Sciences, University of Miskolc, HUNGARY, e mail : vgtsza@gmail.com

ABSTRACT
Management consulting, which has a history based on the industrial revolution, aims to fulfil the functions of the management in the best way and realize the business goals and strategies by providing independent expert support. The increasing importance of management consulting in developed countries in recent years in Turkey, said that the sector has become a real sector in Turkey. In this context, the research, by analysing the extent to which businesses benefit from this service and their perspectives on management consulting, makes their beliefs in the sector, in a sense, predicting the level of development and future in Istanbul. In the research, it has been observed that the tendency to receive consulting services and the rate of satisfaction with the services received are high. In parallel with this, although the sector tends to develop, it has been found that the majority of enterprises do not see management consulting as the primary priority issue in their field of activity and their belief in the sector is not sufficient.
Keywords: Corporate Management, Sector, Turkey

INTRODUCTION
Unlimited competition with globalization; It requires quality, development and effective management and use of information in

all areas. This change in the world makes it inevitable for businesses to be effective and efficient in their fields of activity, in other words, to be "the best in their field". This leads businesses to rapid change and transformation. It is known that management consulting has an important place in the effective and efficient operation of organizations in this change and transformation.

Nowadays, with the increasing importance given to management consulting, the number of areas served has tended to increase, and businesses have also started to receive more expertise support. It will provide up-to-date information about the sector and competitors that will guide the enterprises in determining their strategies, provide training of the personnel, motivate them, establish internal systems when necessary, show possible problems and solutions; In summary, "management consulting " is needed to support business management.

Especially in developed countries, a large sector rotation into the management consulting sector would not be wrong to say that Turkey also has become. Relatively it has tried to be responsive to new a sector of the management consultant study aims to reveal the approach of the company in Turkey businesses that benefit from what level of the service and service-related perspective the question is in what direction.

Rising trend of management consulting all over the world – and in Turkey – causes the sector be analysed from different perspectives. In popular literature mostly the subjects such as favours of management consulting service, the way which the process should be followed etc. are emphasized. In this study, giving general information about the management consulting firms in Turkey and their functioning (their works) is aimed.

1.LITERATURE REVIEW

According to Milan Kubr (2002) the aim of consulting is to fulfil organisational objectives and tasks. This includes not only the resolution of problems but also the identification of new

opportunities, accumulation of knowledge and making the necessary changes. In the current article a Kubr's (Kubr, 2002, p. 10) terminology is used, with the following definition for consulting: "Management consulting is an independent, professional advisory service assisting managers and organizations to achieve organizational purposes and objectives by solving management and business problems, identifying and seizing new opportunities, enhancing learning and implementing changes." Kubr highlights the role of consultants in providing knowledge and information, in making decisions, and reducing uncertainty during implementation.

Wickham defined management consulting simply as a special management activity and stated that management consultants present their skills, expertise and insights to the client firm in order to create value. A definition that sees management consulting as a shopping subject states that consulting firms sell their expertise and experience to their customers. (Wickham, 2004)

The common point of the related definitions is that businesses get help from outside in case of problems. However, in the changing and developing consulting sector, it is not just a problem solving approach, but also providing vision for many companies, exhibiting proactive rather than reactive behaviour in the face of problems, and providing instructive information on many specific subjects are among the main application areas of consulting. We can also consider management consulting as external auditors helping the client to achieve his goals. (Kim, 2007, p. 145)

The consulting process is an activity with the joint participation of the client and the consultant in order to solve a specific problem and to make a change in the client's own business. This process has a beginning and an end. The process can be divided into many basic stages between these two points. This helps both the consultant and the client to be systematic and methodical, to follow

each other logically and simultaneously in their transition from stage to stage, from operation to operation. (Ilhan, 2002, p. 9)

Management consulting is a professional service that requires knowledge, experience and leadership. In general, the consultant manages competitive strategic change in businesses or provides training for harmonization. Management consulting; It is an independent and temporary process as it includes advice, training and implementation. Management consulting is possible with intellectual capital accumulation. Therefore, it has an information-intensive feature. (Kurt, 2008, p. 24)

In some industries, such as consulting firms, market demand for services is affected more slowly than overall. As a result of the growth of new fields such as e-commerce, customer relationship management and the explosion of alternative approaches, consulting firms place their personnel / consultants according to new plans. As an alternative to downsizing, they form task teams to invest in new areas and develop their people (McMann, 2000, p. 51).

There is an increasing competitive pressure in the industry. The pressure of the customers, the need to provide professional development quickly, the risk created by new entrants in the sector, and the competition between existing companies are the main areas of concern. The biggest cost of management consulting companies is professional personnel. Clients want senior consultants to work on their projects. Most consulting firms do not have the ability to train consultants and do not have time, and they provide the necessary staff from other consulting firms. In this context, management consulting firms encounter high personnel turnover rates (Suryanarayanan, 2009, p. 9).

In the consulting world, clients are now also more questioning and sceptical. They want to see results. Foust, giving examples of lawsuits filed against consulting firms, stated that the days when

consultants start not to give advice without meeting with their lawyers are not far. (Foust, 2000, pp. 96-97)

Consulting is above all an independent service. This requires the consultant to work separately from management. But; The consultant cannot make independent decisions regarding the decisions to be taken. This should not mean that he is weak. Because the consultant has a strong persuasion ability in implementing the decisions he / she takes, by ensuring the participation of managers in everything, and shows that success is a team work (Balci, 2006, p. 21).

2. PURPOSE OF THE RESEARCH

The aim of the study is to learn the perspective of the enterprises operating in the Istanbul on management consulting and to reveal them with statistical data. In other words, it is aimed to examine the enterprises in terms of benefiting from management consulting, to determine whether they believe that the services provided add value to the business, which types of consultants they prefer, and the relationship between some demographic characteristics and benefiting from consulting services, and in this context, to offer solutions to the problems related to the issue. Determining the place of management consulting in businesses, how beneficial the consulting services received are seen by businesses and which types of businesses benefit from which type of consulting, in short, to determine the extent to which businesses believe in consultants and the consulting sector constitute the importance of the study.

3.RESEARCH METHODOLOGY

The research has been carried out on businesses operating in various sectors connected to a chamber in Istanbul. Survey questions were asked to be answered by sending e-mails to the businesses on the website. While sending the questionnaire, the purpose and importance of the research was explained in the e-mail, and it was specifically stated in the results of the survey to be

made on a voluntary basis that the information about the company would be used for scientific purposes and not shared with any other person or institution in any way.
In the research, questionnaires were sent to 10 in-depth interviews in 10 companies in Istanbul, with the participant of 50 managers. It was stated that one questionnaire was requested to be filled out by the managers in each business. The aim to carry out an exploratory research among Turkish managers, to formulate hypotheses, on the basis of which a questionnaire survey will be conducted, to test these hypotheses in the future.
It was decided to collect data by using a questionnaire method in order to examine the perspective of enterprises operating in Istanbul, where the research was conducted, to benefit from management consulting. The questionnaire was developed in line with the discussions made in the theory part of the research and the postgraduate theses made in the literature (Kurt, 2008, p. 81). The questionnaire consists of two parts. In the first part, there are 3 questions to determine the gender, age and education levels of the respondents who responded to the questionnaire, and 4 questions about the duration of the business, the total number of employees, the field of activity and legal structure of the participants. In the second part of the questionnaire, there are questions prepared to learn the views of businesses on management consulting.
It is accepted that the enterprises participating in the research give correct and sincere answers to the questions in the data collection tools, the questions in the data collection tools are sufficient to test the hypotheses of the research, and the statistical methods and analyses used in testing the hypotheses of the research are sufficient and valid.
The hypotheses created in order to examine the relationships according to demographic variables and business characteristics in the study are as follows:

Hypothesis 1: There is a significant relationship between the "education" variable and the status of receiving management consulting service.
Hypothesis 2: There is a significant relationship between consulting service availability and the sector in which the enterprise operates.
Hypothesis 3: There is a meaningful relationship between who will receive management consulting service and the legal structure of the business.
Hypothesis 4: There is a significant relationship between the evaluation of consulting fees and the operating duration of the enterprise.

4.DATA ANALYSIS

Surveys sent via e-mail over the Internet were filled in by 50 participants and entered into the system. The data obtained from the research were evaluated in the SPSS 13.0 program. With this program, the average, percentage distribution and frequency distribution of the questions were made. The chi-square test was used to examine the relationships with demographic variables and the differences between questions. Before analysing, various categories were combined in demographic questions. In the legal structure question where the categories are not combined, collective companies with 4 frequencies are excluded from the analysis. According to the education variable, the "college and university" and "graduate" categories in which the participants are included were combined. According to the operating period variable of the business, “10 years and less” category was created by combining “1 year and less”, “2-4 years”, “5-7 years”, “8- 10 years” categories. The variable of number of personnel of the company, "10 and less", "11-30 persons", "31-50 persons" and 51-100 persons categories were combined to form the "100 persons and less" category. In the legal structure question where the

categories are not combined, collective companies with 4 frequencies are excluded from the analysis.

5.RESEARCH FINDINGS

5.1. Findings Regarding the Use of Management Consulting Service

The answers given to the questions regarding the use of management consulting service directed to the participants within the scope of the study can be summarized as follows:
the enterprises participating in the study, 74 (67.3%) stated that they received " consulting service" and 36 (32.7) stated that they did not receive " consulting service".

When the frequency of benefiting from consulting services is examined, it is seen that the weight is "2-4 times" with 40.5%, "5-7 times" with 21.6% and "10-20 times" with 13.5%.
When the distribution according to the places where consulting service is received is examined; It was found that 73% received service from "domestic consulting companies", 43.2% from "independent consulting ", 24.3% from "universities / academics", 21.6% from "foreign consulting firms".

In the types of consulting services received, "quality certification" with 59.5%, "education" with 56.8%, "financial and financial management" with 37.8%, and "production management" with 37.8% are in the top three.

Considering the degree of success of the businesses receiving consulting services; 5.6% of them found "unsuccessful", 22.2% "neither successful nor unsuccessful", and 72.2% "successful or very successful". The average success was found to be 3.69 ± 0.62. Consulting service fees are defined as high by 66% of the participants, normal by 22% and low by only 1.9%.

5.2. Findings Obtained from Examining Relationships According to Demographic Variables

The results obtained regarding the hypotheses established to examine the relationships according to the demographic variables in the study are as follows;

Table 1: Relationship Between Gender and Getting Consulting Services

	Woman	**Man**
Yes	%62,7	%53,1
No	%37,3	%46,9

Source: Author's elaboration

There is no statistically significant relationship between the consulting status and gender variable (p> 0.05).

Table 2: Relationship Between Age and Getting Consulting Services

	30 and above	**30 and below**
Yes	%56,8	%74,2
No	%43,2	%25,8

Source: Author's elaboration

There is no statistically significant relationship between receiving consulting service and age variable (p> 0.05). When Table 4 is examined, it is seen that there is a statistically significant relationship (p> 0.05) between receiving consulting service and education variable. Accordingly, it can be said that the participants with a higher education stated that they benefit from consulting services at a higher rate.

Table 3: Relationship Between Education and Consulting Services

	High school and below	**College-University and above**
Yes	%27,4	%76,3
No	%72,6	%23,7

Source: Author's elaboration

Table 4: Relationship Between Legal Structure of Businesses and Getting Consulting Service

	Private Firm	**Limited Company**	**Incorporated Company**
Yes	%15,6	%40,0	%78,8
No	%84,4	%60,0	%21,2

Source: Author's elaboration

There is a statistically significant relationship between consulting services and the legal structures of businesses (p> 0.05). Accordingly, the rate of receiving service in joint stock companies is 78.8%, while this rate is 15,6% in private companies.

Table 5: Relationship Between Duration of Activity and Consulting Service

	10 years and below	**11 years and above**
Yes	%11,2	%75,4
No	%88,8	%24,6

Source: Author's elaboration

There is a statistically significant relationship between the consulting service receiving status and the duration of the businesses (p> 0.05). Accordingly, companies that have been

operating for 11 years or more have a higher rate of consulting services.

Table 6: Relationship Between Number of Personnel and Receiving Consulting Services

	100 and below	**101-150 people**	**151 and above**
Yes	%26,8	%45,5	%82,7
No	%73,2	%55,5	%17,3

Source: Author's elaboration

In the analysis, a statistically significant relationship was found between the status of receiving consulting service and the number of personnel ($p > 0.05$). Accordingly, companies with 151 or more employees receive more consulting services.

5.3. Findings Obtained from Examining the Relationships and Differences According to the Questions

The findings obtained in the analyses made to test the hypotheses created in line with the purpose of the study are as follows:

Table 7: Relationship between receiving consulting services and with whom to obtain consulting services

	Yes	**No**
University and academics	%21,7	%16,7
Independent consultants who are not affiliated with a firm	%18,9	%33,3
Domestic consulting firms	%45,9	%27,8
Foreign consulting firms	%13,5	%22,2

Source: Author's elaboration

There is no statistically significant relationship between the place where consulting service will be received and the status of receiving consulting service (p> 0.05).

Table 8: Relationship between consulting Service Receiving Status and the Sector in which the Business Operates

	Yes	**No**
Textile	%38,1	%35,2
Automotive	%40,1	%23,6
Health	%4,1	%17,7
Food	%5,3	%11,7
Tourism	%4,1	%1,2
Accounting-Finance	%5,3	%5,9
Electric-Electronic-Computer	%3,1	%4,7

Source: Author's elaboration

In the analysis, a statistically significant relationship was not found between the sector served and the status of receiving consulting service (p> 0.05).

Table 9: Relationship Between the Legal Structure of the Business and the Number of Consulting Services Received

	Private Firm	Limited company	Incorporated company
4 times and less	%50,0	%47,1	%36,4
5-10 times	%50,0	%38,7	%35,0
11 times and above	-	%14,2	%28,6

Source: Author's elaboration

There is no statistically significant relationship between the number of consulting services received and the legal structure of the business (p> 0.05).

Table 10: Relationship Between Whom the Management consulting Service Will Be Obtained and the Legal Structure of the Business

	Private Firm	Limited company	Incorporated company
University and academics	%56,6	%14,2	%21,1
Independent consulting who are not affiliated with a firm	%26,7	%14,4	%21,3
Domestic consulting firms	%10,7	%40,0	%32,4
Foreign consulting firms	%6,0	%31,4	%25,2

Source: Author's elaboration

There is a statistically significant relationship between the place where management consulting is received and the legal structure of the business (p> 0.05). However, since the rate of cells with an expected frequency less than 5 is 60%, it cannot be expressed as meaningful.

Table 11: Relationship Between Evaluating Management Consulting Fees and the Legal Structure of the Business

	Private Firm	Limited company	Incorporated company
Normal	%21,0	%14,2	%28,0
Low	%9,0	%7,2	%10,1
High	%60,0	%71,3	%49,5
Very high	%10,0	%7,2	%12,4

Source: Author's elaboration

In the analysis, it was determined that there was no statistically significant relationship between the evaluation of consulting fees and the legal structure of the enterprise ($p > 0.05$).

Table 12: Relationship Between the Business and the Number of Management Consulting Services Received

	10 years and below	11 years and above
4 times and less	%40,0	%48,5
5-10 times	%50,0	%25,8
11 times and above	%10,0	%25,7

Source: Author's elaboration

There is no statistically significant relationship between the number of consulting services received and the operating duration of the business ($p > 0.05$).

Table 13: The Relationship Between the Operating Period of The Enterprise and the Place to Receive Management Consulting

	10 years and below	11 years and above
University and academics	%35,6	%19,4

Independent consultants who are not affiliated with a firm	%14,4	%22,1
Domestic consulting firms	%21,5	%46,2
Foreign consulting firms	%28,5	%12,3

Source: Author's elaboration

There is a statistically significant relationship between the place where management consulting is taken-to and the operating duration of the enterprise ($p > 0.05$).

Accordingly, companies operating for 11 years or more receive services mainly from domestic companies, while those who have been operating for 10 years or less receive service from universities or academics.

When Table 14 is examined, it is seen that there is no statistically significant relationship ($p > 0.05$) between the participants' evaluation of consulting fees and the duration of activities of the enterprises.

Table 14: Relationship Between the Duration of the Business and the Evaluation of Consulting Fees

	10 years and below	11 years and above
Normal	%16,6	%24,3
Low	%3,0	%2,5
High	%60,4	%61,1
Very high	%20,0	%12,1

Source: Author's elaboration

Table 15: Relationship Between Business Field of Activity and Number of Consulting Services Received

	4 times and less	5-10 times	11 times and above
Textile	%56,7	%32,2	%11,1
Automotive	%50,0	%26,0	%24,0
Health	%80,0	%19,0	%1,0
Food	%50,0	%50,0	-
Tourism	-	%50,0	%50,0
Accounting-Finance	-	%10,0	%90,0
Electric-Electronic-Computer	%70,0	%25,0	%5,0

Source: Author's elaboration

There is a statistically significant relationship between the number of consulting services received and the field of activity of the enterprise ($p > 0.05$). However, since the rate of cells with an expected frequency of less than 5 is 81%, it cannot be expressed as meaningful.

According to the findings summarized in Table 17, the relationship between the place where management consulting is taken-to be taken foreseen in the study and the field of activity of the enterprise is not supported statistically ($p > 0.05$).

Table 16: The Relationship Between Whom the Management Consulting Service Will Be Purchased and the Business Field of Activity

	University and academics	Independent consultants who are not affiliated with a firm	Domestic consulting firms	Foreign consulting firms
Textile	%45,0	%15,0	%33,4	%6,6
Automotive	%14,0	%21,0	%45,0	%20,0
Health	%40,0	%30,0	%15,0	%15,0
Food	%1,0	%49,0	%25,0	%25,0
Tourism	-	-	%100,0	-
Accounting-Finance	%33,2	-	%33,4	%33,4
Electric-Electronic-Computer	-	%10,0	%90,0	-

Source: Author's elaboration

Table 17: The Relationship Between Evaluating Management Consulting Fees and the Business Field of Activity

	Normal	Low	High	Very high
Textile	%28,1	%5,0	%42,8	%28,7
Automotive	%21,0	%10,1	%73,6	%5,4
Health	%25,0	%5,0	%70,0	-
Food	%20,0	%9,0	%71,0	-
Tourism	-	-	%100,0	-
Accounting-Finance	%66,6	-	%33,4	-
Electric-Electronic-Computer	-	%40,0	%60,0	-

Source: Author's elaboration

There is a statistically significant relationship between evaluating consulting fees and the field of activity of the enterprise ($p > 0.05$).

However, since the ratio of cells with an expected frequency less than 5 is 83%, it cannot be expressed as meaningful.

CONCLUSION

Management consulting can be defined as a professional service that assists managers in analysing and solving applied problems, transferring successful management practices from one business to another. Today, many businesses turn to consulting services for different reasons. One of these reasons is the competition conditions that are getting stronger with the effect of technological developments and globalization. There are factors required for the successful conclusion of the projects of the companies providing consulting services and for their customers to be satisfied with the service they receive. Expertise, experience and professionalism are the main factors. The management consulting sector, with its service branches covering a wide range of areas, helps businesses to gain competitive advantage, increase profitability and keep up with the changes in the world to solve their problems.

The purpose of the research we conducted in order to test the hypotheses created in the light of the information presented in the theory part of the study, to reveal the current results and to analyse them from various aspects; It was to examine businesses in terms of benefit from management consulting, to determine their perspectives on consulting firms and to analyse them from various aspects. The findings obtained in the study conducted in this direction can be summarized as follows: The answers given by the participants regarding the questions asked to determine the perspective of the enterprises on the management consulting service indicate that more than half of the enterprises (67.3%) received the consulting service, 40.5% of the beneficiaries of this service and "2-4 times "And 73% of these businesses purchased

this service from local consulting companies. In addition, the other findings at this stage are that the type of consulting service received is mostly 59.5% in the direction of quality certification, the consulting service received is evaluated as successful or very successful by 72.2% of the participants, and 66% of the participants find the consulting service fees high.

Table 18: Result of Frequency and Percentages Regarding the Enterprises Participating in the Study and Their Managers

n=50	**Category**	**f**	**%**
Gender	Woman	22	40,8
	Man	28	60,0
Age	30 and below	12	38,2
	31–40	26	50,9
	41–50	8	7,3
	51–60	4	3,6
Education	High school and below	16	14,5
	College and University	30	81,8
	Master and above	4	3,6
Company type	Private Firm		
	Limited company	12	10,9
	Collective Company	16	14,5
	Incorporated company	4	3,6
		26	71,0
Duration of Activity	1 year and below	2	1,8
	2--4 years	2	1,8
	5--7 years	10	9,1
	8--10 years	14	12,87
	11 years and above	22	74,43
Number of Employees	10 or fewer people	4	7,3
	11-30 people	6	14,5

	31-50 people	8	10,9
	51-100 people	2	1,8
	101-150 people	11	16,4
	151 and over people	19	49,1
	Automotive		
	Textile	17	56,4
	Health	3	2,3
	Food	5	7,3
	Accounting-Finance	5	7,3
	Electric-Electronic-	6	5,5
	Computer	4	3,6
	Tourism	8	15,8
Sector	No answer	2	1,8

Source: Author's elaboration

When the matter is judged that whether the consulting firms investigate their shares in
their own sectors or not and to what extent they hold erudite information on this point, it turned out to be clear that 72,1% of the firms do not provide any investigation on marketing positions.

According to the findings obtained from the chi-square test conducted to test the hypotheses about demographic variables and business characteristics in the study, the predicted relationship between receiving consulting services and the gender and age variables of the participants was not statistically supported. On the other hand, it has been determined that there is a significant relationship between the participants' educational status, the legal structure of their businesses, the duration of activity and the number of personnel and receiving consulting services, and hypotheses in this direction have been supported.

The suggestions that can be made to researchers who will work on this subject in the future, businesses that purchase this service and consulting firms in the light of the findings of the study are as follows: First of all, in order to use the results for generalization purposes, it may be suggested to increase the number of participants in businesses operating in different provinces and businesses operating in Istanbul. Thus, some hypotheses that cannot be tested due to the low sample size can also be analysed. It can be suggested to researchers to prepare questions similar to the questions in study, and to apply and compare them on consulting firms. Thus, the perspectives of both parties in the sector to each other can be analysed.

When they decide to receive consulting services, it can be suggested that businesses do a very good research, define well what they want and expect, and choose consultants who can meet these expectations. According to research, the fact that businesses operating for 9 years or more have a high level of consulting service, but the fact that there is no same tendency to receive more than one consulting service is considered to be an important problem in the development of the consulting sector. In this context, it is observed that the institutionalization culture has not developed in parallel with the increase in the operating periods of the companies. Businesses may be recommended to work primarily on establishing a culture of professionalization and institutionalization. According to the findings obtained in the research, businesses mostly prefer to work with local consulting firms. Businesses may be advised to purchase this service from foreign consulting firms as well as domestic firms. Because that will benefit from the experience of both companies to benefit from this as well as foreign companies will support the development of the management consulting industry in Turkey.

Regarding the consulting service, important responsibilities and duties fall on the management consultants and business managers. It is necessary to explain the importance of the installed systems, the work done, to the business and business employees and what the contributions these applications will bring to the enterprises and the implementation of the systems should be followed specifically. Consulting firms should identify shortcomings and take corrective measures by providing feedback from post-service businesses. According to the findings of study, most of the participants find the fees charged by the consultants high. According to this result, consulting firms need to re-evaluate the fees they demand, and the enterprises should be convinced that the requested fee and the total cost are not high. In addition, it may be suggested to include more businesses in the system by preparing free time programs for businesses. The optimal fee should be determined by taking into account the fee to be requested, the nature, duration, content, cost and many similar factors of the service.

In the development of the sector, it is recommended that the state also take initiatives to encourage the sector. In this context, the establishment of chambers for consulting firms currently operating only under the umbrella of the association, drawing the framework by law or regulation and providing financial advantages can be shown as examples.

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NÉMETH KORNÉL – NÉMETH ESZTER– SZÉP KÁROLY:
AFFECTING CHANGES OF THE SME SECTOR AS A RESULT OF COVID-19. DOES INNOVATION MAKE SENSE?

University of Pannonia, Department of Business and Economics1 Veszprém, Hungary;

Németh Kornél, MsC1; knemeth.gsdi@uni-pen.hu;
Németh Eszter, MA 1: nemeth.eszter.julia@gtk.uni-pannon.hu
Szép Károly, MsC1: karoly.szep@gmail.com;

COVID-19 has had a severe impact on the lives of SMEs, which have had to face overnight supply and operational problems and a variety of challenges due to the lack of coping strategies as a result of rapid policy decisions. Until the virus disappears, we can't talk specifically about survivors and losers, but it's clear who's still on their feet. Examining this, important findings can be made about the organizational unit, culture, capital strength, short supply chains, and innovative behavior of SMEs. The slowdown in globalization was already felt before the onset of the pandemic, which was preceded by megatrends to satisfy the booming economy, automation, and digital hunger. The onset of the crisis was inevitable. In this, we seek the answer to the extent to which organizations in the study have been able to provide effective responses to the changed business management conditions caused by the COVID-19 pandemic.

Keywords: Industry4.0. Organizations, Change management

Introduction

Hungary is located in the middle of the Carpathian Basin on 93 030 quadrat kilometers with a population of 9 769 000 inhabitants (KSH 2020, 128 p.). Till the COVID-19 pandemic, the country's economy indicated a +12 % growing tendency in the case of the number of enterprises in each category from 2012. Restrictions due to the epidemic made a turning point and dramatically increased the number of sole proprietorships that suspended their activity. 21thousand of them are in March, 24 thousand are in April 2020 (KSH 2020, 48-49 p.). Currently, only visible data are showing the way to the future and the outcome. Small and Mid-size Enterprises (SMEs) who are generating close to 50% of the GDP, require special focus (KSH 2018, 6 p.) in the current situation. Going back to the past, the Hungarian history of economics and politics could be an answer to questions in this study. Unlike the western European countries, Hungary went through a regime and system change in the meantime, which directly influenced the SME's condition and strategy, furthermore its long-lasting effects can be felt.

1.1. The development of Hungary and the world economy in numbers

The economic growth of countries depends on the complexity of many factors. According to the Maddison Project research, there are distinctions in the world and Hungarian economic growth. The last 100-year 10 most and least developing countries based on the GDP/capita change between 1924 and 2018. According to the study, Singapore with +2516%, South Korea with +2403%, and Taiwan with +2211% change are on the TOP3 places of the fastest developing countries. On the contrary, the least developing TOP 3 countries are the Philippines with 344%, Argentina with +293%,

and Bolivia with +288% change. Hungary had a +673% GDP/capita change between 1924-2018 time period among Italy (714%), Indonesia (694%), Switzerland (697%), or Greece (659%) (Maddison Project 2020, In. Szepesi 2021).

In developing countries generally, the high-wage capital intensive sector coexists with the low-wage traditional sector. In these countries, unemployment is regular in the towns, which leads to serious economic problems. A classic example could be mentioned in the case of the dualist economy of the 2000s India, which had more than 700 million people, of which only 6 million worked in manufacturing. The industry workers produced 15% of the GNP and earned more than six times as much as the farmers (Maurice & Krugman 2000). Looking back to this model, Hungary also had a dualistic economy at the beginning of the 2010s (Probáld 2011). It was a significantly centralized country with a spatial structure, the center of the capital city of Budapest. Regional centers comprised the smaller but most important industries and populations such as Nagyvárad, Pozsony, Kassa, Kolozsvár (Oradea, Bratislava, Kosice, Cluj-Napoca) annexed to another state by the change of the Hungarian border after the 1st World War. After that, a distortion arose in the economic spatial structure. The domestic economy policy accentuated the central role of Budapest during more cycles, which has even today an effect on the system of spatial cooperation (Probáld 2011).

The role of the SMEs in the EU become even bigger in the 1990s, and in 2000 the European Commission in Lisbon formulated a strategic plan in order to support the SME's role and innovation with a central motto "Think small first!" (EU Commission 2008). Based on the analysis of Csonka, the openness of the Hungarian economy that is the ratio of the foreign trade of the GDP – between 1993 and 2006 due to fast growth - was the highest among

the OECD countries (2009). Among the export products, high- and medium-high tech products reached 70%. After the regime change, due to the new possibilities and government incentives many international and multinational companies invested in Hungary and created subsidiaries mainly producing to the international market. Although these were more developed than the domestic ones, in the international comparison had a very diverse level of development of their manufacturing technology. As a role, the direct foreign working capital investment was more important in Hungary than in most EU or OECD countries (Csonka 2009). This type of openness supported the dual economy model and did not encourage structural change or the healthier and diversified economy model. The main SMEs' development plan of Hungary extended to the increase of the human resource, the development of the HR's quality, the profitability, finally to reach the level of the developed European countries. The XXXIV. Law from 2004, based on the 2003/361/EK European enactment is regulating the development of the domestic SME system whose role in employment, added value and economy are enormous (Vancsik 2019, 13-17 pp.). Probáld has recorded, there were more than 1,5 million registered enterprises in 2009, approximately 701 000 of them were qualified as functioning; near half of the latter (47,5%) were a sole proprietorship, with the vast majority from the tertiary sector. 29 000 enterprises with more than 10% foreign ownership are the so-called foreign interest ventures employed more than 600 000 employers (¼ of all jobs in the corporate sector) and produced more than ⅘ of the export in 2008. Their suppliers included a huge number of domestically owned companies. The number of large companies with more than 250 employees was less than a thousand. Small and medium-sized enterprises, which mainly served the domestic market, played a huge role in employment, but their productivity lagged far behind large companies (Probáld 2011). Till 2019 a positive change could

be seen in the number and structure of the domestic SMEs when the pandemic suddenly stopped the advantageous development cycle (KSH 2020).

Small and medium-sized enterprises are crucial parts of the Hungarian economy. According to the Hungarian State Audit Office more than two-thirds of the workers are employed by SMEs, generate more than half of the added value, and due to the Hungarian state have a huge interest to strengthen the position and potential of the SME sector. (Állami számvevőszék, 2020. p. 10) Based on the OECD there are two types of categorization of the SME sector. The first one rests on the number of employed persons, the second one relies on the sales revenue. By these definitions, the categories could be set up as follows. Micro organizations employ 1-9 persons and the net sales revenue is a maximum of 2 million EUR/year. Small organizations employ 10-49 persons, operating with a maximum of 10 million EUR/year net sales revenue. Medium-sized organizations employ 50 to 249 persons and have a maximum of 50 million EUR/year net sales revenue (OECD 2017, 4 p.; Szerb Et al. 2019, 10 p.). In order to achieve the state its own interests, shaping the business and regulatory environment, expansion of the financial funding, training of the human resource and support of the innovation could be vital tools (Állami számvevőszék 2020. 10 p.). External financial sources of the SMEs are powerful instruments in order to support the R&D activities, the innovation, and the expansion of the company as well as to establish more competitive work positions. SMEs on the Hungarian market due to their small sizes suffer from the lack of external finances, and there is a need for financial funding from the side of the state. The Hungarian National Bank's motivational tools contributed to the easier and state supportive funds. Due to the expanding credits, the value of the investment in the national economy increased by almost 60%

from 1,147 billion HUF between 2013 and 2018 (Állami számvevőszék 2020, 6-10 pp.).

1.2. Industry 4.0 solution or mission?

Industry 4.0 has a complex meaning than a single product or method innovation. The concept of industry 4.0 combines the use of new digital technologies, new materials, and new processes which is an innovative way of organizing production systems, that does not only involve the adoption of new technologies but also the adoption of the right skills, know-how, and organizational forms to fully exploit those new technologies (Nagy 2017).

"For regional innovation policymakers, Industry 4.0 generates many new challenges that require different policy responses and the design of suitable instruments. First, policies should consider how to increase new-firm entry and the growth of firms that are major carriers of new technology. Secondly, policies should aim to increase productivity in established firms that face obstacles to the uptake of technology. Indeed SMEs typically enable Industry 4.0 technologies less frequently than larger firms. In Europe, only 36% of surveyed companies with 50 to 249 employees use industrial robots, compared to 74% of companies with 1 000 or more employees (Fraunhofer 2015). SMEs have limited funding capacities to invest in Industry 4.0 technologies and Industry 4.0 will require re-skilling and training of the workers to new technologies." (INTERREG Europe, 2019). At every innovation, Gartner's Hype curve is describing the visibility of the concerned topic, which clearly shows the biggest challenge as innovative processes or approaches. The curve can also be observed, a peak of inflated expectations or inflated inquiry by the media. At this phase Industry 4.0 and its elements are getting to be rather a buzzword than a real concept with real value. (Selwood 2017).

1.3. The relevance of Industry4.0 in the Hungarian economy

Before the COVID-19 pandemic, the trend in Hungary was clear. SMEs in the production and processing sector had positive problems. The main challenge was to fulfill customer requirements, the biggest competitor of an enterprise was their own capacity limit and available competent human resources. At this stage, the Industry4.0 concept has to be handled as an obvious opportunity, due to the fact that industrial automation and advanced technologies could increase productivity, production efficiency without linearly increasing operation costs, so cost-effectiveness can also be improved. The pressure was the time, digital transformation is required by the business to keep or strengthen the market position. From the beginning of 2017 Hungarian government launched to accelerate digital transformation. Financial support, bank credit packages, and a national platform have been built community and increased technical competencies have been established. Considering the mentioned facts and review of the economic situation of SMEs between 2017- 2019 seem that there is everything on board to realize Industry4.0 (Haidegger, Panity 2016).

To summarize the experiences the lack of standard Industry 4.0 definition and government strategy bring uncertainty, hesitation. The new concept is still not formalized by the government so the uncertainty level is significant and has a direct influence on the decision making. Hungarian SMEs have no adequate competence level nor capacity to plan and perform the digital transformation. Guidance and experts' support is needed to manage digital transformation and even maintain the transformed processes. "The main findings show that there is a great amount of uncertainty towards the upcoming changes in the world of work and a bit of anxiety as well, but as the change unfolds, the

companies become more and more confident and willing to apply" this (Obermayer, Hargitai, Csizmadia, Kígyós 2021, 1 p.).

1.4. The influence of COVID-19 on Industry 4.0

From the end of 2019 Hungarian FCCs (Foreign Controlled Company) and SMEs in the supply chain faced with negative influence of the pandemic, which has been escalated in 2020 springtime, which drastically changed each field of the production system in Hungary, and Europe got to be impacted. Depending on the role of the supply chain or position of the market, industrial companies' impacted soon or later directly or indirectly, positively or negatively. The pharmacy industry, medical, medicine, or local market suppliers were positively impacted, if a company could change its product portfolio e.g.: face-mask production revenue could be increased even if it was not forecasted. Automotive and export-based production systems were negatively impacted as the big ODMs/OEMs (original design manufacturing/ originally equipment manufacturing) stopped, suspended the production. SMEs connected to tourism were also negatively impacted due to the fact tourism was the main impacted sector. A natural reaction, in this case, that strategy is changing, long-term growth strategies are replaced by the surviving-based activity (Marr 2020). Especially in the case of the SMEs where financial conditions limited the cost focus to the "here and now". This changed situation obviously broke or at least suspended their digital transformation strategy. Even though the pandemic is still not over already there are some lessons learned by different articles: manufacturers' reliance on human capital and the impacts of social distancing. Industry 4.0 is not only as relevant as it was before the global COVID-19 emergency, but it's also actually far more relevant such as moving forward to strengthen the relevancy of IoT (Internet of Things) based operation, advanced technologies, automated data capture,

and processing, software-based decision support systems, and finally, remote assistance and automation based operation and business management (Marr 2020).

1.5. SME Strategy 2019-2030

Dynamic strategies together with the leading force of the Hungarian Innovation and Technological ministry's comprehensive aims are to develop the economy, the sectoral change of the SMEs, the digitalization, the innovation and increase the living standard of locals. Cooperation of the government and entrepreneurs support and develop the SMEs working conditions, whose approximately 1/3 are affected by the generation change, need stronger Hungarian ownership and position on the market as well as possess a low percent of further adult education. The comprehensive goals on seven pillars include the strengthening of the SME's value-creating capacity who's capable of major growth and the elaboration of a predictable framework for the SME sector's operation. Secondary objectives encompass the development of the SMEs productivity, the improvement of the added value especially of the domestically owned SMEs, and the escalation of the SMEs' export capacity (Innovációs és Technológiai Minisztérium 2019, 5-7 pp.). The strategies cover the diversity of the SMEs, pursue to provide appropriate structure and working conditions to give chance for the SMEs to live with the opportunities, solve the challenges with their own sectoral and territorial characteristics. The strategies support the future long-run developments and innovation processes, involve a wide range of governmental and non-governmental actors (Innovációs és Technológiai Minisztérium 2019, 9 pp.). The SME sector has been developed however they still need to intensify their current economic status. The Hungarian entrepreneurial sector is similar to the average of the EU-28, from the 724 thousand company 723

thousand qualified as SME, with the number of employees over performed, with the added value production underperformed (Innovációs és Technológiai Minisztérium 2019, 10 p.).

1.6. The innovation ecosystem

The requirement of long-term success is the diverse fields of the economy, universities, as well as government interactive cooperation (Batovszki, Birkner, Mészáros, Szabó 2020, 74 p.). "The proposed multilayer network approach enables the integration of further networks, which creates opportunities for a more comprehensive assessment of universities' performance in achieving their core missions"(Kosztyán, Fehervölgyi, Csizmadia, Kerekes 2021, 1 p.). The cooperation basic logic stands on the evolution of the helix, which describes the cooperative players and their connections. The „Triple-helix" model was created by Etzkowitz and Leydesdorff in 2000, introduces the connection of the university-industry-government, in which the cooperation is realized in the third mission of the universities in an entrepreneurial role (Vas 2012). According to Vas, the Triple-helix model core aim represents that in the knowledge-based economy and society the potential into the innovation and to the economic development lay on the changing role of the universities and in the cooperation of the university, industry, and government threesome. This generates the appearance of the new institutional and societal forms, facilitating the knowledge creation, transfer, and application process (Vas 2012). In the cross-sections of the three spheres, interactions and connections are realized due to the so-called hybrid institutions (e.g. university-established incubators, spin-offs, start-ups) to the territorial stakeholders. By the new initiative task, the universities have a relatively modern role. Next to the education and research activities due to their third mission

to become an entrepreneurial university also appearing (Etzkowitz 2002).

The Helix models provide the basis for the impact and role of the concentration of national economic actors in the innovation performance of the region, thus they are also the basic model for the functioning of innovation ecosystems. The duty of the third generation of universities, the joint creation of knowledge, has a fundamental role in maintaining smart and efficient regional ecosystems. "For universities, this means a new kind of thinking in university leadership that manifests itself in the alignment of new dimensions. Concepts such as shared knowledge generation, exploiting synergies and capacity building are becoming important drivers of innovation at the interface between ecosystem actors" (Törteli 2020).

1.7. SMEs in numbers

According to the KSH (Hungarian Statistical Office), in the demography of the Hungarian registered economic organizations a positive +130, 9%, and dynamic chance could be seen between 2014-2019. This category includes the public limited company, a European company with legal personality Limited liability Company, Cooperative Other company with legal personality, Business Company Limited liability Company, and Joint-stock company, a Business organization without legal personality Legal entity engaged in economic activity, Joint venture, Self-employed person, and Sole proprietor (KSH 2021).

The distribution of all the SMEs in a broader sense (not just the previous categories, but all SMEs) represents a more detailed division. More than 784 thousand Micro SMEs were in 2019, which number increased by +27,1% compared to 2014. The number of real new enterprises in 2019 was 107 thousand, +33,9%

more than in 2014. The number of micro-enterprises surviving 5 years in 2019 was 36 thousand. Small SME's total operating number was 27 843 in 2014 and 32 234 in 2019 with a +15,8% change. It is clearly visible that the medium-sized enterprises have in most categories the highest results in the case of R&D activities. The medium-sized companies employ the most R&D workers in the enterprise sector with 8 798 persons, +8,42% more than the small, +250,5% more than the micro organizations. Medium enterprises have an outstanding number of total research in the business sector (5 008), +13,2% more than the small-sized enterprises (KSH 2021).

2. Conclusion

As a matter of fact, SMEs are an essential part of the Hungarian economy. Due to statistical data sources, it could be declared that the situation of the SMEs is interesting and beneficial to monitor as well as to consider how other countries manage the opportunity and the challenges. Thanks to the European Union there is a centralized focus, and effort is taken to standardize the different approaches and ensure know-how and financial support to the different regions, nation's industrial sectors at each level of company size. It is a fact that there are significant differences within the EU regarding the role and natural opportunity of applying the Industry4.0 concept. Without going into the details, it can be accepted that western European countries are rather frontrunners and eastern EU countries are followers of the concept. Adapting industry 4.0 requires innovation, an open-minded and innovative approach, but it is not the only aspect to success. It is important to analyze the regional aspects and the industrial sector or even the individual business supply chain. National policymakers shall take an effort to make factor analysis to identify group properties and create clusters for what

customized supports, subsidies, competence development training could be offered. As the authors have been working on the study and consolidated the results of the individual research could discover a so-called side effect conclusion which is the recognition of needs and opportunity for further research.

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SZABÓ ÁRPÁD:
THE EU FUNDED SPEED PROGRAM FOR CREATING SME'S AND JOBS IN ROMANIA

The SPEED program (Spre o Economie Eficientă si Dezvoltată = Towards an Efficient and Developed Economy) was funded by the Human Capital Operational Program of the EU Structural Funds. In 2018 1205 persons took part on a formation course for entrepreneurial skills in the Central Statistical Region of Romania. After the completion of the course their business plans were compared and 36 of them were selected to create firms with a maximum of EUR 40000 non-reimbursable EU grant each. The 36 firms created 76 new jobs and all of them survived the Covid-19 pandemic. My paper is a result of a study comparing the newly established firms with well established SME-s which did not get funding from the SPEED program.

The SPEED project

Civitas Foundation for Civil Society in Odorheiu Secuiesc, in partnership with the Association for Innovation and Business Incubation of Centre - Harghita in Miercurea Ciuc (ACHIIA) implemented the project "SPEED-Towards an Efficient and Developed Economy" within the framework of the programme POCU/82/3/7 - Increasing employment by supporting non-agricultural enterprises in urban areas.
The duration of the project implementation was 36 months, starting from January 2018.
The project targeted people interested in opening a non-agricultural business in a town in the counties of Alba, Brasov, Covasna, Harghita, Mures and Sibiu.
The overall objective of the project was to support the raising of the living standards of the population in the Central Development

Region of Romania by developing entrepreneurial capacity, supporting the establishment of new innovative non-agricultural businesses in urban areas and promoting the creation of new sustainable and quality jobs.
Setting up 36 companies in each of the 6 counties belonging to the Central Development Region, some of these counties being at a considerable geographical distance from Harghita County, was a very challenging organisational task. The partner organisations in the development and implementation of the project were known in the localities bordering their location, but were totally unknown in other counties and other localities. They still managed to contact 1205 people for the formation of the target group, without having contacts and acquaintances in all the target counties. It was a challenge, that out of the 1205 people informed the Civitas Foundation and ACHIIA were able to engage the participants in the entrepreneurial skills courses, and out of them 363 were able to successfully pass the graduation exam. The 36 winning business plans were selected from 162 business plans submitted for the competition. The 36 businesses instead of the minimum of 72 jobs managed to create no less than 76 jobs.

About the Human Capital Operational Programme

As it appears on the official website https://www.fonduri-ue.ro/pocu-2014, the Human Capital Operational Programme (PO CU) sets out the investment priorities, specific objectives and actions undertaken by Romania in the field of human resources, thus continuing the investments made through the European Social Fund in the period 2007-2013 and contributing, at the same time, to achieving the general objective of the Partnership Agreement (PA 2014-2020) - implicitly of the European Structural and Investment Funds in Romania, namely, to reduce disparities in

economic and social development between Romania and EU Member States.

The priority axes of the POCU are:
Priority Axis 1 - Youth Employment Initiative
Priority Axis 2 - Improving the situation of NEETs
Priority Axis 3 - Jobs for all
Priority Axis 4 - Social inclusion and combating poverty
Priority Axis 5 - Community Led Local Development (CLLD)
Priority Axis 6 - Education and skills
Priority Axis 7 - Technical Assistance

Methodology

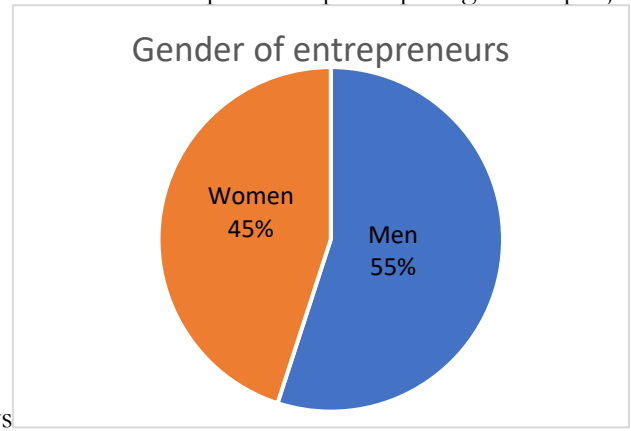
Out of the 36 winning companies of the business plan competition, 20 were selected for interviews for the market research. In order to have a control group another 10 firms were selected that were not established in the SPEED project. Interviews were also conducted with the Project Partners (Civitas and ACHIIA) and some lecturers who participated in the project. The interviews were conducted between August and October 2020. The interviews were completed by a questionnaire which is attached. All interviews, notes and recordings were made in compliance with GDPR rules. Interviewees were not required to submit personal data and cannot be identified in any way.

Entrepreneurial skills courses

The pre-competition stage of the business plan competition was an entrepreneurial skills course attended by all candidates. The first set of interview questions concerned the quality and effectiveness of these courses.

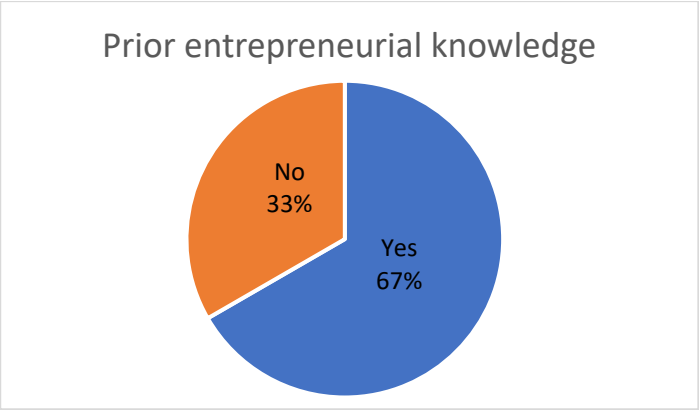
Interviews were conducted with both participants and trainers. In the control group, people who organise such courses or have attended such courses organised by other institutions were also interviewed.

Table 1 - Gender of entrepreneurs participating in the project and interviews



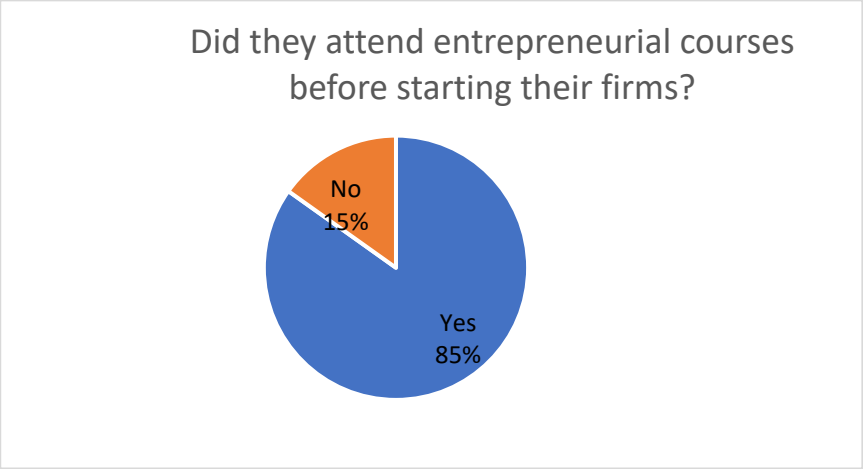
In the interviews of the entrepreneurs who won the business plan competition and set up their companies 45% were women and 55% were men.

Table 2. - Prior knowledge



The second question asked about entrepreneurial knowledge prior to participating in the SPEED training course. Two thirds of the course participants said that they had no entrepreneurial knowledge prior to attending the course.

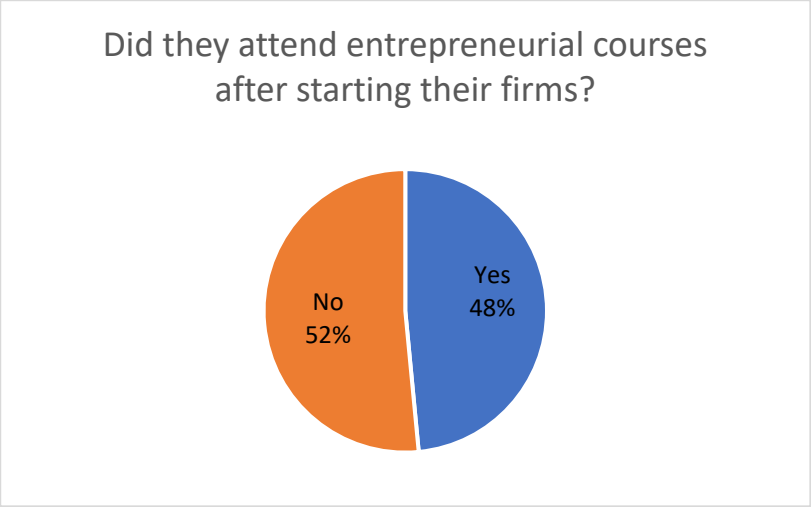
Table 3. – Preparation



The entire sample of entrepreneurs were asked whether or not they had attended an entrepreneurial skills course before

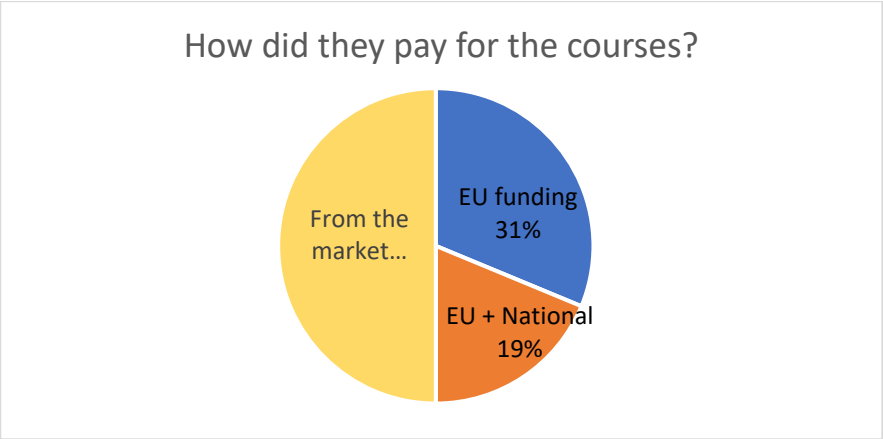
setting up their first firm. An overwhelming majority of 85% answered Yes.

Table 4 - Continuous development



After setting up their firms, did they attend any other entrepreneurial skills courses? It seems that more than half of those who set up a firm, after setting up their firm, do not think that they would need any further knowledge about entrepreneurship.

Table 5. - Where do they finance their course?



Those who attended courses and after setting up their firms were asked whether they looked for courses in their specific market, or whether they looked for courses financed by EU or national funds.

The trainers say that 40 hours is far too few to give trainees all the knowledge they need. Very often these courses provide little knowledge of marketing and management, but little and superficial practical knowledge of corporate finance and legislation. In the view of some learners, there was too little discussion of relations with financial institutions and the various loan products. There should have been a module on these too.
The entrepreneurial skills courses were very multilateral. Those who had no previous experience were very satisfied. They received a lot of information and learned a lot.

Those who have gone through the process of setting up a company on their own without using the services of a specialist firm, said that the courses should be much more detailed on the steps to follow when setting up a company and the documents needed. At the same time, some would have been happy for someone to point

out to them before finalising their business plan that they had set their salaries too high, or had not calculated the taxes they would have to pay correctly.
The SPEED entrepreneurship skills course was rated 4.48 on a scale of 1 to 5 by interview participants.
In the opinion of one accounting firm, most entrepreneurs have little knowledge of accounting regulations. She met clients who do international transactions worth millions but cannot draw up certain official paperwork. According to the interviewees, the entrepreneurial skills courses should also include a minimum knowledge of commercial law.
The control group also included entrepreneurs who had attended entrepreneurship courses in other EU countries and outside the EU. (E.g. Austria and Switzerland.) They say that these courses were very practical and gave them a kind of toolbox of knowledge that they could use immediately after setting up their companies.
The changes in the relationships between business partners following the pandemic have raised the need for these courses to teach webshop development and the building and use of smartphone applications. Those who regularly run entrepreneurial skills courses have told me that the most popular courses are marketing and online marketing. Communication and time management courses are also popular.
It would be good for future entrepreneurs to learn more about the authorities and offices they will have to deal with and how to 'live' and communicate with them in these training courses.
Course organisers always ask for feedback from graduates. Usually the grades awarded are more than 4 out of 5. Learners usually give higher marks to lecturers who come from the real economy than those who teach in higher education.
Among SPEED entrepreneurs some of those who attended the entrepreneurship training courses, coming from an entrepreneurial background, say that the courses were a bit too theoretical. More

lecturers who were or are entrepreneurs should have been involved. More practical things applicable to real life could be learned from them. After the experience of two years of running some say that it would have been better if these courses on entrepreneurial knowledge had been taught by lecturers with practical experience, and if they had drawn the attention of the learners more to the practical problems and difficulties that an entrepreneur may encounter.

As for the intensity or frequency of the classes in different centres and different counties, different methods were used. When trainees had to attend several afternoons a week, some complained that they were tired arriving from work. In other cases, if too many days elapsed between two modules, some learners said the courses were not intensive enough.

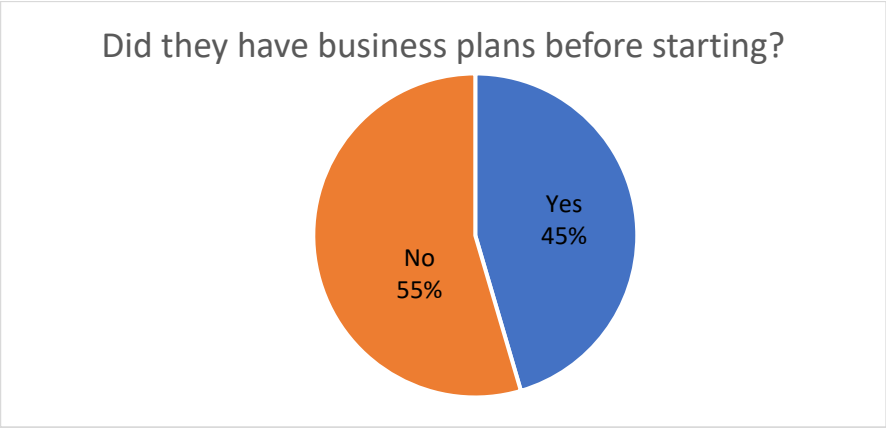
In cases where it was decided to run the courses for a longer period of time, this took into account the learners' work schedule and time to spend with their families.

The aim was to have different modules taught by different lecturers to make the courses more engaging. In these cases the organisation was more difficult, but the courses were less boring for the participants.

In the opinion of some lecturers, the most effective method seemed to be when learners and lecturers were accommodated for a week in a hostel and could work on the business plan every afternoon after the course. In the afternoons or evenings the trainees could consult with the lecturer on site about the process.

In the case of the learners, who were given business plan writing as homework and progressed from module to module, they were able to write very good business plans and were able to clarify their business model in their minds down to the last detail.

Table 6. - Do future entrepreneurs make business plans?



Do those who venture to start a business draw up a business plan - on paper? From the answers received during the interviews it can be concluded that most of them do not draw up business plans.

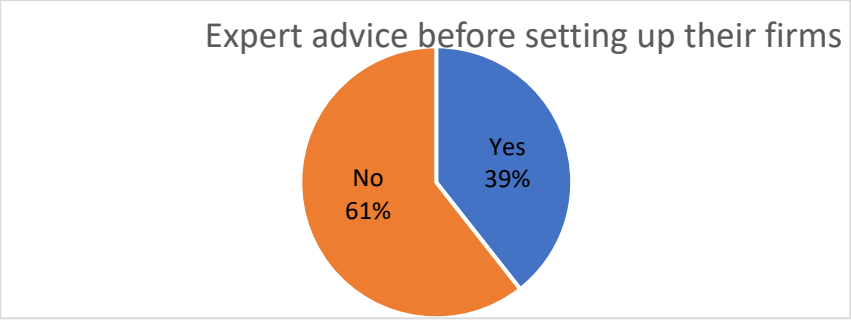
It was found that the business plan model offered in the courses was not the most successful. It would be better if in the future the model had an improved structure.

Setting up companies and first contacts with authorities

The second chapter of the interviews dealt with the process of setting up companies and their contact with authorities.
Experiences with these differ from county to county. In some counties of the Centre Region many documents and forms can be obtained online, but in others the budding entrepreneurs have to travel between many locations. As far as possible, all offices and registers should move to online operation.
Training and incubation centres usually offer help in dealing with setting up businesses. If the new entrepreneur is willing to travel to the county seat, the start-up can be done in 2-3 days. In the case

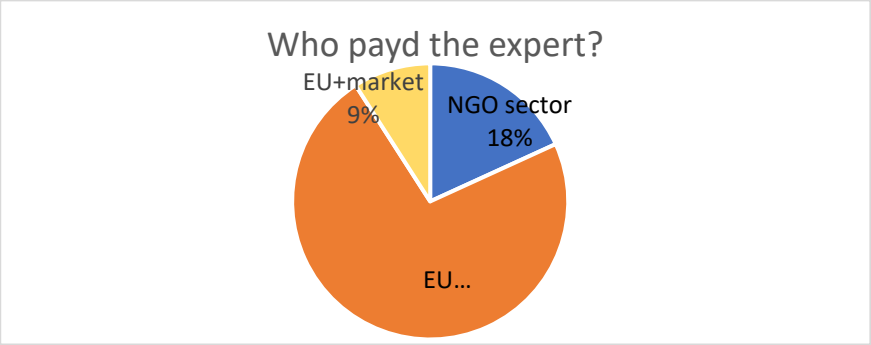
of towns that are not county seats, and entrepreneurs approach the local ONRC office, registration is completed in only 8-9 days.

Table 7. - expert advice before setting up



Before setting up a business, most people do not ask anyone for help. Slightly more than a third said they had received advice, but sometimes only from parents or friends. In half of the cases the advice is about setting up, but in a few cases also about marketing and management.

Table 8. - Where the advice comes from

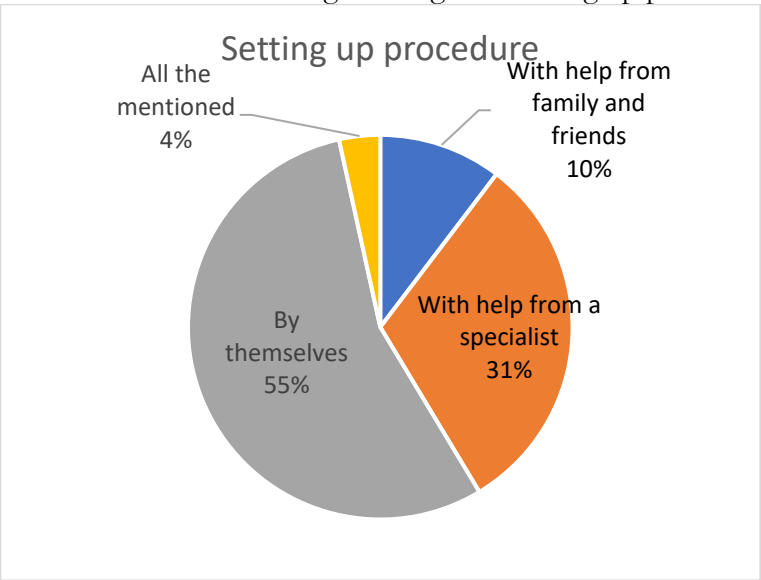


In cases where start-up entrepreneurs decide to turn to start-up consultants, from whom do they want to receive this advice? It is found that three quarters of the firms registered under

the SPEED project have used the consultancy services provided by Civitas and ACHHIA, within the project.

Some of the entrepreneurs have benefited from the services of specialist start-up firms. They only had to go to the Commercial Registry Office once and their companies were set up within 10-14 days. Others, however, started the process on their own and spent a lot of time going back and forth between the different offices, i.e. they had to get a lot of paperwork. Often they did not know in which order these documents should be obtained.

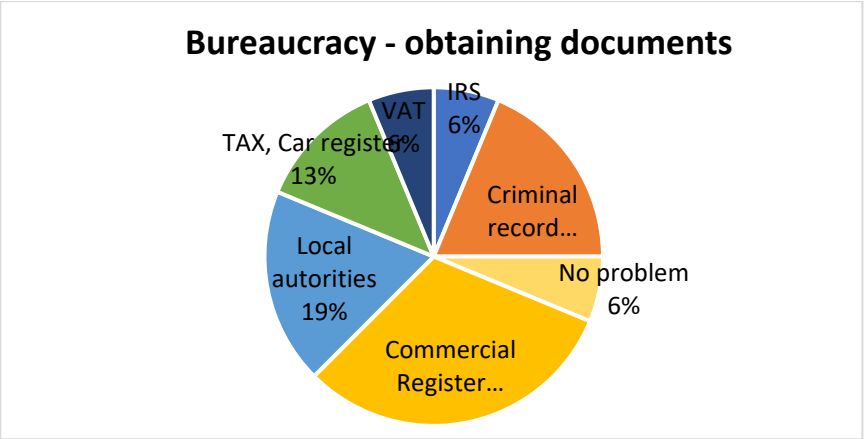
Table 9. - How to go through the setting up procedure



They registered their companies on their own, with the help of relatives or friends, or through specialised companies. Table 9. shows that most people registered their firms themselves.

Did some of those who went through the procedure on their own also complain about the behaviour and attitude of the staff in these offices? Lack of goodwill and lack of good intention in helping clients was for example evident in Brasov and Mures counties.
On the web pages of the institutions the information is not complete. When they went to the counter, it was found that they did not fill in certain forms correctly and that the documentation was not complete, although they complied with the information on the information page. In addition, there were situations when the people at the counters rejected the papers without providing information on the correct completion of the forms.
It also happened that the documentation was rejected only on the grounds that the word "municipality" was missing from the name of the locality. Often the acceptance or rejection of the documentation is a matter of circumstance, depending only on the person who is on duty at the counter at the time.
The mentors and advisors gave examples of small businesses being set up as VAT-liable businesses, although both in the course and in the mentoring process it was made clear that these businesses do not need to be VAT-liable from the outset. Trainees' carelessness can lead to such problems.

Table 10. - How difficult it is to obtain documents



When citizens go to the authorities they run into red tape. It seems that of those who set up their own businesses, most complain about the National Trade Register Office. There are also a few cases of start-up entrepreneurs who have encountered problems at town halls, getting their criminal records or registering with the Romanian Motor Register.

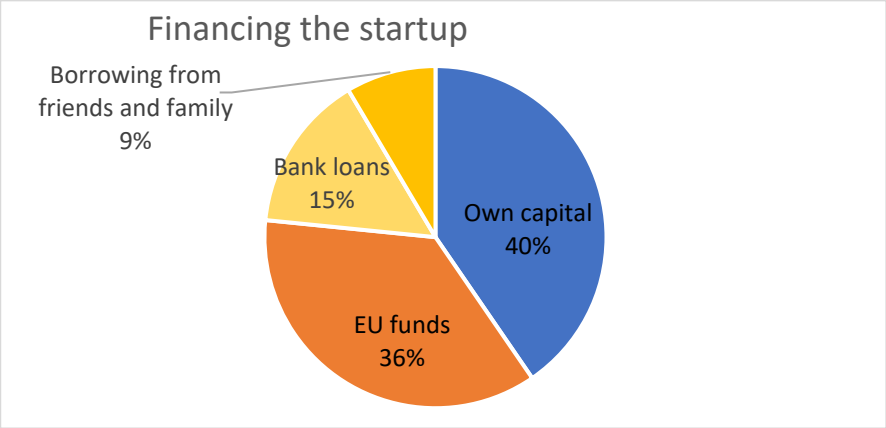
Some interviewees reported that in some localities the financial authorities are still (according to them) in the "prehistoric era", i.e. very few problems can be solved online.

Another problem is related to the attitude of the state control authorities, which do not offer deadlines for remedying shortcomings, but sanction immediately. Some of those questioned consider that a humane approach would be to draw the manager's attention to certain irregularities in the compliance of the newly established company and give him a deadline for correction. They should go for inspection once more after the deadline has expired and impose fines only if the problems have not been resolved within the given period.

It was explicitly considered by some interviewees that it is illogical that if you set up a business and want to be a VAT payer from the

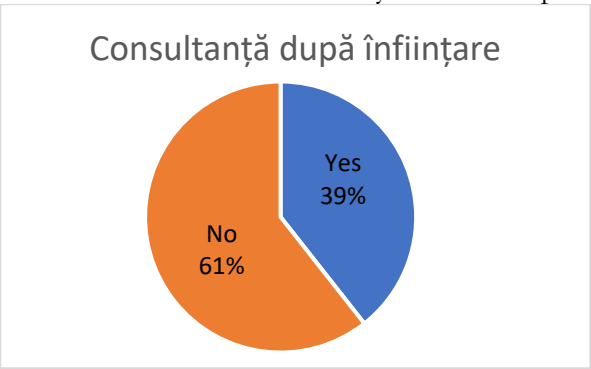
start, you have to present evidence and business plans for the future development of the business. However, if you are not a VAT payer from the outset and after a certain period you exceed the turnover limit, you automatically become a VAT payer without having to submit the relevant supporting documents.
The format of the forms and the various returns should not change so frequently that entrepreneurs find it difficult to keep up with changes.
The legislation on sole proprietorships is not well designed. The PE is not a legal person and should not be considered as such. The current legislation and the ANAF make it very difficult for micro-enterprises and sole traders to operate and exist. In other countries, sole proprietors do not receive a separate CUI, but the authorities' databases show that the person is also carrying out an economic activity alongside their CNP.

Table 11. - Financing of business start-ups



Where do entrepreneurs get the investment money to start their business? It is found that they use almost equally their own capital and EU funds, and very few borrow from financial-banking institutions.

Table 12. - Consultancy after start-up



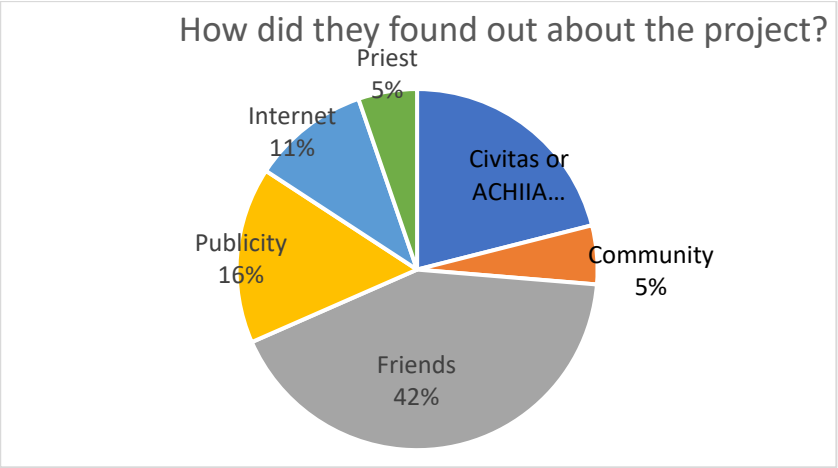
Eastern Europe is said to be the region of the "resourceful". Do entrepreneurs manage on their own after setting up their companies or do they ask for advice? Interviews show that 61% believe they have sufficient knowledge and can manage on their own.

The representatives of the companies participating in the SPEED project considered on a scale from 1 to 5 that the mentoring and advice provided by the Civitas Foundation and ACHIIA related to the start-up of the company should be rated with an average of 4.92.

Mentoring, reporting and project impacts

The last chapter of the interviews dealt with the SPEED project itself and other possible projects with EU funding.

Table 13 - Where did they hear about the project?



The attached table highlights the importance of people-to-people information networks. 42% of project participants indicated that they heard about the project through acquaintances.

The interviewees found it very helpful that between the funder itself and the funded companies the Civitas Foundation was interposed as a buffer, advising them in the process of implementing the business plan. Personal and human contacts were developed, eliminating direct contact with the funding authorities (RIO, MA).
On the side of the project implementer, the project manager admitted, that he did not expect that all 36 companies selected for funding would be able to fulfil the conditions of the funding contract. At the end of the project, however, it can be said that the project was a complete success. There were difficulties with some firms, but all 36 firms managed to stay on their feet and managed to fulfil all the conditions of the contract.

There is a certain perception among the beneficiaries of European funds that they would be treated, in the light of the legislative and

procedural provisions, as only opportunists, with no accountability for the efficient and transparent use of public funds.

Project participants are pleased to have had the opportunity to participate in this project. Very many are satisfied that they have been able to learn a lot of new things and are grateful that they are able to do what they want more. But the bureaucracy and trust issue has given them a lot of trouble. The words 'confidence' and 'lack of confidence' were found to be repeated most during these interviews. There were companies that had to make a lot of small value purchases.

One of the contractors was also an employee of his own company and complained that 70% of his working time was not used for actual work, but to fill in paperwork for accounts and reports.

Some interviewees felt, that serious people, when they start work, know what machinery, plant, equipment they need. They felt that the procurement process should be more flexible.

There are big companies (e.g. Apple) that require that the prices are the same for all retailers. If for a machine I want to buy the prices are exactly the same, there is no point in asking for 3 price offers.

Mentoring and advice was found to be very helpful and very professional. The advisors were very helpful for beginners, but working with documentation, scanning, making copies of documents, printing wasted valuable time.

The demanding and rigorous reporting also had an educational role for new entrepreneurs. Thus they learned to think and work more organised and orderly and to always be up to date with all documentation, which eventually provided data and information to make the most correct decisions.

On a scale of 1 to 5 the collaboration with the de minimis scheme administrator received a score of 4.67 which shows that the collaboration was successful and useful. We also asked how

difficult it was to meet the expectations of the de minimis scheme administrator. Also on a scale of 1 to 5 the score received was 3.50, which means that although it was difficult, it was not impossible to meet.

There are some firms where market demand is seasonal. There are times when one employee would be enough, but also times when four to five seasonal workers would be needed. On average, two people would go out every two years, so the project should be much more flexible and allow for seasonal workers.

Those who had to invest in very expensive equipment could not start their business until they had the money to buy the machines. The contract stipulated that they had to achieve turnover in 12 months, but the first three months were lost due to lack of money and achieving those figures in just 9 months was almost impossible.

Rigidity, lack of flexibility in the demands on the financed were other issues raised by several people in these interviews. It would have helped if it had been possible to transfer money more easily from one expenditure group to another. Some would have bought less machinery, but could have invested the money in other activities, or started other activities, that would have helped them mitigate the effects of the COVID-19 pandemic.

Some companies have to close down after the project ends because they can no longer pay the rent on the buildings they are operating in. Funding from these EU projects should enable entrepreneurs to buy their own property, of course of a size appropriate to the activity for which they are applying.

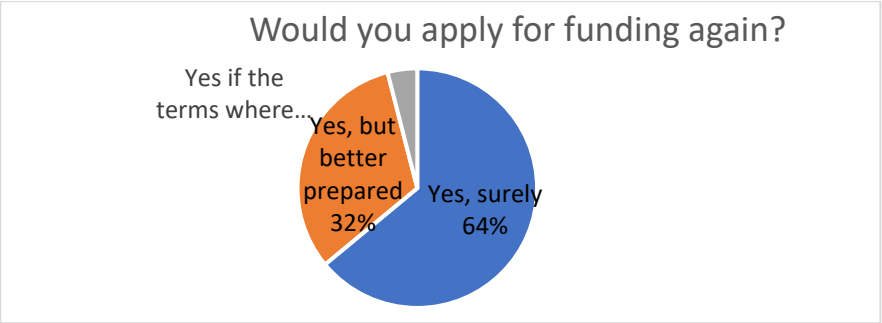
The project implementers say that there are contradictions and ambiguities in the provisions of the Applicant's Guide and other provisions and guidelines.

Some entrepreneurs consider the transparency of the selection of the winners of these grants as a shortcoming. The process should be more transparent and easier to follow. Or when competitors

want to start economic activities in totally different fields, by what comparison criteria can they be distinguished?
The interviews that took place as part of the SPEED business plan selection process were found to be very useful. Some participants in these interviews felt that they were able to highlight their preparation, determination, knowledge and commitment to the business they were involved in.
It would be good if reporting and settlement could also be done online. The forms should not be altered and changed so often and all documentation should be submitted online - no stamps, no signatures and no filing.

On a scale of 1 to 5 where 1 means very severe effects and 5 means that the pandemic did not affect the company at all, the score for the hardship caused by COVID-19 was 2.86. So it slightly exceeded the average. But this depended mainly on the business domain.
Communication between firms and project implementers did not break down even with the COVID-19 pandemic. Physical meetings and visits moved online. This way, permanent contact was maintained and very good communication was achieved.
Some project events (Business Fellowships, study visits) were conducted online (Skype). During these virtual meetings it was found that the entrepreneurs in the SPEED project were interested in each other and showed a willingness to collaborate with each other.

Table 14. - Would you apply for funding again?



From the interviewees' answers it appeared that each of the interviewees would apply for another grant if such a possibility existed. Some of them have gained valuable experience and would be better prepared to meet the conditions of a new project. This percentage of 64% demonstrates the success of SPEED.

Conclusions

Taking into account that all 36 companies remained operational and managed to fulfil their contractual obligations, it can be stated that the project was a success. Thirty-six companies were established and 76 new jobs were created. If we also take into account that less than a year after the companies were set up, the COVID-19 pandemic broke out, and the businesses were able to survive, the success of the project is even more remarkable.
The entrepreneurial skills courses were highly appreciated by the participants. Not many, who had previous knowledge of entrepreneurship, felt that some topics were dealt with a little theoretically. After the end of the project and taking into account what was said by the lecturers and entrepreneurs outside the project, it can be said that it would be useful in the future to introduce a module on the subject of financial management, where credits and investments are presented, and a module containing basic notions of commercial law.

During the selection process of the business plans, it was considered very useful to organise interviews, during which the jury could ask questions, which allowed them to better appreciate the business idea and the person who participated in the competition.
In terms of setting up businesses, some entrepreneurs have sought the help of specialist firms or experts. Many of those who did not do so, however, suffered from red tape. The difficulties faced in registering companies differed from county to county. The problems most often raised concerned the services of the National Trade Register Office and registration as VAT payers with ANAF. The COVID-19 pandemic subsequently showed us that many of the procedures can be solved online. It has been recommended to move the services provided by offices, institutions and authorities even more online.
With regard to the labour market, it became clear that there are differences depending on the level of training required by staff. There is a shortage of specialists in professions requiring specialist knowledge. In occupations that do not require specialist knowledge and market experience, supply far exceeds demand.
Many of the good specialists go abroad to work and unfortunately most of them will not return. But there are also examples where those who have gone abroad to work come home with the money they have saved, build their own buildings and invest their capital in companies where they use the experience and knowledge they have gained abroad.
Some of the companies that have received funding from the SPEED project are seasonal and have found it very difficult to maintain full-time employees throughout the period. Firms should be allowed to hire people for seasonal work as well and the hires should be calculated on the overall total of the business plan implementation period. Although most companies complained about the lack of specialists in the labour market, there were also

some who were of the opinion, that the problem with employees is mostly lack of education, lack of respect and lack of motivation. It has often been said that young people today want to work as little as possible for as much money as possible. But some interviewees feel that they prefer to hire young people with no work experience, who will be trained on the job, rather than hire older people who need to be retrained. Older or more experienced professionals can be somewhat rigid.

All firms have managed to do well in the market in one way or another. Some said that larger suppliers did not always meet delivery deadlines, but most said that there were no major problems in doing business with partners. There were some who said that recipients were not familiar enough with the products or services they wanted to buy. They do not know the price and quality standards and do not realise the value for money ratio of the products or services.

The mentoring process and the collaboration with the representatives of the Civitas Foundation and ACHIIA was highly appreciated by all the companies, which gave it high marks.

However, the project reporting has sometimes put them in difficult situations, requiring excessive bureaucracy. Many felt a certain mistrust. Relationships based on mutual trust would make work and collaboration easier.

Most entrepreneurs felt that the SPEED project was a success and that they would apply again for EU funding if they had the opportunity.

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ANH DON TON, DENNIS WEBER, LASZLO HAMMERL: HOW COOPETITION OF CROSS-FUNCTIONAL TEAMS BECOME IMPORTANT IN TIMES OF COVID-19 IN CARPATHIAN BASIN: A GROUNDED THEORY

Doctoral School of Management and Organizational Sciences, Hungarian University of Agriculture and Life Sciences [1, 2, 3]
e-mail[1, 2, 3]: Ton.Anh.Don@phd.uni-szie.hu, Weber.Dennis@phd.uni-szie.hu, Hammerl.Laszlo@phd.uni-szie.hu

Abstract: This paper examines the tensions that arise within cross-functional teams as a result of the corona crisis in Hungary. In particular, coopetition, an interplay of competition and cooperation between and within teams, is focused. Using the Grounded Theory Methodology for a case study of one of the biggest automotive company in carpathian basin, the impact of coopetition of cross-functional teams in times of COVID-19 will be analyzed. Through the qualitative survey of 22 employees of cross-functional teams in quality management in Hungary, it was found that the corona crisis has a significant impact of coopetition on the individual employee, on the team as well as on the interaction within the organization. Several consequences, traceable due to the pandemic, could be determined on each level. By implementing different trainings on soft skills (leadership, mindset, knowledge transfer), tension of the individual, within teams and organization could be reduced.

Keywords: Cooperation, Competition, Quality Management, team dynamics

1. Introduction

Team-based structures and collaborative working become more important to meet the demands of the market (Galpin, Hilpirt, and Evans 2007). One way to bind organization units together for collaborative working and providing competence gains and productivity is creating cross-functional teams (Mohamed, Stankosky, and Murray 2004). A cross-functional team is a group of members with different expertise (Ghobadi and D'Ambra 2013) working together towards a common goal, expecting to be more creative, innovative (Sethi, Smith, and Park 2001) and successful (Ernst, Hoyer, and Rübsaamen 2010). Within cross-functional teams, dynamics between competition and cooperation often arise. Coopetition, an double-edge sword of cooperative and competition behaviors have positive effects on knowledge transfer and performance (Luo, Slotegraaf, and Pan 2006). On the one hand, cooperative behavior strengths the focus of cross-functional coordination (Griffin and Hauser 1992) and also competition behavior can provide incentive to share knowledge and nurture productive interactions (Tsai 2002), but on the other hand, the risk of conflict of cross-functional teams can also be higher (Levina 2005; Tortoriello and Krackhardt 2010). Cross-functional rivalry can emerge when functional areas are competing each other, which can reduce performance (Ghobadi and D'Ambra 2012; Luo et al. 2006). Among employees, tension can occur, when competitors become partners and the other way around (Gnyawali and Park 2011; Raza-Ullah, Bengtsson, and Kock 2014). The interaction between cooperation and competition can change if operational conditions change.

In times of the COVID-19 pandemic, counter-measures were taken to contain the virus. Measures such as the temporary closure of production facilities, schools and stores, led to a downturn of

the economy (Khan et al. 2020). As a result of the closures, there was a wave of job and pay cuts in many companies. Drakopoulos et al. (2015) has already shown that these measures also influence employee satisfaction and psychological well-being. Those negative effects can also play a major role in team coopetition. We conducted a case study at one of the world's largest automotive suppliers in Hungary on the extent to which the corona pandemic affects the interplay of competition and cooperation in cross-functional teams in quality management. Following research question will be investigated:

- At what level is the interplay between cooperation and competition having an increased impact in operations due to the COVID-19 pandemic?
- What are the consequences of unbalanced cooperation and competition on cross-functional teams?
- What measures can be introduced to continue to work efficiently, if possible, under the tensions of the corona crisis?

Through a Grounded Theory of different practitioners of cross-functional teams, we identified multilevel of coopetition having an impact on cross-functional teams. The data was collected via web conference, semi structured interviews and by recording the interview. The analysis was conducted using open, selective and theoretical coding and constant comparison (Glaser and Strauss 2009).

2. Material and Methods

Grounded Theory is chosen as the methodological framework to answer the research questions (Glaser and Strauss 2009). The research questions are kept generic, because the Grounded Theory

formulates specific research question during the research process (Glaser 2002). Grounded Theory is recommend when researchers are looking for a theory grounded in data (Parry 1998). Therefore it's a suitable method for them, because as mentioned only very little research was done in the past on coopetition of cross-functional teams. Additionally Grounded Theory is recommend for studying people related issues, which is also the case (Javdani Gandomani and Ziaei Nafchi 2016). The basic idea is the mutual connection of data collection, data evaluation and theory building, which is carried out iteratively and circularly (see Figure 1). After the first data collection the material will be evaluated, which draws new samples according to newly created categories and ends when a theoretical degree of maturity is reached (Glaser and Holton 2004). Relevant statements are coded, whereby a distinction is made between open and selective coding. Within a comparative analysis the codes are compared and grouped into concepts, then into categories (Glaser and Strauss 2009).

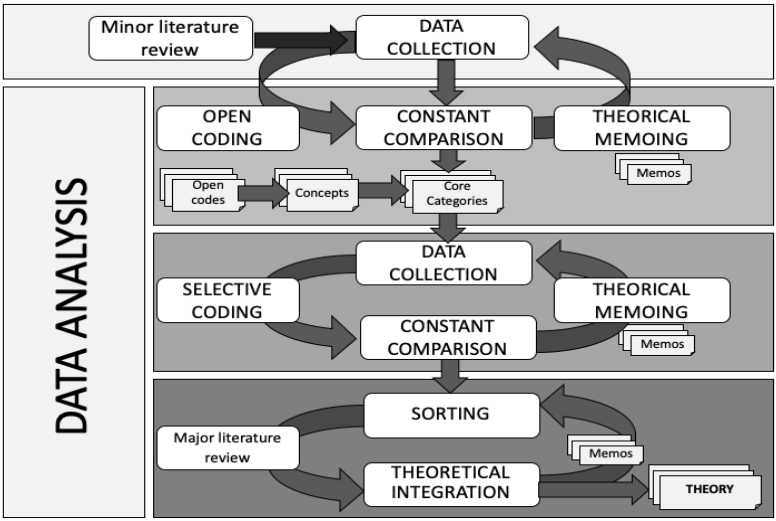


Figure 1: Grounded Theory

Our theoretical sampling will be chosen by 22 participants from different departments. The sample includes quality engineers, managers and also cross-functional employees with problem solving team experience. The participants were selected after there was a circular mail for a general call in the company looking for volunteers. To ensure equal distribution, participants were selected from different hierarchies. The criteria for selection included only participants with at least 2 years of work-experience in cross-functional teams especially in the Quality Management. Two business units (BU1 and BU2) participated in the case study.
The interview lasted for approximately an hour on average and were done on a virtual interview due to the COVID-19 pandemic. Interviews were semi-structured by some general questions about the professional experience, problem solving experience, project background, cross-functional team experience. Table 1 shows the overview of the participants.

Table 1: Participants of the study

Participants	**Role**	**Experience**	**Business Unit**	**Team Size (cross-functional)**
P1	Quality Engineer	2-3 years	BU1	7-10
P2	Quality Engineer	5 years	BU1	7-10
P3	Quality Manager	8 years	BU1	12
P4	Quality Auditor	4 years	BU1	15
P5	Process Engineer	5 years	BU1	7-10

P6	Process Engineer	5 years	BU1	25
P7	Quality Manager	7 years	BU1	15
P8	Director (Quality Management)	12 years	BU1	5
P9	Project Leader	12 years	BU1	7-10
P10	Project Leader	6 years	BU1	13
P11	Quality Engineer	2-3 years	BU1	7-10
P12	Quality Engineer	7 years	BU2	7-10
P13	Product Manager	4 years	BU2	12
P14	Group Leader (Production)	7 years	BU2	15
P15	Process Engineer	10 years	BU2	7-10
P16	Vice President (Production)	20 years	BU1 & BU2	15
P17	Director (Quality Engineer)	15 years	BU2	30
P18	Vice President (Quality)	15 years	BU1 & BU2	10
P19	Process Engineer	6 years	BU2	7-10

P20	Quality Engineer	2-3 years	BU2	12
P21	Quality Engineer	5 years	BU2	7-10
P22	Quality Engineer	5 years	BU2	7-10

Source: Own illustration

The first column shows the participants codes from P1 to P22, which are coded in order to anonymize each participants. The second column represent each job title for each participant. The third column lists the work experience in cross-functional teams. The next column shows in which business units the participants belong to. The participants are mostly equal distributed in the business units. The last column lists the cross-functional team size, in which they usually work.

Using the Grounded Theory's methods to synthesize the interviews by open coding and constant comparison, we followed the methodology of the Grounded Theory. The goal of the different coding is the identification of a pattern to form a theory. In the first step, the transcript was used for open coding. Using open coding, substantive codes are developed during data analysis to describe the phenomenon. As an example for this study and to explain these procedures, the raw data from the interview transcript will be presented for the category *"Practices of the team"*. First, the raw data was analyzed and combined into codes. The following listing serves as an example for simplification.

Raw data: "*During the pandemic the working hours were shorted. We have so many complaints, but no time for real problem solving but rather firefighting."*

Raw data: *"Until now, there has been a separation between technical expertise and methodological expertise, such as problem solving. the separation is no longer clear and this makes teamwork more difficult."*

Raw data: *"For customer complaints, short-term corrective measures are defined and implemented in order to make the customer happy. However, the actual root cause is not found out, although this is only sustainable in the long term within the problem solving methods."*

Code: Problem solving skills

The codes arising from the interviews were constantly compared against other codes. Within this constant comparison step similar codes were identified. In this example, for "Problem solving skills" also codes like "Coordination skills", "Special expertise" and "Communication skill" were identified and grouped together. Each group is on a higher level of abstraction and called concept. In this example, the concept "Balancing cross-functionality and expert skills" emerged.

*Concepts***:** Balancing cross-functionality and expert skills

Also another concept "Balancing different goals and collective decision making" emerged. Again, using constantly comparison methods, the category "Practices of the team" emerged.

Category: Practices of the team

Also the categories "Practices within the organization" and "Practices of the individual" emerged due to the GT method as Glaser (1978) recommends that categorization should relate to each other. To build a theory from the categories, the framework of the Six Cs (causes, consequences, contingencies, conditions,

covariance and context) within the GT is recommended (Glaser 1978). In this paper, theory building has been omitted because the categories that have emerged have already yielded a pattern. The categories that emerged allowed us to form a theory in which multi-level challenges emerge within the individual, the team, and the organization for cross-functional teams during the pandemic. Figure 2 shows the resulting codes, concepts and categories in their dependency of this study.

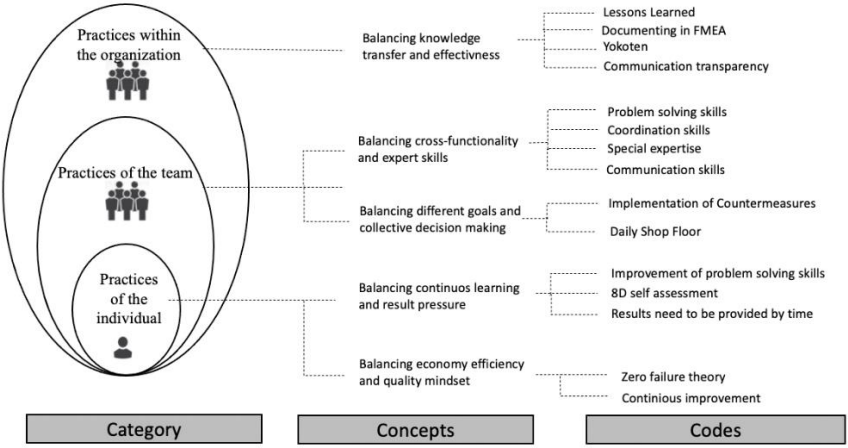


Figure 2: Multilevel theory, own illustration

2 Results

In this section, the main challenges reported by the participants are presented. These multi-level challenges were classified into the level of the individual, of the team and within the organization, which also deliver us the answer for research question "At what level is the interplay between cooperation and competition having an increased impact in operations due to the COVID-19 pandemic? Prior research of coopetition, a double edged sword of

competition and cooperation, has also been classified in similar levels. Coopetition can increase the performance (Ghobadi and D'Ambra 2012, 2013; Lin et al. 2010; Nguyen et al. 2018; Seran, Pellegrin-Boucher, and Gurau 2016; Strese et al. 2016), the knowledge (Chiambaretto, Massé, and Mirc 2019; Ghobadi and D'Ambra 2013; Nguyen et al. 2018), the relationship (Knein et al. 2020; Raza-Ullah et al. 2014; Strese et al. 2016) and innovation (Chen et al. 2020; Chiambaretto et al. 2019; Nguyen et al. 2018; Stipp, Pimenta, and Jugend 2018) within and inter teams. In the following, the focus is set on the basis of the results, how within the teams the cooperation and competition is distorted due to the situation of the pandemic.

3.1 Organizational Challenges

3.1.1 *Balancing knowledge transfer and effectiveness*

On the organizational level, the challenge is to balance knowledge sharing and effectiveness. One of the company's guiding principles is customer orientation. This means that customer complaints in particular must be prioritized and dealt effectively. The focus here is on finding quick solutions for the customer on the one hand, and on finding sustainable countermeasures to avoid future complaints on the other. On effective problem solving, the team members need to work on the problem itself.

We realize that many engineers are stretched to their limits with customer complaints, so we are fostering a collaborative network across divisions where employees can share technical customer complaints through lessons learned activities.

– P8, Director Quality Management

Some cross-functional team members saw lessons learned activities as not conducive for their specific problem, as they did not contribute to problem solving, but rather to problem prevention. Since the processing of customer complaints is limited in time, as they otherwise cause high costs, activities that are not directly related to the complaint are often postponed or not carried out. As Lessons Learned activities can help other cross-functional teams, they are seen as cooperative tasks between cross-functional teams in the organization.

Lessons learned can be helpful in many cases. But to be honest, it's very time consuming to update the complaint into all the tools just to inform other business unit. The information is often not used and now, as we have low capacity, we need more to focus on the current customer complaint itself.

- P2, Quality Engineer

Increasing customer complaints increase the pressure on the entire organization. increased requirements and scarce resources lead to firefighting.

Due to the pandemic, the number of team members has been greatly reduced in recent months. Customer complaints are increasing sharply, so that we often only engage in firefighting. This means that preventive measures such as documentation in the FMEA or in the Yokoten often fall by the wayside.

- P5, Process Engineer

Many people retire, position are put together. Knowledge is getting lost, also communication transparency is becoming worst. Due to the hiring freeze since the pandemic, positions are no longer being filled. The missing positions are being distributed among existing staff. As a result, the flow of communication is no longer transparent.

Many internal positions are no longer filled. I often don't know who to turn to. Communication transparency between the teams are sometimes catastrophic.
- P1, Quality Engineer

In summary, it seems that dynamics between cooperation and competition are being disrupted. In times of COVID-19, Lessons Learned activities are no longer actively pursued, which leads to less cooperation. Due to the shortage of personnel, tasks can no longer be processed effectively, so that cooperation within the organization is also neglected here. On the other hand, competition between employees and teams is increasing because knowledge is no longer shared.

3.2 Team Level Challenges

3.2.1 Balancing cross-functionality and expert skills

With the corona pandemic, the teams have also become smaller along with the capacity restrictions. However, small cross-functional teams also have significant disadvantages. It became apparent, that team members, who had previously worked in the team in an advisory role with technical expertise now also take on coordination tasks. This restructuring leads to tensions within the team, as many new tasks arise for the members.

Up to now, we quality engineers have taken on the role of the 8D team leader. Now, the role of the team leader is shifted to the person, who is responsible for the area where the claim occurred. This means that there are also different team leaders for different complaints.
-P12, Quality Engineer

I am a process engineer and am responsible for the assembly lines. Since I already have more than 20 years of experience in plastic injection molding it is

more important that I work on this as well. Now I also have to coordinate technical customer complaints, which is wasting a lot of my expertise.

-P15, Process Engineer

At the team level, a number of codes emerged, indicating in particular that both more competition and more cooperation between employees has emerged. The experts take on coordination tasks due to shortage of personnel. The quality engineers who coordinate the complaints beforehand get the feeling that they no longer stand out, which leads to more competition. Due to the redistribution of tasks during the pandemic, many employees are no longer familiar with the new tasks. as a result, employees share more within the team and work more cooperatively with each other.

3.2.2 Balancing different goals and collective decision making

Cross-functional teams come from different departments. Since in function-oriented organizations the technical responsibility lies in the anchor department, the goals are also agreed there. This often leads to slightly different goals as cross-functional teams have an common goal.

The main goal of complaint handling is, of course, to find out the root-cause of the complaint and to initiate countermeasures. This requires financial resources, which are often unwillingly spent because the team members also want to use the budget for their own goals.

-P21, Quality Engineer

We try to use daily shop floors to bring people from different departments together. The daily meeting helps to exchange interests and goals, to deal with problems and to distribute new tasks. The cooperation is important to solve problems effectively and interdisciplinary.

-P18, Vice President (Quality)

Due to the corona pandemic, competition for scarce resources is intensifying. Some team members have conflicting goals in their main department and the cross-functional team, so resource constraints increase competition. With the help of daily store floors, they try to bring people closer together in order to increase cooperation.

3.3 Individual Challenges

3.3.1 Balancing continuous learning and result pressure

The participants of the grounded theory felt under pressure due to the increasing demands of management and customers with a simultaneous shortage of resources. The inexperienced employees in particular felt neglected by the lack of continuous improvement training.

Before the pandemic, we still had regular training to improve our problem-solving skills. Now the budget for this has been cut. Many employees who don't have much experience in this are being thrown in at the deep end.

-P9, Project Leader

The customer demands results after a short time. If customer complaints are due to systematic causes, they become more and more expensive over time. Due to the continuous pressure to deliver results, there is a lack of capacity for continuous improvement of problem solving skills.

-P3, Quality Manager

The continuous training of the individual is no longer promoted as strongly as before. In addition, the capacity for further training of the employees is lacking due to the more difficult situation with the customer. As a result, individuals no longer feel valued. The

pandemic has significantly worsened sales and profits. Corrective actions, such as employee layoffs, have upset other employees. Competition between individual employees has increased significantly as employees seek to stand out from the team.

3.3.2 Balancing economy efficiency and quality mindset

Due to the pandemic and the associated measures for global quarantine restrictions, the economic aspects in the company are also clearly noticeable. The change in external factors, such as customer requirements, budget and resource shortages, also changes the mindset of the employees.

I, as head of the quality department, orient my department's goals to customer requirements that must be met. this includes, above all, the zero-defect theory that must be striven for. In times when our department is sparsely positioned, we have to work all the harder on the goals in order not to lose any business. That is why it is all the more important to train employees on this.

-P8, Quality Director

The mindset that management wants to convey to employees in times of COVID19 pandemic is controversial among employees. Rapid changes in vision, in particular, lead to employees becoming confused and not following through.

In our process development department, we always aim to implement countermeasures, which can detect and avoid production failures in the process. In doing so, we try to act economically, i.e. not to introduce any countermeasures that could extend the cycle time of our assembly lines. Now the customer is complaining about so many small things that we are introducing countermeasures just to satisfy the customer, some of which are no longer economical.

-P15, Process Engineer

The target definition of the individual is not clear. On the department level, economic growth is the target definition, but on cross-functional team level the customer satisfaction is defined. Often these individual target contradict, which also leads to more competition.

4 Discussion

In prior research, cross-functional team dynamics were classified in similar levels. The literature deals primarily with the correlation of coopetition on team performance. Luo (2006) has found that at the inter-team level, the performance ability and intensity can be increased through team coopetition. Schneider (2015) complements the paper by including power distance and entrepreneurial orientation. Performance can be further enhanced by including senior management. Leadership style also correlates strongly with coopetition and performance (Strese et al. 2016). Table 2 shows the overview of the coopetition outcomes of the Grounded Theory. In the first column, the categories are taken from Grounded Theory. Column 2 summarizes the results of the respective categories with a focus on coopetition. This also answer the question: *"What are the consequences of unbalanced cooperation and competition on cross-functional teams?"* Column 3 shows the generic bias of cooperation and competition due to the corona pandemic.

Table 2: Summary of Coopetition challenges and impact

Multiple level	**Coopetition challenges due to COVID-19**	**Impact**
Organizational level	→ Less lessons learned activities	→ Less cooperation, more competition between the cross-functional teams.

	→ Less effectiveness of problem solving due to lack of capacity → Less knowledge sharing in the organization.	
Team level	→ Some team members feel they do not stand out anymore. → Some team members needs more information within the team as tasks are redistributed.	→ More competition within the teams in order to stand out due to the uncertainties associated with the pandemic → More competition for scarce financial resource → More cooperation needed as tasks are redistributed.
Individual level	→ Less trainings for the individual. They feel less valued. →Target of the team and the main department contradict. Individual does not have clear target.	→ More competition → More competition as conflicting goals arise

Source: Own illustration

To redress the imbalance of coopetition during the corona pandemic and answer the research question: *"What measures can be introduced to continue to work efficiently, if possible, under the tensions of the corona crisis?",* corrective measures that emerged from the interviews are proposed below.

At the organizational level, due to fewer lessons learned activities and reduced effectiveness of problem-solving strategies, scarce resources and less knowledge sharing, coopetition is strongly

distorted. Consequently, cooperation in the different business units decreases. Across the board, organizations can no longer access each other's knowledge because documentation is neglected. The scarcity of human resources leads to organizations working in a less cooperative but more competitive manner. To restore the balance between cooperation and competition at the organizational level, the following measures are planned: Lean solutions needs to be implemented in order to promote lessons learned activities and at the same time save capacities. Automated IT clouds that work according to the Yokoten principle help to achieve this. In addition, cross-functional teams from different business units should meet more often to exchange topics, which promotes cooperation. Senior management should also prioritize the capacities of the employees in the organizations.

At the team level, many participants stated that they had fewer unique selling points. This was mainly due to the uncertainty created by the staff shortage. This resulted in greater competition between and within teams to stand out. In addition to the staff shortage, financial shortages also led to greater competition. Some team members had to take on additional tasks. It clearly showed that cooperation was needed to learn the new tasks. To increase the cooperation in order to restore the balance between competition and cooperation, the following measures were recommended: Trust must be built between and within the team via senior management. To achieve this, it is necessary for management to convey the right mindset in the difficult times. to this end, effective problem solving and advantages of knowledge dissemination can be conveyed in the case study, for example. Even in difficult times like the corona pandemic, capacities should be used to give value to the employees. For this, especially further clarification in cooperative working can help.

At the individual level, several participants were concerned that they felt less valued. Above all, the suspension of further training

and the increasing pressure from management and the customer led to employees adopting a less cooperative attitude. In addition, some participants stated that the goals within the cross-functional teams conflicted with those of the anchor department. This also inevitably led to a more competitive attitude. The following recommendations resulted from the interviews. Provisions should be made for employee training. In addition, targets should be clearly declared by management. Conflicting targets should be avoided in order to increase the cooperation.

5 Conclusion

Due to the severe economic circumstances resulting from the corona pandemic, challenges arose at several levels of cross-functional teams. Based on the GT study with 22 participants from two different business units, this paper presents the challenges and consequences of unbalanced competition and cooperation associated with the practice of cross-functional teams. There are three main categories: Challenges at the organizational level, at the team level, and at the individual level. The challenges were as follows: Lack of lessons learned activities, scarcity of financial and human resources, lack of knowledge transfer, uncertainty and higher pressure among employees, and lack of goal agreement. These challenges formed a multi-level theory of the imbalanced interplay of cooperation and competition. The measures to counteract the challenges are the implementation of lean solutions, the prioritization of capacities, and the building of trust by management. In addition, management should define clear goals and a strategy to secure the employment of employees to eliminate uncertainties on the one hand, and to ensure profitability on the other hand.

There are also several limitations within this study. The GT method explains only one specific context of the exploratory study,

as it is based on the results of the interviews. This means that codes, concepts and categories that emerged are grounded in the data, which is chosen by research destination. Distortions could occur, as only one example from one company and two business units were collected.

Our study points to other possible research direction. First, the studies into the change of team dynamics in terms of "coopetition" can be further investigated. Coopetition is also analyzed in the literature across companies, with simultaneous competition and the cooperation to improve performance playing a major role. Secondly, the impact of the pandemic on coopetition can be evaluated, especially quantitatively. From this, the impact of performance, satisfaction, etc. can be quantified. Other variables, such as social identity or trust, which mediate or moderate coopetition, can also be surveyed.

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TONY SUSILO WIBOWO: SPIRITUALITY AS AN ENTREPRENEURIAL SKILL – EXAMPLES FROM INDONESIA

Hantos Elemér Business and Regional Sciences Doctoral School, University of Miskolc, Miskolc, Hungary, e-mail: tonysus_sw@unipasby.ac.id

Abstract

The objective of this article is to illustrate spirituality as an entrepreneurial skill through Indonesian Examples. Small and Medium Enterprises (SMEs) plays important role in supporting the economy of a country such as in Indonesia. Most of the SMEs are managed by private business person by carrying out entrepreneurial activities. To achieve business success requires entrepreneurial skills such as critical thinking, problem-solving, risk-taking, innovation, creativity, and collaboration. To increase competitiveness, companies can choose spirituality as a managerial approach that is part of entrepreneurial skills. Spirituality cannot be separated from the role of ethics, culture, religion, and norms that teach goodness. This approach promotes honesty, perseverance, tenacity, mutual help, and care for each other. This approach is seen in several companies as described in this article to provide more value to the products that consumers enjoy.

Key words: Spirituality, Entrepreneurship, Entrepreneurial skill, Examples from Indonesia

Introduction

After the economic crisis in 1998, the Indonesian economy has risen and developed with the main driving force of SMEs. From the experience of the economic crisis, it is

evident that small and medium enterprises are more resilient than large companies. The past decade has seen the rapid development of small and medium enterprises (SMEs) in Indonesia. Government of Indonesia realize that entrepreneurial skills are very important to support national economy, so that the government creating a special program for SMEs.

Entrepreneurial skills as one of the main asset of entrepreneurs are characteristically unique and consistent with spiritual values as a complimentary competence of real entrepreneurs.

In Indonesia, the element of spirituality in running a business can be seen when they run a business, where spirituality becomes an internal drive, as explained by Raco and Tanod (2014) which states spirituality is understood as a divine force, inner self-driving force, and deepest values. He also explained that spirituality was also understood as an Inner self-driving force that moved them to do business.

The study by Nandram (2008a, b) on spirituality mean for entrepreneurs revealed that spirituality has to do with: respect for others, taking time for reflection, basic human and ethical values, fun at work, passion and alignment with the firm. The current phenomenon, someone is not just looking for money for the satisfaction of doing business, they are also looking for other satisfactions in doing business by emphasizing the meaning of spirituality, in this case, their business gives meaning or added value or blessings to others. In the meantime, Jacson and Konz (2006) explain that spirituality is not only important for business, but also it brings about positive impact to industries, employees and societies. Spirituality strengthens entrepreneurs' commitment to develop their business, thereby improving their productivity, and enabling flexibility and creativity both in business planning and

its implementation (Agbim et al., 2013). They also enhance that spirituality creates a sense of community amongst employees.

This situation creates a new trend where spirituality can be a foundation in entrepreneurial activities and is also followed by academic research on spirituality in entrepreneurship. In line with these conditions, Howard (2002) states that there is an explosion of interest in spirituality as a new dimension in the study of management. He emphasizes that it may be the most significant academic trend since the 1950s.

From the description above, it is most likely for business owners could have sufficient entrepreneurial skills to gain success. The element of spirituality in entrepreneurship in Indonesia can be seen in various fields of life, but this discussion will focus on the spirituality as an entrepreneurial skill in Indonesia.

In the meantime, the purpose of the article is to illustrate spirituality as an entrepreneurial skill through Indonesian Examples.

Methods

The possibilities for the research methods used is qualitative approach to help researchers explores perception on identifying the form of spirituality as an entrepreneurial skill. Research data will be extracted from interviews, observation and documentation. The interview participant is the business person/owners running their business for at least three years. The reason to choose business person running their business for at least three years is because of the dynamic and full of competition among others. Survival in the business for at least three years is an initial step for success in the next year. For this research, face to face semi structured interviews will be conducted in Indonesian Language to collect the data.

To compile data for spirituality as entrepreneurial skill, researcher will perform non-participant observations using field

notes to explore deeper understanding in spirituality as an entrepreneurial skills of business person/owners where the researcher observes and records systematically the information obtained from the field. Having collected the data from interviews, observations and documentation, The Software *Nvivo 11 Plus for Windows* is used in data analysis, which includes data coding, data classification, data visualisation, data presentation and data conclusion.

Literature review

Entrepreneurs must have basic characteristics to develop entrepreneurial attitudes. **Kuratko and Hodgetts (2001) explains there are common characteristics (attributes) that are often inherent in an entrepreneur, such as commitment, determination and perseverance, need for achievement, opportunity orientation, initiative and responsibility, persistent problem solving, seeking feedback, internal locus control, tolerance for ambiguity, risk taking propensity, integrity and reliability, tolerance for failure, high energy level, creativity and innovativeness, vision, self-confidence and optimism, independence, and team building. In line with Kuratko and Hodgetts, Filion (2011) emphasis that** the primary characteristics of an entrepreneur is the ability to conceive and implement an activity system. In other words, entrepreneurs are people who are able to translate thoughts into action; they are dreamers and thinkers who do.

In relation to entrepreneurs, entrepreneurship is the practice of starting new organizations or revitalizing mature organizations, particularly new businesses generally in response to identify opportunities. Onuoha (2007). The theory is consistent with the researches claiming that entrepreneur passion, tenacity, and new resource skill affect venture growth through

communicated vision, goals and self-efficacy (Baum and Locke, 2004).

Entrepreneurial Skills

The notion of entrepreneurial skill is widely expressed by experts. Cooney (2012) explained that entrepreneurial activities require skills as skill-sets consisting of entrepreneurship skills, technical skills and management skills. The results of research were addressed by Chatterjee and Das (2016) explaining that empirical study identified five major skill-related dimensions acting as driving agents for entrepreneurial success; they are leadership skills, communication skills, human relation skills, technical skills and inborn aptitude. Similar research was developed by Phelan and Sharpley (2012), entrepreneurs require various skills to develop specific competencies to manage an enterprise.

Entrepreneurs must possess such skills to run enterprises efficiently and to succeed. In the same point of view, Van Vuuren and Nieman (1999) entrepreneurship skills are defined the skills (opportunity alertness, innovation, creativity, ability to interpret successful entrepreneurial role models and risk taking) that were identified as a part of the entrepreneurial skill construct. It implicitly suggests that entrepreneurial skills are important factors in promising business run. Another report by Cooney (2012) has also identified several substantial entrepreneurial skills, such as critical thinking, problem solving, risk-taking, innovation, creativity, and collaboration.

Skills are associated with competence in the process of opportunity identification (and/or creation), the ability to capitalize on identified opportunities and range of skills associated with developing and implementing business plans to enable such opportunities to be realized (Johnson et al. 2015). To differentiate with the concept of competence, Le Deist and

Winterton (2005) proposed a classification of competence. They divided competence into four typologies; cognitive competence, functional competence, behavioral and attitudinal competence, and meta-competence. In their typology of competence, cognitive competence represents the knowledge and understanding, whereas skills are considered functional competencies, behavioral and attitudinal competencies relate to social competence, and finally meta competence associated with acquiring other competencies. According to Chell (2013) Skill refers to proficiency in performance and may be enhanced by practice and training. Pyysiäinen et al. (2006), explain that skills refer to the possibility of learning and adopting exclusive characteristics that are essential for performing entrepreneurial tasks that involve interactions within a social and material environment.

Based from the explanation above, it can be said that the role of entrepreneurial skills can be seen from the business activities carried out by the businessman, which can be seen in the skills in seeing opportunities and developing a business so that it can achieve goals. These skills can be realized in operational activities carried out by business actors by prioritizing entrepreneurial characters such as visionary, confident, genuine, goal-oriented, and having good leadership capabilities.

Spirituality as an Entrepreneurial Skill

Spirituality defined as recognition of an inner life that nourishes and is nourished by purpose and meaningful work, that takes place in the context of a community" (Ashmos and Duchon, 2000). Gibbons (2000) explain that spirituality is a complex term with multifarious explanations which extends from inner wholeness and connection to others. Parrish-Harra (2002) describes spirituality as an evolutionary impulse of shifting focus from personality issues to the consciousness of the essence (self, soul or spirit) and connection to God. Godwin et al. (2016)

emphasize spirituality can inform and influence the cognition and therefore the behaviors of entrepreneurs. Others points of view of cultural modernism, by Morrison et al (2020) focus on three intertwining (spirituality, work and women) mention that women can be financially independent in the Balinese economy due in no small part to their participation in the Balinese spiritual economy.

In other researches exploring factors affecting successes in entrepreneurship, it was concluded that religious duty/honesty factor is perceived to be the best factor influencing entrepreneurial success compared to other factors (Makhbul, 2011). Such finding was consistent with the one of Kriger and Hanson (1999) confirming that good values (i.e.: honesty, spiritual, and ethical aspects) can create a healthy organization. Some experts mention that spirituality and religiosity are often using interchangeably. There are many points of view to uncover spirituality. **Zinnbauer et al, (1999**) mention that **Three polarizations between views are held by behavioral scientists, differentiating spirituality and religion. Some people argue that spirituality is subsumed by religion (Hill et al, 2000), whereas others see religion as one dimension of spirituality (Nolan et al, 1997). Other researchers said that "religiosity can but does not necessarily include spirituality" (Gough et al, 2010), but others countered by one that claims, "Outstanding spiritual leaders developed most religions" (Hay et al, 2006). Rather simplistically speaking, Horsburgh (1997) maintains that religion focuses on ideology and rules (of faith and belief systems), whereas spirituality focuses on experience and relationships which go beyond religion (Lukoff et al, 1992).**

Spirituality offers an alternative to the prevailing psychological perspective on recovering from failure (Singh et al, 2015). In wider understanding of spirituality, Raco and Tanod (2014) explain that spirituality is understood as a divine force,

inner self driving force and deepest values. In Indonesia context, Raco and Tanod (2014) emphasis that business should promote the welfare of other. Profit and benefit that is the outcome of business activities should help people. Research findings by Sirine and Kurniawati (2018) confirm that hope/faith and meaning/calling which are part of spirituality, give influence positively and significantly on the entrepreneurial success. Similar findings by Wibowo (2019) conclude that the impact of changes in entrepreneurial intention after participating in entrepreneurship education is far greater for students who have a higher spiritual well-being.

From the same point of view, spirituality is an impetus from within a person to carry out good activities following the values adopted based on ethics, culture, religion and norms and is applied in managing the company to achieve expected outcomes such as increased product sales and competitiveness.

Conceptual Model

The economic development of a country cannot be separated from business activities through entrepreneurship. To carry out entrepreneurial activities, entrepreneurial skills and spirituality are needed as a complement to business people in Indonesia. This spirituality is manifested in business activities and the processes therein, for both SMEs and established companies. By implementing spirituality as entrepreneurship, it is hoped that prosperity can be achieved as a company goal.

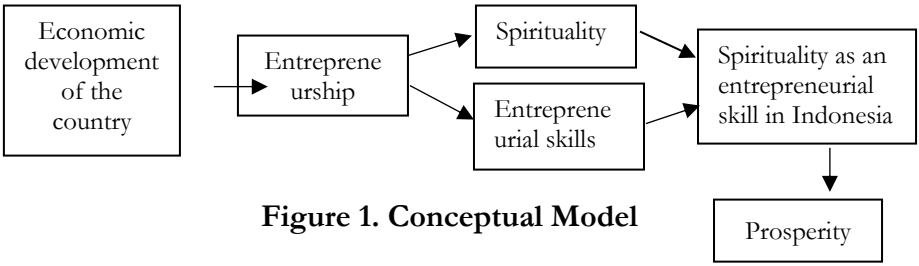


Figure 1. Conceptual Model

Examples from Indonesia

Research on spirituality as an entrepreneurial skill in Indonesia is still not very popular. The findings from Sirine and Kurniawati's (2018) research in Central Java Indonesia, state that spirituality dimensions (vision, hope/faith, altruistic love, meaning/calling, and membership) significantly influence the entrepreneurial intention, entrepreneurial networking, entrepreneurial capability, and entrepreneurial success. On the other hand, spirituality has no impact on improving the welfare of business owners and employees. This is stated by the research of Wuri et al (2019) which states there is a significant effect of spirituality toward well-being of self-employed, but it is still lower compared to other groups of business owners and employees.

In the same point of view, the spirituality approach can be carried out by anyone, not least in large companies such as the Garudafood Group company, where Sudhamek (2017) said, the mundane and spiritual aspects are not secluded, only separated. He also explained that the dichotomous mind set cannot be applied because in fact every living phenomenon always displays a close relationship between one factor and another. With this concept, the company as a business entity, profit is the main goal sought, but not the end and the only goal. With the spirit of success, the company develops by emphasizing positive values such as honesty, perseverance, and tenacity accompanied by prayers encapsulated in the company's principles and motto, which are further outlined in the company's vision and mission for all employees to practice.

The description of spirituality as an entrepreneurial skill in Indonesia is also seen in the spiritual activities of entrepreneurs by becoming members of religious activity groups according to their respective religions, such as the Indonesian Catholic Business Prayer Association (PERDUKI), Indonesian

Buddhist Scholars and Professionals (SIDDI), Indonesian Muslim entrepreneurs. community (KPMI). Even for Islam, there are quite a number of employers' organizations. Large religious organizations such as Muhamadiyah and Nahdatul Ulama also develop entrepreneurship with the spiritual spirit of their members, which in this case are entrepreneurs. Muhammadiyah developed a business-oriented organization called Muhammadiyah's young entrepreneur network (JPMU), besides that there is also the Muhammadiyah Merchant Network (Jaringan Saudagar Muhammadiyah). Nahdatul Ulama develops spirituality in entrepreneurship through the Nahdliyin Entrepreneur Association which has been established since 2011 with one of the goals of strengthening character and increasing the competitiveness of entrepreneurs with Islamic business ethics.

From the explanation above, spirituality as an entrepreneurial skill is still the pros and cons because the results of research vary from one another. Spirituality as an entrepreneurial skill can be a driving factor for business success, but some have no impact on business success. The driving factor for business success is because spirituality puts forward positive elements such as honesty, persistence, belief, and tenacity that produce products and services with added value. The element of spirituality is also a factor in the success of a business for business people because, with spirituality, business people can make riskier decisions with greater results. The opposite point of view where spirituality has no impact on the welfare of business owners can be put forward several possibilities such as the already very good level of welfare and other entrepreneurial skills (besides spirituality) that dominate the business process. Whereas for employees, one possibility is job dissatisfaction which can lead to decreased motivation to work so that it can reduce the level of welfare. From the

perspective of business actors, spirituality is a significant part of business success because it is based on good values where mundane aspects and spirituality can go hand in hand. The existence of spirituality as part of entrepreneurship is also supported by religious organizations in Indonesia, not forgetting the spiritual side of doing business.

Conclusions

The economic progress of a country cannot be separated from the role and support of business actors in running a business. In Indonesian context, the success of a businessman requires spirituality as an entrepreneurial skill. Spiritual values such as honesty, perseverance, tenacity, mutual help, and care for each other, can be a differentiator for products and companies to encourage creativity and innovation and increase productivity. Several companies in Indonesia have successfully applied a spiritual approach in doing business. Spirituality as an entrepreneurial skill can be one of the basics in managing a business, such as in Indonesia, where business actors run a business as a form of worship to serve and respect consumers. Based on the spirituality concept, they feel confident that their efforts will be successful.

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SECTION G 1: Regional disparities and territorial problems

CSEH BALÁZS – VARGA JÓZSEF: THE GEOPOLITICAL POSITION OF TURKEY AT THE BEGINNING OF THE 21ST CENTURY - AN OVERVIEW OF HUNGARIAN RELATIONS

[1] Institution for Finance and Accountancy, Alexandre Lamfalussy Faculty Of Economics, University of Sopron, Sopron, e-mail: cseh.balazs1990@gmail.com
[2] Kaposvár Campus, Hungarian University of Agriculture and Life Sciences, Kaposvár, e-mail: varga.jozsef@uni-mate.hu

Abstract: In our present paper, we attempt to formulate a few thoughts and observations and to back up the historical, economic example of Turkey's 21st century geopolitical situation and current trends. Turkey is a country facing a crossroad between the East and the West, which is inevitably of great importance in the conflict between the two civilizations. Turkey is a major factor in crisis-related problems such as migration problems, Islamic expansion and crisis-stricken bombs in the European Union. The relationship between the European Union and Turkey and their relationship determines their future destiny. Due to Hungary's historical traditions, its current role and its policy within the EU, it can also play an important role in broadcasting. The study also commemorates the Institute of Islamic Research that operated successfully at the University of Kaposvár between 2013-2018.

Keywords: Turkey, geopolitics, economic relations, intermarium, EU

1. INTRODUCTION

There are several points of connection in the history of the countries in focus here. As to their geographical position, they both have a key strategic role. In terms of religion, both lie on the

boundaries of world religions or denominations. The close international relations of the two countries make this discussion really topical.

Turkey is a transcontinental state - with a smaller part of it belonging to Europe and a larger part to Asia. This geographical location is what makes Turkey a geo-strategically important country. Furthermore, it is this location - being on the border of two continents - that also defines Turkey's character. Turkey's crucial role is, therefore, not only due to its geographical, but also, in several respects, due to its "dividing-line" position; it has a European and Asian character both culturally and spatially. Turkey covers an area of more than 780,000 km² and geographically it forms a spatial "bridge" between the Middle East and Europe, as well as between Russia and Central Asia, since these geographical borders lie within the same country. Although there are distinct cultural differences between the territories, Turkey is frequently referred to as part of the European continent. Despite this, from a geographical point of view, Turkey is not considered as part of Europe, but its history and culture do have many ties to the "old continent", and perhaps most importantly, the country has made every effort to become part of Europe (up until the turn taken in recent years). Turkey forming a bridge between Europe and Asia is what makes it strategically important to the European Union; to explain, it can be regarded as a gateway of expansion towards the Balkans, the Caucasus, and the Middle East. It was from this situation that the so-called "Turkish question" arose. The main issue in this respect is to overcome the problems arising from religious-cultural differences and the mutual recognition of each other's identities. (Kabasakal - Bodur, 2002) The two most important principles of the EU are the following: every country and every person deserves equal respect, and from this it follows that the importance of individual rights (of a country's autonomy) is a universal factor, and so it is entirely up to the individual to

decide their religion and belief. The other fundamental principle is the recognition of cultures, their equality, the importance of the traditions of communities, and the image of a truly multicultural Europe. However, Western individual values cannot be recognised in Islam, which is based first and foremost on collectivism. The question arises, then, to what extent this pre-modern social conception is prevalent in Turkish society; and to what extent the conflict situation between traditionalism and modernity is characteristic, typical of it. These are important issues, because in addition to the Turkish people - also called white Turks - who had studied and socialised in Western Europe and who were the great governors and leaders of the past, there is a second, poorer, more religious, so-called black Turkish stratum in the countryside. This latter stratum is, from a Western perspective, characterised by a more underdeveloped social system. However, secular traditions and the reforms of Ataturk have not left these areas completely unchanged either, but society continues to struggle with identity problems. The only feasible solution is via comprehensive reforms that have been introduced in recent years. Since Kemal Atatürk's "resurgence," Turkey has undoubtedly chosen - which is to say, it has set itself the goal of - rapprochement and accession to the West. This can be clearly seen if we take a look at the radical steps that the Republic of Turkey has taken in this direction ever since its inception; namely, a series of reforms followed by language reform, the separation of state and church, the legal system, and the "Westernisation of the political sphere". (Huntington, 1981)

In the broad historical and geopolitical dimensions outlined, it is rather difficult to define Hungary's position. We are a small country at the meeting point of Western and Eastern Europe, or, more precisely, on the edge of Central and Eastern Europe. It is the consequence of this position that, in the past, Hungary, along with other neighbouring countries, found itself in the "collapse zone" of the Great Powers. The "range" of the great empires

extended right until our country's territory. The two long, difficult periods resembling a kind of cataclysm in our history are the 150 years of Turkish and 40 years of Soviet rule. The "Ferry" metaphor of Endre Ady aptly illustrates Hungary's changing geopolitical situation in the historical process (or the historical flow). Today our situation is different; we are not knocking on the Gate of the West. We ourselves have become the gateway to Eastern and South-Eastern Europe, and as members of the European Union, we now have a mission to mediate between different parts of the European continent. (Bernek, 2018b) This is definitely true of our geographical location and our bilateral political relations, while it is not really true of our role in the European Union; there is visible skepticism in this direction.

After the change of regime had taken place, Hungary turned in the Euro-Atlantic direction and started preparations to join the NATO, the EU and the Schengen Area. Meanwhile, several waves of migration had reached Hungary's borders. To furnish some examples, there were the Romanian and GDR invasions of 1989, and, in the 1990s, refugees running from (or due to) the Yugoslav civil war and the events currently taking place in Bosnia appeared on the southern borders. These appearances were duly handled by the political leadership of the time, as well as the provosts, especially the border guards. Later, due to the events in Afghanistan, large numbers of refugees and migrants appeared on the eastern borders. In the meantime, during the Schengen preparation period, the Border Police Department was modernised with the help of available means and EU subsidies, and its staff was prepared and trained mainly on the basis of German experience and contacts. In this process, first the EU became a full member of Schengen in 2004 and then Hungary followed in 2007 (21 December). As a result, border control at the internal borders was abolished and the protection and supervision of external borders were strengthened. From 2008 onwards, world political events

constantly posed security challenges to the guards of the Hungarian (EU-Schengen) external borders. To list some of these, there was the world crisis of 2008; there were crisis points like Iraq, Pakistan, Afghanistan; there was also the double negative impact of the Arab Spring of 2011 with the eradication of the so-called protective umbrella that had been held over Africa up till then and the role of catalyst played by countries that triggered massive migration; furthermore, there was the protracted Syrian civil war; and global warming.

Turkey's political orientation (even if not its democratisation) and the interests of the West happened to be in harmony. With the end of World War II and the emergence of a bipolar world order, the value of Turkey's geo-strategic position has risen and continues to remain just as significant today, thanks to the crucial strategic position of the Middle East. This region is one of the most important arenas for the raw material base (mainly oil) that caters to the world's economic interests. Due to the country's geographical location (at the intersection of Europe, Asia, and the Middle East, the Mediterranean and the Black Sea Straits), it was obviously predestined to become a NATO member, and it is also no surprise that it aspired to share a common market, in other words, it wanted very much to become part of the European Union - opinions are actually divided as to whether a past tense should be used in this regard. Turkey's accession to the NATO went smoothly, owing to the fact that it is an essential factor in the military field (it still has one of the largest land armies in the world today). Turkey had already applied for EU membership in the early 1960s (1963), but its (full) membership is still delayed and the future date of accession is still very vague, even though more than half a century has elapsed. Paradoxically, Turkey, as the only non-EU country, joined the full customs union of the European Union ten years ago. Thus, as a participant in Western European economic integration, with its huge market (more than 80 million

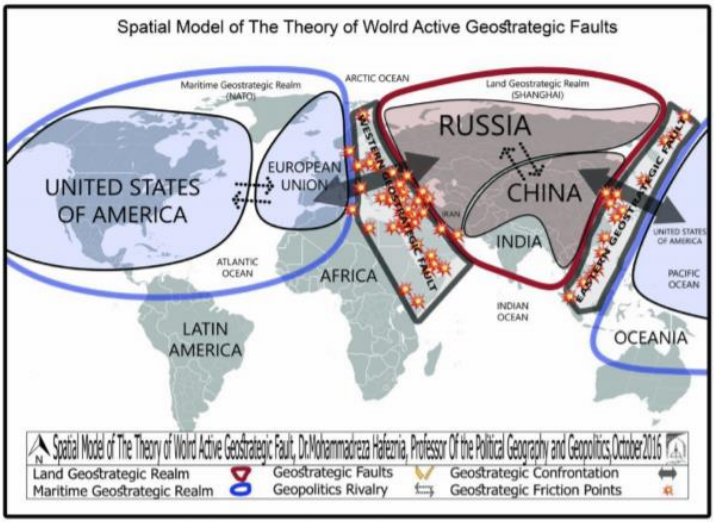
people), it provides transnational companies with the opportunity to mutually benefit each other in terms of trade, capital movement, and services. From an economic point of view, which is to say, when regarding it in terms of the Maastricht criteria, even according to Western analysts, everything is fine in the country. However, concerning other areas, Turkey's political acceptance and inclusion in the Western democratic community (gaining full EU membership status) is still uncertain. Turkey has been struggling for decades with alternating cycles of crises, recovery and decline (both in terms of economic and political democratisation). Since 1923, every government has been lobbying for modernisation, but, in reality, there has been a small economic-political elite in power for a long time. Although the most significant change began in the 1980s, underlying traces of change can be found much earlier than that in Turkish society. Hard-line coalitions operated in line with the power of governments for a long time. (Kaya - Kentel, 2004) Looking at the current situation, however, it can be seen that economic modernisation has already been separated from political modernisation, that is, from democratisation. The government and army have become much stronger, the power of Erdogan is unquestionable. Turkey has been open to the Union for decades and it is also a gateway to the west. If this gate closes, the country will inevitably drift eastward, and it will be forced to strengthen its relations with the Islamic world, with all the external and internal political consequences that this will entail.

It is important to provide a clear definition of the word "geoeconomics"; it is the political, temporal, and spatial study of the economy and of resources. Its focus is on the connection between the economy and politics - not in general. Furthermore, it presupposes a territorial (geographical) approach, since such an examination is always targeting a specific region, a country, or, possibly, an association of countries. Geoeconomics evolved from

geopolitics. Similarly to geoeconomics, geo-strategy is also a specialisation within the field of geopolitics. In fact, it is a specifically geographical interpretation of international relations and foreign policy. In other words, it focuses on how political and military planning are limited or informed or influenced by such factors as population, infrastructure, arable land, climate, hydrography, topography, minerals, and raw materials. Just like any other strategy, geo-strategy serves to find the most appropriate means to achieve a given goal. The object of geo-strategy in this respect is how the resources (cf. population, infrastructure, arable land, etc.) of an area (be it a micro-region, a region, a country, or a group of countries) can be used in order to achieve certain geopolitical goals. (Bernek, 2018a)

The region and the countries in focus here lie on the border of several global collision zones, as shown in the figure below:

Figure 1: Global Collision Zones in 2016



Source:
http://journal.iag.ir/article_55776_e06faac07ea95f3e4289580ed8f0ac04.pdf

We would like to highlight Bassam's statement that, since September 11, 2001, there has been a sharp shift as to the points of view and the focus of Western authors towards the relationship between jihad and the holy crusades, and they highlight its timeliness, both from an Islamic or Christian perspective. However, the most important question today is whether the two civilisations will be able to coexist peacefully; that is, whether the peace of civilisations can and will be achieved in the 21st century. Looking at history, it teaches us the lesson that the rapprochement of the West and Islam is only possible if religion and politics are strictly separated. There has always been a bridge between the Islamic world and Europe that was constructed on the ground of rationality; I would say the mortar of this bridge was rationality and never the connections between religion and politics, because the simultaneous appearance of these two always led to jihad or crusades. (Bassam, 2003)

2. MATERIAL AND METHODS

During the composition of this study, my aim was to process the chosen topic in a descriptive manner, as it is an extremely complex one, and, therefore, empirical data analysis is not feasible. Content analysis and the processing of relevant literature were used as methods. Among empirical research techniques, it seemed to me that the intervention-free version would be most appropriate. The significant advantage of non-interventional studies is that the research is carried out at a sufficient distance from the realisation of the investigated problem, and thereby it excludes the possibility of interfering with the processes. As to content analysis, it is a technique of data collection, which makes it possible for the

researcher to collect and analyse information from books, magazines, the press, radio, and television. During content analysis, my observation units coincided with my analysis units; in other words, during data collection, in order to amass empirical data, I resorted to social products, which were most often different documents. Accordingly, I used this method primarily for the analysis of diverse instances of communication; for example, the typical subjects of my analysis were instances of internet communication, statistical data communication, textbooks on various topics, and other publications.

3. RESULTS AND DISCUSSION

Turkey's geo-strategic position is largely determined by its economic position, its economic indicators and its foreign trade and international trade positions. To summarise this, some data on the most important indicators are presented here:

Table 1: Indicators of economic positions between 2010 and 2018

	2010	**2011**	**2012**	**2013**	**2014**	**2015**	**2016**	**2017**	**2018**
GDP (billion USD)	771,9	832,5	874,0	950,6	934,2	859,8	863,7	852,7	771,4
GDP per capita (USD)	10672	11336	11707	12519	12096	10949	10821	10514	9370
GNI per capita (USD)	10430	11230	11870	12510	12560	11960	11180	10900	10420
GDP growth rate (%, year / year)	8,5	11,1	4,8	8,5	5,2	6,1	3,2	7,5	2,8
Growth rate of industrial	11,9	19,1	4,8	10,3	5,5	5,0	4,6	9,2	0,4

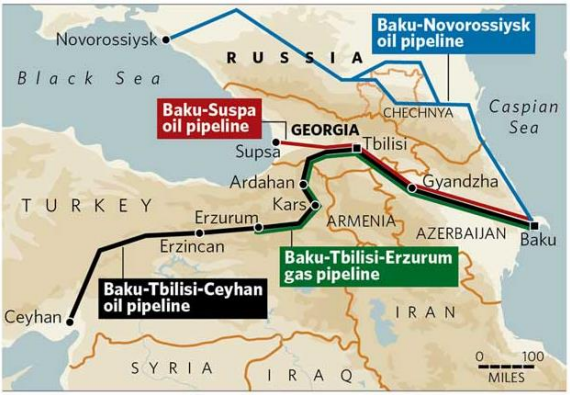
production (%)									
Inflation (consumer prices,%)	8,6	6,5	8,9	7,5	8,9	7,7	7,8	11,1	16,3
Exports of goods and services (billion USD)	157,8	185,3	206,8	211,7	222	200,7	189,7	211,2	227,7
HDI (Human Development Index)	0,743	0,759	0,765	0,781	0,792	0,800	0,800	0,805	0,807
GCI (Global Competitiveness Index)	59,4	60,7	61,2	63,6	63,6	63,8	62,5	63,1	61,6

Source: http://data.worldbank.org/country/turkey (own edition)

Turkey's dynamic market economy is increasingly driven by the industrial and service sectors, even though it is traditional agriculture that still supplies 25% of jobs. Privatisation has been ongoing since 1984 and it has brought about a reduction of state involvement in industry, banking, transport and telecommunications, so it is the growing middle-class comprising of entrepreneurs that boosts the economy, alongside the traditionally large textile and clothing sector. The automotive, construction and electronics industries are becoming increasingly important, and their significance within Turkey's exports has grown beyond that of textiles. Operational as of May 2006, the Baku-Tbilisi-Ceyhan oil pipeline has been able to deliver up to 1 million barrels of oil per day. Several gas pipeline projects are

underway to bring Central Asian gas to Europe via Turkey, as illustrated in the map below:

Figure 2: Gas and oil pipeline in Anatolia



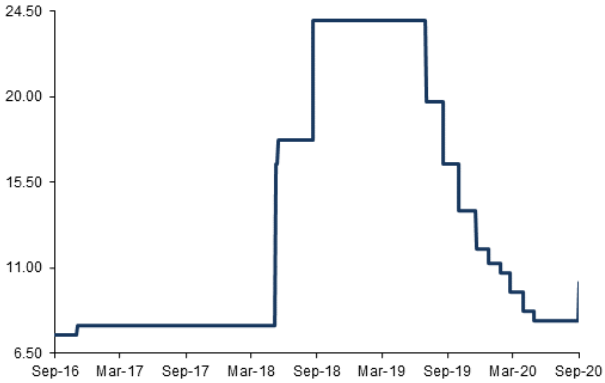
Source: https://www.independent.co.uk/news/world/europe/battle-for-oil-eu-rsquo-s-hope-to-bypass-russian-energy-may-be-a-pipe-dream-891499.html

After Turkey's severe financial crisis in 2001, financial and fiscal reforms were implemented as part of an IMF programme. (Keyman - Koyuncu, 2006) The reforms managed to strengthen the country's economy and, after their introduction, the economy went through a rapid growth at an average annual rate of 6% until 2008. In 2009, GDP declined due to the poor state of the global economy and tight fiscal constraints, but Turkey's well-regulated financial markets and banking system steered the country through the global financial crisis. Following the recession, exports returned to normal levels by 2010 and GDP growth accelerated to 8.5%. Between 2010 and 2017, the Turkish economy gained strength by an average of 5%, with construction being one of the main drivers. Compared to 2018, the annual GDP growth in 2019 fell from 2.8% to 0.9%. As to last year, Turkey's economic performance has shown steady improvement. On an annual basis

GDP growth in the first quarter of 2019 declined by 2.3%, in the second quarter it slowed down to 1.6%, then during the third quarter it became 1.0%, and, lastly, in the fourth quarter it reached 6.0%. The country is also doing well in terms of investment, with $15 billion of foreign investment having come into the country between 1984 and 2002, and then this amount climbed up to $209 billion during the period between 2003 and 2018. Turkey has more than 65,000 foreign companies. Turkish exports in 2019 amounted to 171.1 billion USD, which is an increase of 18.9% when we compare it to 2015 and 1.9% compared to 2018. Turkey's main export partners in 2019 were Germany, the UK, Italy, Iraq and the US. As to Turkish imports in 2019, they amounted to USD 200.7 billion, which, when put into the context of earlier years, means a decrease of 3.2% when compared to 2015, and a decrease of 10% compared to 2018. Turkey is characterised by a relative absence of current account balance, an uncertainty concerning monetary policy, and palpable political unrest in its neighbouring countries, all of which makes its economy vulnerable and consequently dependent on the confidence of investors that is rather unstable/volatile. The problems of the Turkish economy and the need to address them were already evident before the presidential and parliamentary elections brought forward to June 2018, and the formation of a new government was therefore met with heightened expectations. The transition to a presidential system did bring about concrete developments but these did not reassure the market, which was reflected by the fact that the value of the lira kept falling. The situation was further exacerbated by the stand-off between Ankara and Washington, which also took shape in US economic sanctions. In an attempt to reassure the markets with a plan to restructure the economy and financial system as soon as possible, the head of the economic summit, Berat Albayrak, who happens to be President Erdogan's son-in-law, has embarked on active diplomatic visits to convince major Western partners that it

is unlikely for Turkey to be able to solve its economic problems on its own. Ankara is heavily dependent on the goodwill of foreign investors and the international financial world in general. The currency crisis of 2018 resulted in a 15-year high concerning year-over-year currency depreciation; it exceeded a staggering 25 percent. Even before the 2018 elections, President Erdoğan had kept pressurising the Turkish central bank about its monetary policy. This was primarily because of the high base rate (partly on economic and partly on religious grounds), which he saw as detrimental to economic performance. From its peak in October 2018, inflation slowly started to decrease and in September 2019, growth rates were again single digits, but then rose again above 10% in November. The graph below illustrates Turkish monetary policy:

Figure 3: Turkish monetary policy between 2016 and 2020



Source: https://www.focus-economics.com/countries/turkey/news/monetary-policy/central-bank-unexpectedly-raises-interest-rate-in-september

Compared to a year earlier, consumer prices in January 2020 increased by 12.15%. This is the highest since August 2019, and it has been the third consecutive month with a palpable increase. In March, consumer prices have risen by 11.86% on a yearly basis, but compared to 12.37% in February, the pace has slowed somewhat. The significant weakening of the Turkish lira has also been fuelled by the strengthening of the USD, with economies carrying a dollar-based debt, including Turkey, finding it increasingly difficult to repay theirs. The Achilles' heel of the Turkish economy is clearly "dollarisation". This does not only mean that the country is indebted in USD, but also that, in terms of currency, the basis for settlement between Turkish market players is not the lira, but the US dollar. The 2018/19 Turkish economic crisis has brought about a rise in unemployment, reaching 13-14%. This means that officially there are around 4.4 million Turks of working age looking for a job today. The spread of the coronavirus epidemic in Turkey has been relatively slow, but in April 2020 the number of infections has dramatically risen, which could seriously hurt the already struggling Turkish economy. The inevitable effects of the outbreak - loss of tourism, less economic activity - are hitting a Turkey already in bad shape: the Turkish lira has been weakening almost non-stop for two years, public debt is high, foreign currency reserves are drying up, and unemployment was already at 14% in January, before the outbreak - and is expected to rise further. The downturn is already palpable in the automotive and electronics industries. Turkey's trade in goods with its major partners has also witnessed a significant decrease; namely with China, Italy and, due to the closure of its borders, with the Eastern countries. Looking at it from a different angle, however, if the epidemic is properly managed and market players receive adequate support, the export-oriented Turkish economy could eventually benefit from changes beyond the necessary crisis management, such as an increase in exports and a

strengthening of its economic position towards the European Union. Since the outbreak of the coronavirus epidemic, there have already been tangible signs of this, notably in Turkish textile exports, and a steady increase in the number of orders from the European continent in the steel, chemical and construction sectors.

Table 2: The main features of foreign trade in 2019

Key export partners	Germany (9%), United Kingdom (6.3%), Italy (5.4%), Iraq (5.2%), USA (4.7%), France (4.5%), Spain (4.5%), Netherlands (3.2%), Israel (2.5%), Russia (2.3%), Romania (2.2%) United Arab Emirates (2.1%)
Main export products	vehicles, machinery (including computers), iron and steel, plastic, iron, steel and plastic products, clothing and accessories, electric machinery and equipment, precious stones and metals, mineral fuels (including oil)
Export	$ 171.1 billion (2019)
Import	$ 200.7 billion (2019)
Key import partners	Russia (11%), Germany (9.2%), China (9.1%), USA (5.6%), Italy (4.4%), France (3.2%), India (3.2%), South Korea (2.7%), United Kingdom (2.7%), Spain (2.1%), United Arab Emirates Emirates (2.1%) (2019)
Main imported products	mineral fuels (including oil), machinery (including computers), electric machinery and equipment, iron and steel, precious metals and precious stones, plastics and plastic products, vehicles, organic chemicals, medicines, medical equipment

Source: http://www.worldstopexports.com/turkeys-top-10-exports and http://www.worldstopexports.com/turkeys-top-10-imports/ (own edition)

The contractual and institutional framework for Hungarian-Turkish economic relations has already been well established, with a number of agreements in force between the two countries: on economic cooperation, on the promotion and protection of mutual investments, on environmental protection, veterinary, civil and commercial legal assistance, road transport and aviation. Cooperation in the fields of economy, energy policy, technology and science, as well as agriculture is all facilitated by inter-ministerial committees involving the relevant professional associations and companies. Based on the terms of the Customs Union between Turkey and the European Union, which has been in operation since 1996, our industrial and processed agricultural products receive duty-free treatment. Market access for certain agricultural products is facilitated by the 1998 Association Council Decision, amended in 2006. Services and public procurement are not covered by the customs union. Negotiations concerning Turkey's EU membership began in October 2005, which further improves trade conditions and economic relations through the process of integration and harmonisation. Due to their geographical location, both Hungary and Turkey are of particular economic and commercial importance; mainly in terms of their trade in goods and logistics. Moreover, Hungary, as an EU member, offers Turkey a good opportunity to enter a market of 500 million people. For Turkish companies there is a lot of potential in the investment promotion measures introduced by the Hungarian government, especially in the fields of logistics, construction and IT.

4. CONCLUSION

Despite its significant modernisation, Turkey seems to be facing a lot of difficulties in world politics. It is a multi-ethnic state. Islamic fundamentalism poses a threat to progress. Turkey needs to find friends among the countries of the European Union that are less distrustful of it, such as Hungary, which has strengthened its external relations with Turkey in recent years. In this endeavour, Turkey regards Hungary, alongside Germany, as a state committed to the policy of opening up to the East. For Hungary, the series of multilateral agreements with the Erdogan government, especially the economic ones, are important. Looking ahead, when it comes to EU membership, while waiting for political consolidation within Turkey, our country is a willing and helpful partner of this "kindred" nation with common historical, genealogical roots. Having successfully achieved Croatia's EU membership through clever diplomacy, we have managed to become friends. Our diplomatic cooperation with Turkey may turn out to be a great success for European foreign policy even. Turkey's accession to the EU hinges on the acceptance of Islam. It is most probably Turkey's Muslim religion rather than its economic performance that causes the delay for EU accession, as well as its political and economic reasons: the EU has begun to put a stop to the creation of a culturally diverse entity, especially in view of the conflicts already within its borders. The war in Bosnia has also drawn attention to Muslim ethnic groups in Europe. There are Muslim minorities in many countries in the Balkans, especially in Albania, Bosnia, Macedonia and Kosovo (mainly Albanian), and in Bulgaria (Turkish), which could become the root of ethno-religious conflicts like those in Bosnia. This country's integration and the integration of the Turkish Muslim population already living in the West could become a key issue for the future of Christian Europe and the EU. Due to its history, Hungary has almost all (historical) experience in this field. (Balázs, 2015)

The second cold war era can already be felt, especially between the United States and Islamic fundamentalists, and it plays a significant economic and strategic role in aspiring Turkey. Ankara exerts a growing influence on the Arab world and on the Islamic states of the former Soviet Union, and Israel's role is gaining significance under increasing Turkish military and political pressure. It is important to see that the dramatic decline in population growth in developed countries, especially in Europe, is bringing about significant cultural, economic and social changes and is reorganising immigration policies. The opening up to the East is fundamentally important, because countries need people, the competition for workforce has started. I would like to draw attention to an interesting theory that would bring Hungary closer to Turkey's relatives. This is the so-called Intermarium theory. (Chodakiewicz, 2012) Intermarium is still a concept, but it could become an alliance with the growing political weight of the V4 and the involvement of Hungary, which enjoys the support of the global power and which forms the border between Russia and Europe, according to Friedman (Friedman, 2017). The future member states of the 'Intermarium', with the exception of Slovakia, are not members of the eurozone. On the other hand, they have a highly skilled and cheap labour force and are economically the most dynamic part of Europe. This area, Friedman writes, by the 2050s, will challenge Western economic hegemony currently dominating the European economy.

The relationship between Islam and the Western world is an economic and political issue of the 21st century. Interfaith tolerance and a policy of mutual acceptance may be the only way to ensure peace in the future. Religious isolation and intolerance may complicate and prevent complex solutions to global problems in the coming centuries. Turkey and Turkish politics are responsible for mediation between the Islamic world and the West, which Hungary can also promote. Because of its geopolitical, geo-

strategic and economic position, if Hungary is the "gateway", Turkey can be the one balancing or tipping the scales. These two countries can play a decisive role regarding the conflicts and destinies of the two great civilisations (Islamic-Christian, West-East).

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DR. EPERJESI ZOLTÁN: THE ROLE OF THE EUROPEAN INVESTMENT BANK IN REDUCING REGIONAL DISPARITIES IN THE EUROPEAN UNION

Department of International Economics, Wekerle Sándor Business School, Budapest, zoltan.eperjesi76@gmail.com

Abstract

Regional disparities have always been present in the history of the European Union that has become more and more significant and intense on the occasion of the continuous enlargements of the integration. The European Investment Bank (EIB) as a policy driven development of the European Union plays a crucial role in reducing these regional disparities and fostering the social and territorial cohesion of the union by providing funds at favourable terms. The EIB, on the path of considerable metamorphosis, is being transformed to a so called climate or green bank, having simultaneously two task to fulfil, namely to strengthen the European Union's position on the multi-polar global market and secure a just transition for those regions that are mostly hit by the measures taken for a climate-friendly and environmentally sustainable economy.

Key words: climate bank, just transition for all, Paris Agreement, European Green Deal, renewable energy sources

1. Introduction:

The European Investment Bank was established in 1958 in Luxembourg following the Treaty of Rome, which created the European Community (EC). The EIB is the largest multilateral financial institution in the world exceeding even such better-known institutions as the World Bank and the International Monetary Fund. As a policy driven bank, the EIB always follows and adopts the long-term objectives and development strategy of

the European Union (Net 1). Its task is to contribute to the balanced and steady development of the common market by financing investment projects on a non-profit-making basis. As a supranational financial institution, the EIB aims to strengthen the economic and social cohesion of the integration by financing infrastructural, educational and health care projects contributing to the reduction of regional disparities and inequalities and enhancement of competitiveness. The bank lays great emphasis on the financing of the small- and medium sized companies (SME) by using the global loan mechanism as the SMEs employ around two-third of the working population of the member states, so it is crucial for the EU that they can cope with the big multinational companies. To meet this challenge the bank decided to adopt the "global loan mechanism" developed by the World Bank. In this mechanism a loan is provided to a financial intermediary that in turn provides an equivalent amount of funding to their smaller clients, namely the final beneficiaries (Thomson-Bianchi, 2019, 9p). In that case the financial intermediary takes the credit risk on the operations with the final beneficiaries and is responsible for identifying the clients, appraising and approving their credit requests, disbursing the fund and monitoring the repayments. According to this target setting the EIB can be considered as the „European bank for regional development". The EIB played a crucial role in strengthening the member-countries and regions to fight the various issues around the challenges of inequalities. Due to the continuous enlargements of the European Union in the last decades the inequalities and disparities among the member-countries have reached a concerning level. The globalisation, the world economy, getting more and more multipolar, generated the urgent need within the core-countries of the EU to foster the competitiveness of the integration neglecting somewhat the cohesion and economic catch-up of the Eastern and Southern EU member-countries. This tendency leads to fierce disputes within

the EU, as the Mediterranean and former socialist Eastern European countries strive to catch up with Western-Europe but these countries are not any more willing to finance these countries during the continuously growing fierce global competition.

2. Material and Methods:

The research, that is based on the processing and synthesis of the national and international literature on the European Union and on the multilateral development banks' policy, is being conducted along the following hypotheses.

- The starting point of my study is that the European Union cannot simultaneously increase its competitiveness and strengthen its economic, social and territorial cohesion under the current circumstances of intensifying global economic competition.
- My second hypothesis is that the European Union's Europe 2020 Strategy put the emphasis on the increase of competitiveness, and therefore cohesion is relegated to the background.
- The further hypothesis refers to the paradigm shift that is outlined in the EU's development policy. The development policy operates on the foundation of market mechanisms determined by the factors of competitiveness. The move from the bureaucratic coordination towards market coordination in the allocation of the EU funds became unambiguous. While market coordination comes to the fore, the role of national and multilateral development banks become more important in the allocation of EU funds (Kornai, 1990,3p).

The study is essentially theoretical in nature; therefore it is based on secondary sources and has a multi-disciplinary character.

The study's significant value added is the meticulous exploration of the sources. Apart from some handbooks and journals, the electronically available sources dominate in the study, and I have

indicated their web sites in the bibliography. The used literature was written in English.

3. Results and Discussion:

3.1. Goal setting of the European Investment Bank

The EIB's Board of Directors approved new commitments for climate action and environmental sustainability corresponding to the needs to accelerate the transition to a low-carbon, climate-friendly and environmentally sustainable economy.

1. The EIB Group aims to support 1 trillion EUR of investment in climate action and environmental sustainability from 2021 to 2030.
2. The bank will gradually increase the share of its annual financing dedicated to climate action and environmental sustainability to 50% by 2025 and beyond.
3. All new EIB operations will be aligned with the principles and goals of the Paris Agreement by the start of 2021 (Net 2, 2020, 1p).

The EIB wants to ensure that all of its financing activities align with the principles and goals of the Paris agreement and withdraw support that is not in line with the agreement. The new commitments emphasize the intention to leave nobody behind and to support the "just transition" for the communities and regions affected by the shift to low-carbon economies and those who are most vulnerable to the negative impacts of the changing climate and have the least ability to adapt. It is to be mentioned that the bank continues to finance long-term development objectives under a wide range of other EU public policy goals aiming at cohesion, innovation, infrastructure and small and medium-sized enterprises (SMEs).

The EIB elaborated the climate bank roadmap providing an operational framework for its activities on climate action and

environmental sustainability from 2021-2025. The roadmap serves as a planning tool to assist the bank achieve its new commitments and explains how the climate related activities suit within the wider context of sustainable finance and environmental and social sustainability. **The roadmap consists of four main work streams as follows:**

- **accelerating the transition through green finance**
  - increasing investment
  - innovation, new business models
- **ensuring a just transition for all**
  - territorial just transition plans
  - reduce vulnerability
- **building strategic coherence and accountability**
  - EU sustainable finance action plan
  - integrated environment, climate and social policy
  - internal alignment
- **supporting Paris-aligned operations**
  - high-emitting sectors
  - transition and physical risks
  - counterparties (Net 2, 2020, 2p)

3.2. The role of the EIB Group in supporting the European Green Deal

The EIB Group, as the EU development bank, supports the long-term goals of the European Green Deal. The bank is one of the largest global financiers of climate action and environmental sustainability. EIB disposes of a wide spectrum of financial products and advisory services (Net 2, 2020, 5p).
The bank strives to support the transition of the European Union to a low carbon, climate-resilient and environmentally sustainable economy having an integrated approach inside and outside the EU

that contributes to the strengthening competitiveness of the integration, to growth and cohesion. The EU's development bank can greatly use its unique position to transfer financial and technical expertise from the union's economies to the EU's partner countries globally.
Becoming a climate bank requires that the climate bank approach and status are properly reflected across all EIB policies, regulations, priorities, targets and departments.

Table 1: EIB organisational structures most impacted by EU Climate Bank process

Requirements for becoming a climate bank	Parts of the EIB organisational structure
delivering climate neutrality	energy & mobility; innovation and competitiveness; urban and regional development; (investment operations and banking)
delivering adaptation and resilience	risk management; agribusiness and rural development; water management and security; urban and regional development; (investment operations and banking)
delivering a fair and prosperous society (just transition)	agribusiness and rural development; urban and regional development; innovation and competitiveness; energy, mobility and advisory

supporting Green Deal diplomacy and engagement	EIB representations outside the EU; advisory; representatives on joint MDB working groups and committees
Cross-cutting institutional implications for the EIB	Bank-wide projects and change management coordination unit; advisory

Source: Vernoit – Sonia Dunlop – Hawkins – Orozco, 2020, The European Investment Bank: Becoming the EU Climate Bank, 46p https://www.eib.org/attachments/thematic/eib_group_climate_bank_roadmap_en.pdf

The MDBs worked closely to develop a common approach to align their activities with the goals of the Paris Agreement. The alignment framework is based on six building blocks around which specific strategies for alignment can be developed (alignment with mitigation goals; adaptation and climate-resilient operations; accelerated contribution to the transition through climate finance; engagement and policy development support; reporting; align internal activities) (Net 2, 2020, 7p).

Since the adoption of the EIB Climate Strategy in 2015, the bank made significant progress on climate action. From 2012 to 2019, the EIB supported more than 150 billion EUR in climate action, including over 20 billion EUR in developing countries. The EIB has steadily increased the proportion of financing for climate action, from 25% in 2014 to 31% in 2019 (Net 2, 2020, 7p).

The volume of EIB Group supports green projects, - climate action and environmental sustainability, - will reach 50% of the total financing by 2025 (over 30 billion EUR a year) (Net 2, 2020, 11p). The bank plays in this respect a business generating and supplementary role as a catalyst, because it usually finances up to 50% of the project cost, ensuring a minimum ratio of 1:1. In

different project finance structures, provision of equity and subordinated debt products can help to mobilize substantial additional funds of senior debt coming from commercial banks.

3.3. The European Investment Bank's energy lending policy

The EIB following the EU energy policy, - to provide secure, sustainable, affordable energy sources to the citizens, - financed energy infrastructure projects in the value of around 62 billion EUR between 2015 and 2019 including investments for renewable energy, energy efficiency and electricity grid projects amounting 53 billion EUR. The bank adopted a new, ambitious energy lending policy in 2019 targeting to phase out the financing of traditional fossil fuel energy projects, including natural gas by the end of 2021 (2). The EIB, working closely with the European Commission intends to support the market integration of renewable electricity projects and enhance regional cooperation. The European energy policy framework envisages an interconnection target of 15% of the installed capacity by 2030. Besides interconnections, further investments in national electricity networks remain top priority for the next decade concerning transmission and distribution levels. The interconnection projects for 2030 are regarded as European Projects of Common Interest (PCIs). EIB lays great emphasis on the investments increasing network flexibility.

The bank provided 11,7 billion EUR lending for energy-related projects (4,6 billion EUR for energy efficiency; 4 billion EUR for renewable energy projects; 2,3 billion EUR for electricity; 685 million EUR for natural gas and 65 million EUR for district heating projects. The bank counts as leading renewable energy financier providing 26 billion EUR funds on this field between 2014 and 2019 (Net 3: Energy Overview, 2020, 3p).

3.4. The Just Transition Mechanism

This mechanism consists of three pillars as follows:

- Pillar 1: The Just Transition Fund (JTF)
- Pillar 2: The dedicated just transition scheme under InvestEU
- Pillar 3: The new public sector loan facility for additional investments co-financed by the EIB (Net 2, 2020, 30p)

The main target of the first pillar is to reduce social and economic costs of the transition to climate neutrality. The Fund will focus first of all on territories with high employment in coal, lignite, oil shale and peat production, as well as regions with greenhouse gas-intensive industries, which are likely to be closed down or fundamentally restructured. The economic challenges concerning these regions refer to economic diversification and transition towards low-carbon activities with substantial growth potential and the need to reskill workers so that they are furnished with the necessary new skills to be able to perform new jobs. The range of the inevitable investments is quite broad, covering small- and medium sized enterprises, research and developments, energy efficiency, renewable energy, emission reduction, digitalisation, land restoration, up- and reskilling and training.

The second pillar under the InvestEU is aimed at involving private investments to achieve the targets of the just transition. First of all projects in the affected regions are appreciated that have an approved territorial just transition plan. This is particularly relevant for those projects that are dealt with in the framework of the Sustainable Infrastructure window of InvestEU (transport and energy infrastructure), improving the connectivity of the affected territories.

The third pillar of the just transition mechanism involves the public sector loan facility with the EIB. The utmost aim of the third pillar is to support increased public sector investments in those territories of the EU that face serious social, environmental and economic challenges arising due to the transition process towards

the union's climate targets (Net 2, 2020, 30p). This vehicle enables loans to public sector entities for the implementation of measures to facilitate the harmonised transition to climate neutrality. Supported investments cover a wide range from energy and transport infrastructure to district heating networks, energy efficiency measures, including renovations of houses. Even though the European integration is enforced more and more to strengthen its competitiveness contrary to cohesion due to the fierce competition on the global economic market, the bank tries to undertake it in a way that the economic and social transition does not evoke regions lagging behind. Strategic cohesion efforts have to be made to overcome regional disparities within and between the member states that can become even worse during the transition process. It should be avoided that spatial income inequalities remain constant and the economic activities concentrate even stronger in cities causing substantial social disparities and regions lagging behind and depopulating. The first pillar of the transition mechanism, the Just Transition Fund offers a wide range of support options for the most vulnerable regions. The Fund primarily provides grants. The second pillar establishes a dedicated transition scheme under InvestEU, aiming to leverage private financing. The third pillar has been elaborated to leverage public financing. The EIB, as a multilateral development bank, provides advisory and technical assistance for the regions and projects concerned.

The EIB's annual target for cohesion lending makes up around 30% of all new operations in the EU member-countries. In the period between 2015-2019, it provided totally 84,4 billion EUR to projects in EU cohesion regions (33,4% credit lines; 17,3% transport; 14,8% energy; 5,7% industry; 5,4% services; 5,1% urban development; 4,4% education; 2,8% infrastructure; 2,2% agriculture, fisheries;1,6% health). The amount of funds for

cohesion targets amounted to 16,13 billion EUR in 2019 (Net 4, 2020, 1p).

4. Conclusion:

The EIB can only deliver its responsibilities as a climate bank if it transforms itself as an institution. The inevitable institutional changes include the following steps to be made:

- Mainstreaming the climate bank status to be reflected across the bank's structure (sectoral strategies, transparency policy, financial intermediary standards, client engagement strategies, appraisal guidelines).
- Building essential capacities required of a climate bank to become a knowledge bank. The EIB has to expand its technical advisory capacity.
- Increase of the capitalisation: Member countries should consider providing the EIB a climate-specific capitalisation in order to fulfil its role as the EU Climate Bank (Vernoit – Sonia Dunlop – Hawkins – Orozco, 2020, 45p).

Private sector finance does not flow to necessary investments without direct public finance intervention and regulatory and market reforms to reduce risks. Green banks can be seen in this respect as business generators, investors of first resort, creating new markets and investigating new opportunities that may serve as potential investments for the private sector.
Werner Hoyer, President of the EIB stated on March 21, 2019 that "the EIB was the EU climate bank, and the largest single multilateral financier of climate action projects worldwide" (Vernoit – Sonia Dunlop – Hawkins – Orozco, 2020, 9p). As a policy driven bank, the EIB adopts the concept of the EU's leaders to transform itself to a European Climate Bank. The EU leaders

intend to achieve that the EIB becomes the forerunner among the other multilateral development banks worldwide playing a pioneer role as a green bank. The bank's metamorphosis should serve to enhance the fame and technologies of the EU contributing to the strengthening of its global role. By playing a leading role in climate protection, the EU may reach that its environmental technologies are adopted and used worldwide, ensuring huge potential export markets for new European technologies, processes, patents and products. The EIB has particularly strong potential to succeed as a climate bank due to the EU policy environment, which includes the European Green Deal. As a flagship policy of the EU, the European Green Deal is simultaneously a climate, a social, and an economic project having a great impact upon international occurrences. By paving the way to become a climate bank, the EIB should establish an adaptation strategy enabling the bank to focus resources on higher-impact projects that deliver outcomes at system level. The EIB had rather catalysing broader public finance interventions for resilience. The EIB should increase resilience efforts in its public sector lending programs and provide extended technical assistance to the public sector. It is a further target for the bank to attract private investors and channel the way to new markets.

In the case of several multilateral development banks, they underwent a crucial metamorphosis generated by different political issues. Let us just think of the International Bank for Reconstruction and Development (IBRD) that was established to contribute to the economic recovery of the European countries after World War II but after that it began to finance middle income developing countries to combat poverty. A similar fundamental change and transformation can be assessed in the case of the European Bank for Reconstruction and Development (EBRD) initiated by the French President Francois Mitterrand to foster the democratic transition of the former socialist Eastern European

countries to free multiparty democracies and liberal market economy. Since the majority of these Eastern European countries joined the European Union meanwhile, the bank shifted its main financing focus gradually to Central-Asian and Near-East countries. Seemingly the European Investment Bank (EIB) intends to modify its profile, structure and financing criteria, becoming a so-called climate bank. The EIB as all of the different multilateral financial institutions follow the policies and decisions of the integration that established it. The European Union has to face quite critical challenges set by the world economy getting more and more multipolar and the emerging economies. The EIB, as the development bank of the European integration, is intent on performing a significant transformation in its mechanism, namely it strives to become the largest and most influential climate multilateral development bank in the world. The EU's institutions have to elaborate efficient mechanisms to manage globalization. Implementing the concept by financing creditworthy European companies disposing of the potential to reach a decisive stake on the global climate and environmental technology market, means, that the European Union succeeds to play a pioneering and inevitable role in this new, knowledge-based and decisive segment, guarantying that the EU cannot be bypassed and does not fall behind in the fierce global economic competition.

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FEHÉR HELGA:
FOREIGN TRADE COMPETITIVENESS OF SUB-SAHARAN AFRICAN COUNTRIES - THE EFFECTS OF CHINA'S TRADE EXPANSION

Department of Accountancy and Controlling, Faculty of Business and Economics, University of Pannonia
e-mail: feher.helga@gtk.uni-pannon.hu

Abstract

One of the clearest signs of China's increasing role in the world economy is its intensifying foreign trade activities with the Sub-Saharan African (SSA) countries. Bilateral trade relations between China and the states of the Sub-Saharan region have been dynamically expanding since the turn of the millennium. This growing interest in the Sub-Saharan African countries started roughly simultaneously with China's unparalleled economic boom and the strengthening of its influence in the world economy. As for the demand side, China is in the raw material-intensive stage of its transformation, resulting in a heavy and long-term surge in raw material demand. As a matter of fact, this was the reason why the Far Eastern country – in pursuit of raw materials, especially mineral and vegetable products as well as various metals, i.e. the products of the primary sector – significantly improved its foreign trade relations with the Sub-Saharan African countries rich in natural resources.

Keywords: economic growth, resources, primary sector

Introduction

China's (moderately increasing) comparative disadvantage in minerals and its import demand growing since the turn of the millennium stimulate the Sub-Saharan African countries to dynamically expand their export of such products to China.

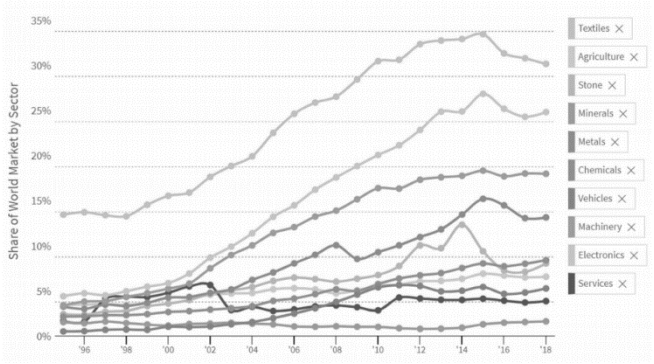


Figure 1: China's share of world exports (%)
Source: Atlas of the economic complexity (2020), own edited figure

This way the Sub-Saharan African countries rich in raw materials can take advantage of the benefits resulting from China's dynamic economic growth, consequently, they are very likely to succeed in the Chinese market with respect to the products of the primary sector.

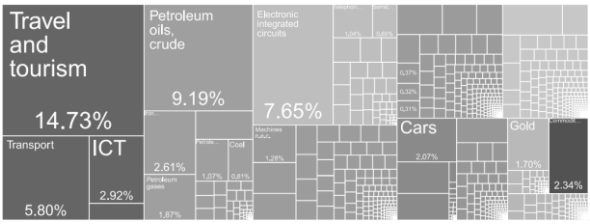


Figure 2: China's import composition in 2018 (%)
Source: Atlas of the economic complexity (2020), own edited figure

With its rapidly growing economy, China has become the world's second largest energy producer and consumer by the decade after the turn of the millennium, and the world's number one by 2020. Its rapidly growing demand for energy has made the Far East one

of the most influential players in the global energy market, and its political and economic leadership has recognised the long-term risks of ever-increasing energy demand and a serious energy dependence (a problem exacerbated by its trade conflict with the United States that began in 2017). In terms of oil supply, Middle Eastern countries do not provide a secure, predictable source for China (e.g. Iran issue, US influence growing in the region), and therefore the sourcing of primary sector products has shifted significantly to resource-rich Sub-Saharan African (SSA) countries since the turn of the millennium. In 2001, China accounted for only 9.8% of global energy consumption, but by 2010 this had risen to 20.3%, and by 2019 the Far East's share of total global energy consumption had increased to 24.3%. For nearly 30 years, China has been dependent on imports for many energy sources, including oil, due to the ever-increasing consumption of energy by the population and, above all, for industrial production, where it is the second largest consumer of oil among the economies after the United States, with a demand of 14.1 million barrels per day.

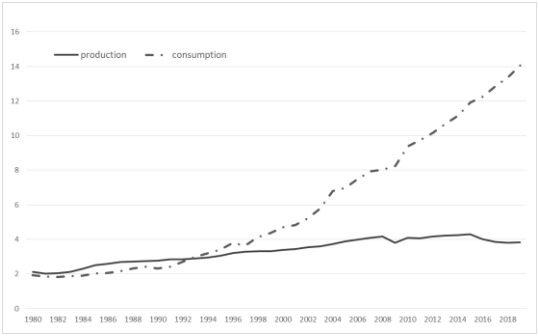


Figure 3: China's oil production and consumption (million barrels per day)

Source: Energy Information Administration (EIA) and BP Statistical Review of World Energy (2020), own edited figure

This figure also shows that the country's consumption needs are more than 3.5 times higher than its own production of 3.8 million barrels per day in 2019. The One Belt and Road Initiative (BRI or OBOR), launched in 2013, has prioritised the creation of secure, sustainable energy supplies. Energy security has been given less emphasis in the technical literature, although the other objectives will not be met if there are insufficient energy resources.

Research methodology and data

For external trade flows, data published by UNComtrade, the World Bank and the International Trade Centre (ITC) database have been used for the calculations. Data at product group level are presented in the analysis according to the 2-digit breakdown of the Harmonized Commodity Description and Coding System (HS) standardized by the World Customs Organization (WCO). The period under consideration covers the years 2001 (base) to 2019 (subject), which is an arbitrary choice. There are two specific and practical reasons for the choice of period: firstly, the detailed (product level) data required for the calculation for each product group are only publicly published by the ITC and UNComtrade from 2001 onwards, and secondly, China's accession to the WTO (World Trade Organisation) is a milestone for external trade data. In the regional analyses, the 47 countries of the UNCTAD definition of the SSA region have been supplemented by Sudan, which belongs to the North African region, as there is no uniformity in the grouping of countries in this respect, either in the international organisations or in the relevant literature. The World Bank classification of Sudan as a Sub-Saharan country, which in most respects shares similarities with countries in the Sub-Saharan region (mainly in terms of culture, ethnicity, economy), justifies the addition of Sudan to the group.

Analysis of the structure of external trade and the RCA indicator

Béla Balassa is the inventor of the *Revealed Comparative Advantage (RCA)* indicator, which has been widely used since the 1960s to quantify and analyse international competitiveness. "The indicator is based on the assumption that the share of product *j* in a country's exports should in principle be the same as the share of product *j* in total world exports.

If the ratio of the two export shares is 1 according to this assumption, then product *j* represents exactly the same weight in the country's exports as in its total exports, i.e. there is neither an apparent comparative advantage nor an apparent comparative disadvantage. If, however, $RCA_{aj} > 1$, then there is an apparent comparative advantage because the country exports more of product *j* than expected.

The basic idea of the *RCA* indicator is precisely that the apparent comparative advantage and disadvantage in international trade of a given set of products is equalised across countries. The indicator is very easy to use and provides a plastic representation of specialisation structures and, through them, a direct indication of competitiveness developments." (Török 1999). The use of the *RCA* is widespread in international practice - although there are serious reservations about the index, for example, it does not allow for the exclusion of state subsidies. Another criticism is that the index is asymmetric (Poór 2010), which can be a problem in econometric analysis (Fertő 2002).

The Vollrath RCA

Vollrath's RCA index omits from the denominator both the specific country and the specific product data, so that the index expresses the exports of a given product or all other products in a spatial comparison of a group of countries (excluding the country data from the denominator). In Vollrath's view, the index

constructed in this way is a more faithful approximation to the measurement of comparative advantage, since it eliminates the problems of double counting and asymmetry, since the benchmark does not include the export value of the product in question.
Vollrath has provided three alternative definitions of comparative advantage, each based on a different calculation of the *RXA* and *RMA* ratios, or a combination of them. The first of these is the so-called *Relative Trade Advantage (RTA)*, which takes into account both the export and the import side. The *Relative Trade Advantage index* is defined as the *Relative Export Advantage (RXA)*, which is in fact the difference between the Balassa index and its import-side counterpart, the *Relative Import Advantage (RMA)*. The relevant international literature consistently applies the *RXA, RMA* and *RTA indices*. Vollrath's second RCA index can be written as the logarithm of relative export advantages *(lnRXA)*, while the third version is defined as manifested competitiveness and described as follows (Fertő 2002):

(1) $$RCA_{s,t}^{c} = ln\left(RXA_{s,t}^{c}\right) - ln\left(RMA_{s,t}^{c}\right),$$

where

(2) $$RXA_{s,t}^{c} = \left(X_{s,t}^{c}\right) / \left(X_{-s,t}^{c}\right) / \left(X_{s,t}^{-c}\right) / \left(X_{-s,t}^{-c}\right),$$

(3) $$RMA_{s,t}^{c} = \left(M_{s,t}^{c}\right) / \left(M_{-s,t}^{c}\right) / \left(M_{s,t}^{-c}\right) / \left(M_{-s,t}^{-c}\right)$$

$X_{s,t}^{c}$ is the total exports of country *c*'s sector *s* for year *t*; $X_{-s,t}^{c}$ is the total exports of country *c* excluding exports of sector *s* in year *t*; $X_{s,t}^{-c}$ is the total world exports for sector *s* and year *t*, to be taken without the exports of country *c*'s sector *s* in year *t*, and $X_{-s,t}^{-c}$ is the value of total world exports adjusted for $X_{s,t}^{-c}$ and $X_{-s,t}^{c}$. The calculation of the $RMA_{s,t}^{c}$ indicator is performed using import data for the same countries in an analogous way to the calculation of the $RXA_{s,t}^{c}$ indicator.

For positive values of all three Vollrath indicators we can identify a comparative advantage, for negative results a comparative disadvantage. According to Vollrath, the manifest competitiveness index may be biased, i.e. the margin of error may increase for low export and import values observed at the product level. A value around zero indicates that relative competitiveness does not have a clear influence on the direction of trade flows, i.e. the effect is neutral (Vollrath 1991).

The index aims to filter out cumulations and refine the original RCA index, i.e. not to include multiple counts for either countries or products.

To detect a more accurate comparative advantage or disadvantage for a given product group, or to detect an identifiable change in comparative advantage or disadvantage between two points in time within the same product group, it is necessary to normalise the $RCA_{s,t}^{c}$ index (transforming any normal distribution into a standard normal distribution), i.e. to subtract the mean from each data point in the practical calculation. Formally, this can be written as follows:

$$(4) \qquad R\hat{C}A_{s,t}^{c} = RCA_{s,t}^{c} - \sum \frac{RCA_{s,t}^{c}}{n},$$

where *n* is the number of product groups.

However, the Vollrath RCA index is not a perfect method for comparing international trade over time, due to its statistical nature. The average value of $R\hat{C}A_{s,t}^{c}$ varies across sectors, countries and years. The evolution of the average value also depends to a large extent on the concentration of exports and imports calculated for countries at the annual level.

The next step was to identify the specific sectors in which China and the SSA countries specialise. Here again, the analysis was based on the HS 2-digit commodity group breakdown for China, the SSA countries, the East African group of countries, the West African

group of countries, the Central African group of countries and the Southern African group of countries, with the period under review again covering the period 2001-2019.

Results

One of the central tasks of national economic policy is to map as accurately as possible the external economic relations system, in the light of which the possibility and the way of integration into the world economy should be examined (Majoros 2011).
In particular, the author focused their analysis on identifying the specific relationship(s) underlying the negative trend in the correlation between the RCA indices of the Sub-Saharan African countries and China.
According to Adam Smith's classic theory of absolute advantage, if an economy can produce a certain product relatively more efficiently than another country, then it is worth specialising in the production of that product. As long as there is a difference in relative efficiency between countries in the production of different goods, i.e. a country has a comparative advantage in the production of some goods and a comparative disadvantage in the production of others, it is easy to see how economies can be encouraged to trade with each other. It is important to stress, however, that in international trade these advantages can only be exploited if there is a real demand for the product in question on foreign markets.
According to the Heckscher - Ohlin theory, which is a revision and modernisation of the classical theory of comparative advantage, each country can gain mutual advantages in international trade if, given the relatively different factor intensity of its products - i.e. their labour-intensive or capital-intensive nature - and its factor endowments relative to those of other countries, it specialises in the production of products that require more intensive use of the relatively more abundant factor of production.

Preliminary analysis identified the following seven potential cases (Fehér 2014):

1. The RCA indices of China and the SSA countries move in the same direction[41] or do not change.
2. China's RCA index is increasing, the RCA index of the sub-regions of the SSA countries remains constant. China will then specialise in products for which the comparative advantage of the Sub-Saharan African countries is relatively constant (unchanged). They will thus compete less for the same product or import more of the same product.
3. The RCA index of Sub-Saharan Africa increases, China's RCA index remains unchanged. Sub-Saharan Africa will then specialise in products for which China's comparative advantage is relatively stable, i.e. constant. Sub-Saharan Africa will be relatively more competitive for this product.
4. China's RCA index will increase, at the same time as the RCA index of the Sub-Saharan African countries will decrease, so China will specialise in the product for which the Sub-Saharan African countries have a comparative disadvantage.
5. The RCA index of the Sub-Saharan African countries is increasing, while at the same time the RCA index of China is decreasing. China as an exporter is withdrawing from African external markets.
6. China's RCA index is decreasing, the RCA index of the Sub-Saharan African countries remains constant and unchanged.

[41] A change in the same direction (nature) is defined as *a)* the RCA index of the SSA country increases and the RCA index of China also increases over the same period, *b)* both the RCA index of the SSA country and the RCA index of China decrease, *c)* the indices remain constant over the period under consideration

China, as an exporter, does not export products for which the comparative advantage of the Sub-Saharan African countries is constant.

7. The RCA index of the Sub-Saharan African countries decreases, while the RCA index of China remains constant. As exporters, Sub-Saharan African countries are withdrawing from the external distribution of products for which China's comparative advantage is relatively stable.

Table 1 shows, for the HS aggregate product groups, the relationship between the RCA indices of the sub-regions of Sub-Saharan Africa and China for the years 2001 to 2019. The negative relationship between China and the relative change in the RCA indices of individual Sub-Saharan African countries is most strikingly reflected in the opposite movements of the RCA indices. Accordingly, as China's RCA index increases over the period, the RCA index of the aggregate region of sub-regions and of each sub-region of SSA decreases (code 3).

Table 1: Relative change in RCA indices between China and some SSA countries[42] (2001 and 2019)

HS	Product group	SSA SUM	SA	CA	EA	WA
01-05	Live animal and animal pr.	5	0	5	5	5
06-15	Vegetable products	5	5	0	5	5

[42] Meaning of abbreviations: SA - South Africa group of coutries, CA - Central Africa group of coutries, EA - East Africa group of coutries, WA - West Africa group of coutries

16-24	Food preparations	5	0	4	5	4
25-27	Mineral products	4	4	4	0	4
28-38	Chemical products	0	0	2	0	0
39-40	Plastics	1	1	3	1	0
41-43	Raw hides and skins	3	1	3	3	3
44-49	Wood	1	3	0	1	3
50-63	Textile raw materials	3	3	3	1	1
64-67	Footwear	5	5	4	0	4
68-71	Stone/glass	5	5	0	5	4
72-83	Miscellaneous metals	1	1	0	1	1
84-85	Machinery/Electrical equ.	1	1	0	0	1
86-89	Vehicles and their parts	2	2	2	2	2
90-97	Various other goods	0	0	0	0	6

Source: own calculation based on ITC and UNComtrade database

This phenomenon could only be identified for textile raw materials and articles (HS 50-63) based on 2011 data, while the 2019 HS group breakdown data show that the complementarity of external trade is also evident for raw hides and skins (HS 41-43) and wood products (HS 44-49), in addition to textiles. The results show that Sub-Saharan African countries are less likely to compete in foreign

markets with their textile products, as Chinese textile products are much more competitive in foreign markets than textiles and textile raw materials produced in Sub-Saharan countries, and therefore it is worthwhile for China to target the markets of Sub-Saharan African countries with its textile products, as Chinese textile products are more competitive in these markets than those produced by the domestic textile industry.

However, the "inverse" of this process (China's RCA index - code 4 - decreases while the RCA index of the Sub-Saharan African countries increases) was only observed for mineral products (HS 25-27), based on data for 2000 and 2011. These two opposite movements were only observed for the West Africa region (and for the West Africa region including the aggregated data and the 48 SSA countries' external trade data). Only in the case of the Southern African group of countries (the most important in the region are oil-rich Angola and the Republic of South Africa) and the West African group of countries was it possible to clearly identify a completely opposite movement of the RCA indices (the RCA index of the Southern African countries is increasing, while China's RCA index is decreasing): the group of countries has been able to increase its comparative advantage in mineral products significantly in the decade after the turn of the millennium, while China's competitiveness in the same product group has decreased. However, the situation has become even more pronounced for this product group when 2019 data are taken into account. The RCA indices of the sub-regions (code 4) for all sub-regions except East Africa show a completely opposite trend (code 4) for the sub-regions of SSA and China, which leads to the conclusion that the sub-regions of SSA as a whole have been able to increase their comparative advantage in mineral products significantly, while China's competitiveness in the same product group has decreased. The results obtained suggest that China's increased demand for raw materials, in particular for energy commodities, has had a

positive impact on the development of the competitiveness of the Sub-Saharan African countries in the mineral products sector. With their comparative advantage, Sub-Saharan African countries are able to take advantage of China's dynamic economic growth and associated energy demand, and are therefore likely to be successful in the Chinese external market for mineral products.

Conclusions

Based on the results obtained, it can be concluded that China and the SSA countries should enter each other's markets with their products as follows: for a product where China's RCA index increases and the SSA country's index decreases, China will be successful in the SSA country's market, and where the SSA country's RCA index increases. At the same time, if China's RCA index is decreasing, China as an exporter is expected to either not enter or to exit the relevant market in Sub-Saharan Africa.

Accordingly, two very important findings can be recorded in relation to the relative evolution of the RCA indices. On the one hand, China's increased demand for raw materials can be explained by a reduction in its comparative advantage in mineral products, and even by the end of the second decade of the millennium, the Far East's competitive disadvantage had increased further. On the other hand, China's spectacularly growing demand for raw materials could significantly increase the competitiveness of Sub-Saharan African countries in primary sector products, but it is important that Sub-Saharan countries can exploit this competitive advantage in their trade with China.

China has been in a commodity-intensive phase of transformation on the demand side since the turn of the millennium, which has led to a long-term surge in demand for commodities, especially for primary sector energy. This has led to a sharp increase in imports, mainly of minerals, metals and vegetable products, also from the primary sector, as these goods were not available in unlimited

quantities. The author has argued that China's increased presence in the commodity trade relations of the countries of the Sub-Saharan region began at the same time as the country's economic growth and its demand for raw materials and energy began to increase sharply at the turn of the millennium. Its comparative disadvantage in minerals, which has been growing moderately, and its increasing demand for imports over the last two decades, have encouraged the Sub-Saharan African countries to dynamically increase their exports of primary sector products to the Chinese external market, thus enabling them to take advantage of China's dynamic economic growth. Through the identification of the complementary nature of the foreign trade specialisation patterns of the countries under study, the results obtained fully support the hypothesis that there is a real and demonstrable system of relations and independent linkages between the Far East and the countries of the Sub-Saharan African region, and that these have become increasingly pronounced since the turn of the millennium.

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ENIKŐ KORCSMÁROS – ROLAND MARČA: ANALYSING THE TENDENCY OF INTERNATIONAL LABOUR MOBILITY IN NOVÉ ZÁMKY DISTRICT

[1] Faculty of Economics and Informatics, J. Selye University, e-mail: korcsmarose@ujs.sk
[2] Faculty of Economics and Informatics, J. Selye University, e-mail: 126410@student.ujs.sk

Abstract: One of the most defining and controversial issues in recent years has been international migration, including labour mobility. Each country has a different view of cross-border migration, the most common causes of which are different cultural, economic, and political visions. Labour mobility plays a key role in the Slovak economy and, in general, the Slovak government works to take the necessary steps to ensure that international mobility shows a decreasing trend in the coming years. Many people opt to cross national borders in the hope full of opportunities. The study tries to determine certain factors that influence individuals with permanent or temporary residence in the Nové Zámky district to leave their homeland. The chosen area is located in the Nitra Region of western Slovakia. The practical part is based on an online survey, thus ensuring that we examine the opinions of as many residents as possible about mobility.
Keywords: migration, cross-border mobility, labour market

1 INTRODUCTION

When you hear about mobility, each person has different thoughts. Someone thinks about a simple movement done on a daily basis, while someone thinks of movement that can be connected with cross-border migration. The impact of an increasingly fast-evolving world and globalization has significantly increased the number of people leaving their homeland in the last decade. Due

to the changes, they have to face up a myriad problem, but they try to overcome those difficulties posed by the new country and try to integrate into the new society. The labour market is becoming more and more flexible, so workers coming from abroad have a high chance to integrate into the labour market and find a new job that matches their qualifications. In the last decades, new treaties have been signed in the European Union that makes it much easier to apply for a job abroad. They aim to create an efficient and flexible labour market. However, creating this kind of labour market requires individuals who are capable of quick adaptation. Population retention plays an important role in migration propensity. The migration policies of each country have an impact on the economies of the sending and receiving countries. As a result of globalization, we can discover an increasing desire to migrate. Thanks to modern means of transport, migration has become cheaper, faster, and easier. It has also contributed to an increase in the tendency of mobility. Given the many benefits that emigration and immigration can bring, we would like to emphasize that migrants are sometimes the most vulnerable members of society.

2 LITERATURE REVIEW

One of the oldest theories can be traced back to Ernst Georg Ravenstein (1885), who was a German-English geographer. In his opinion, labour mobility is influenced by the push and pull factors. The push factors influence the person to leave his homeland and settle elsewhere, where the pull factors are in majority. He concluded from the received data that women were much more capable to migrate than men. It can be said that at that time, women increasingly began to look for different possibilities of working, so in several cases, they had worked in factories instead of doing some housewife work (Ravenstein, 1885).

The push factors are: Poverty, natural disasters, poor living conditions, property loss, desertification, poor health care, fear of political persecution.
Pull factors are: High secure, more job opportunities, better living conditions, better transport possibilities, stress-free environment.
Those push and pull factors appeared on both sides. In the countries of origin and in the new countries too. In the countries of origin, those factors are called push factors, while in the other countries pull factors. In both types of countries, we speak of likewise factors, but the social conditions in one country are more favorable (Stanojoska – Petrevski, 2012).
Ravenstein's research plays a decisive role in the research of migration theory. Nevertheless, as his research dates back quite a long time, several researchers have examined the question of mobility and set new basics of the topic.
Thanks to the newest reports, we can compare Ravenstein's results. The new results show that in 2019, a total of 272 million people participated in labour mobility, which represents 3,5% of the world's population. According to the results of the report, in 2019, 52% of men participated in labour mobility, while 48% of women made a similar decision. If we compare the data illustrated earlier with Ravenstein's research, we can determine that at present, men are the ones who are more capable of leaving their homeland (World Migration Report, 2020).
The migration decision is influenced by various factors, which may differ for each person, as these future decisions are sometimes based on their own and friends' experiences (EASO, 2016).
One of the earliest theories of labour mobility is the neoclassical macro-theory of migration. According to the mentioned theory, people leave their homeland because of wage differences between the countries. These wage differences are caused by the differences in labour demand and labour supply (Czibik et al., 2014).

For a long time, these neoclassical theories were the dominating theories in economics. It can be stated that in the neoclassical theory, the individuals are risk-neutral and rational. This theory assumes that individuals migrate when the wage is higher in a new country than in their current home country (Gold – Nawyn, 2019). Human capital endowments, skills, age, marital status, and gender strongly affect who migrates and who does not. It can be said that the likelihood of migration decreases with age and increases with education level (Kurekova, 2011. In. Bauer and Zimmermann, 1999).

The effect of the wage differences is that workers leave the low-wage country to a country with higher earning potential. Thanks to this kind of migration, in the capital-poor country, the supply of labour will decrease, and the wages will be higher, while in the capital-rich country, the supply of labour will increase, and the wages will be lower (Sík, 2017).

The neoclassical micro-theory of migration is likewise as the macro theory. Both of them are based on individual choice. Plausibly, people choose the direction of their movement based on where they can achieve higher profitability related to their qualification. It's essential to accept that migration is usually associated with different expenditures. The most common costs are related to traveling and to the effort required to learn the new language and culture. It's even challenging from the psychological side due to separation from the family. The neoclassical micro-theory of migration is based on the following assumptions. According to the micro-theory, migration is caused by noticeable differences in wages and employment rates, which also have a strong impact on expected earnings. Education, language skills, and qualifications greatly influence the waves of migration, as they give individuals a better chance of finding a lucrative job related to their skills (Huzdik, 2014).

In our research, we wanted to present the basic theories that created the way for individual researchers to pursue their researches in this field.

After presenting the basic migration theories, we would like to present the labour mobility in Slovakia. The countries affected by the pandemic introduced various restrictions aimed to protect human lives. However, these restrictions have had different effects on the labour market and labour mobility too. During a significant part of the epidemic, some businesses were suspended. Due to the pandemic, the operation of various factories has also become questionable. As a result, the work and livelihoods of many people have been at stake. Neither the government nor humanity was prepared for this pandemic. According to the situation, many people lost their jobs, which led to an increase in the unemployment rate, a significant decrease in the value of gross domestic product. We would like to emphasize that some of the Slovak citizens working abroad during the pandemic needed to return home due to various precautions. As a result, a large number of them lost their jobs, but they found it hard to find a new suitable job in Slovakia because the unemployment has increased.

The labour market of the Slovak Republic is going through a very special situation, as we can notice a shortage of skilled workers. A similar situation hasn't been noticed since the fall of the socialist system, but the situation is similar in the countries of Central Europe too. Before the pandemic Covid-19 broke out, the unemployment rate in Slovakia broke minimal records. Unemployment has fallen below three or even two percent in several districts. In May of 2019, according to the Slovak Ministry of Labour, more than 72,000 foreign workers were registered. Compared to 2018 data, this represents an increase of 30%. Since Slovakia joined the European Union the employment of foreign workers has increased twelvefold. They came from more than 130 different countries, but mostly from Serbia, Ukraine, Romania, the

Czech Republic, and Hungary. Based on the research, it can be stated that they try to find jobs in cities where some kind of factory is located (Bakošová et al., 2019).
In 2016 more than 165,000 Slovak citizens worked abroad, but in 2018, this number decreased to 128,000. Plausibly, this decision is highly influenced by the higher living standards in Slovakia compared to the past. (Friedmannová et al., 2019).
There are significant regional differences in the Slovak labour market, for example, the location of the area, the infrastructure, the availability of services, and the existence of institutions. (Mazúrová – Kollár, 2017 In. Eamets – Jaakson, 2014).

3 MATERIAL AND METHODS

In the practical part of our research, we examined the attitude characteristics related to the labour mobility of individuals with permanent or temporary residence within the Nové Zámky district. In our research, we used the cross-sectional research method. To establish the practical part of our work, we have chosen an online survey to maximize the required samples, thus ensuring that we examine the opinions of as many citizens as possible. Our survey was conducted in Hungarian and Slovak languages. On the Slovak survey, we had 258 responses, while on the Hungarian survey we had 254 answers. The response was completely anonymous, thus ensuring that the completed questionnaires provided us with relevant information. The various statements were analysed through the weighted arithmetic mean and standard deviation. In our hypothesis, we work with ordinal variables. We used nonparametric Chi-Square Test of Independence to analyse the relationship between the variables.

4 RESULTS AND DISCUSSION

Our 512 correctly completed questionnaires were answered by a total of 211 men and 301 women, resulting in a distribution of 41.21% and 59.79%, respectively. The largest share of both female

and male participants was in the 26-34 age group. The lowest proportion was made up by the participants in the over 50 years of age group.

We considered it important to find out if the participants in the questionnaire already have worked abroad or not. Accordingly, the following figure illustrates the distribution of work experience gained abroad by age group of respondents.

It can be seen from the following figure that participants in the 35-40 age are the most experienced in cross-border migration, as they have already worked abroad once or several times. In the future, at a possible relocation, they will be able to apply for a job more easily, thanks to those experiences. Working abroad can be a good possibility to develop language skills. In a rapidly evolving labour market, there are many international companies that may prefer employees who already have those experiences because a specific job mostly requires to have confident language skills. Furthermore, the largest proportion of the 26-34 age group has not taken a job abroad yet. This is probably due to the fact that several factors (family, job satisfaction) influenced their decision, which made them more reluctant to work in a new country.

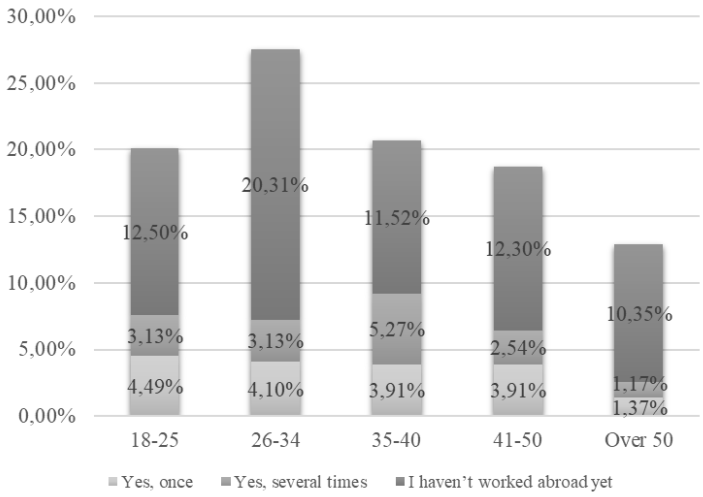


Fig. 1. Experiences of the participants working abroad by age gropus (Source: own editing based on primary data collection)

In the practical part of our research, we also analyse the tendency of cross-border migration in the next two years. The following figure clearly shows that people who haven't taken a job abroad in the past are unlikely to decide otherwise in the next two years because 29,10% are almost certain not to work abroad and 16.80% don't see a high chance of it. It is conceivable that these individuals are more satisfied with their current local job or with their salary or possibly the family plays a negative factor in their decision. We considered it interesting to note that people who have already worked abroad several times (8,79%) or once (3,13%) are almost certain that they will work abroad again within the next two years. It is plausible that they have positive work experience abroad that will pretty much influence their decision in the near future.

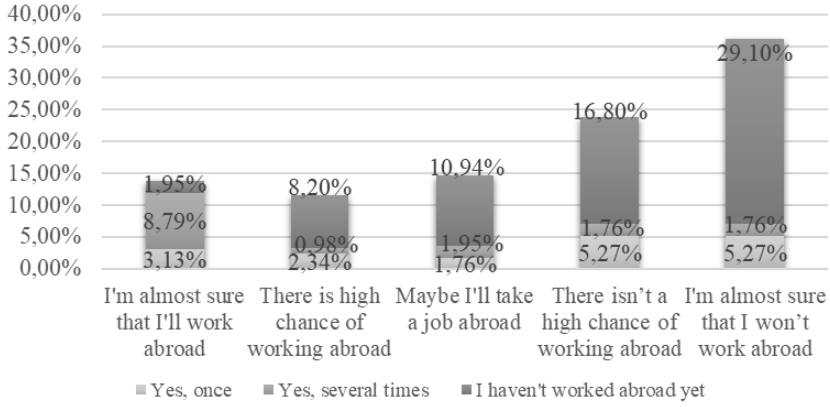


Fig. 2. Migration tendency of the participants in the next two years based on their previous work experience abroad (Source: own editing based on primary data collection)

Interestingly, based on the data received, we examined how individuals between each age group would decide about cross-border mobility in the next two years. To illustrate this, we have created a cross-tabulation with the help of the SPSS software, with which we can more easily present the distribution ratios.

Table 6. Cross-tabulation of age group and migration tendency of respondents

			The tendency of working abroad in the next two years					
			I'm almost sure that I'll work abroad	There is a high chance of working abroad	Maybe I'll apply for a job abroad	There isn't a high chance of working abroad	I'm almost sure that I won't work abroad	Total
Age	18-25	Count	27	22	21	17	16	103
		% within Age	26,2%	21,4%	20,4%	16,5%	15,5%	100,0%
	26-34	Count	18	18	23	34	48	141
		% within Age	12,8%	12,8%	16,3%	24,1%	34,0%	100,0%
	35-40	Count	14	8	14	34	36	106
		% within Age	13,2%	7,5%	13,2%	32,1%	34,0%	100,0%
	41-50	Count	7	7	9	23	50	96
		% within Age	7,3%	7,3%	9,4%	24,0%	52,1%	100,0%
	Over 50	Count	5	4	8	14	35	66
		% within Ager	7,6%	6,1%	12,1%	21,2%	53,0%	100,0%
Total		Count	71	59	75	122	185	512
		% within Age	13,9%	11,5%	14,6%	23,8%	36,1%	100,0%

Source: own editing based on primary data collection

In the next section, we have formulated various statements to analyse their influence on labour mobility. These statements were examined on a Likert scale, where 5 represents the fully influenced option, and 1 represents doesn't influence at all option. From the percentage distribution, we calculated the weighted arithmetic mean. After the weighted arithmetic mean, we have also calculated the standard deviation. It can be stated that the citizens of Nové

Zámky district are reluctant to apply for a job abroad due to their absence from their family as the weighted average is 4,98 and the standard deviation is 0,67. As a result, it can be said that the family plays a negative role in the tendency to migrate abroad. Furthermore, it can be said that respondents are willing to face new challenges, as their comfort zone doesn't influence their tendency to migrate abroad. In this statement, the arithmetic mean is 1,85 and the standard deviation is 0,42. In our opinion, it is a positive factor, because the respondents are also willing to make decisions that will force them to step out of their comfort zone and face new challenges. Thanks to our statistical values, we can say that participants fully prefer job opportunities within borders over foreign ones as the weighted mean is 4,59 and the standard deviation is 0,34. Probably this is also because cross-border migration is a complex decision in a person's life, as he will leave his family and friends. They try to prevail in a new country, which can be highly stressful and challenging. Additionally, it can be said that individuals are not afraid that they may not be able to find a suitable job according to their education. Plausibly, in the initial period, they would apply for a job that doesn't fully match with their education or, conversely, they have enough experience to fill the same job position in the new country. Knowledge of a foreign language cannot be said to be present as a negative factor in individuals' decision-making. They are only slightly affected by the statement that they do not speak a foreign language and are therefore afraid that they will not be able to assert themselves abroad. The majority of respondents speak a foreign language next to their mother language and believe that they will not be restricted in their possible new work. Working abroad is a good opportunity to learn a new language in the destination country.

Table 7. The degree of influence of each statements

Statements	Weighted arithmetic mean	Standard deviation
Thanks to the family absence, I don't want to apply for a job abroad	4,98	0,67
I like to try myself in new situations	2,96	1,44
I am reluctant of stepping out of my comfort zone	1,85	0,42
I don't speak a foreign language, so I'm afraid I can't assert myself abroad	2,19	0,47
I'm afraid I can't find a suitable job related to my education	2,21	0,41
I would like to work abroad because, in my opinion, there are more favorable conditions for starting a family.	2,93	1,52
I would like to work abroad if the tax burdens would be lower in that new country	3,06	1,51
I would only apply for a job in the country whose language I speak	3,25	1,61
I prefer job opportunities within the border over foreign ones	4,59	0,34

Source: own editing based on primary data collection

In the following part of our research, we examine the hypothesis we have formulated. The formulated hypothesis was the following: There is a significant relationship between the respondents' highest educational attainment and their tendency to migrate abroad. Accordingly, the null hypothesis for H1 assumes that there is no significant relationship between respondents 'educational attainment and their tendency to migrate abroad. In the analysis, the responses concerning the tendency to migrate were marked as the dependent variable of the contingency table, while the highest educational attainment of the respondents was indicated as the independent variable. Our variables are measured at an ordinal

scale. Regarding the previous facts, we use the nonparametric Chi-Square Test of Independence. The values shown in the contingency table are not sufficient for the analysis of the relationship between the variables, therefore we use the chi-square test, in the test we determined a 5% significance level.

Table 8. Chi-Square Tests

	Value	df	Asymptotic Significance (2-sided)
Pearson Chi-Square	47,650[a]	16	0,000
Likelihood Ratio	44,551	16	0,000
Linear-by-Linear Association	5,061	1	0,024
N of Valid Cases	512		

Source: own editing based on primary data collection

Expected frequencies are at least 5 for the majority (80%) of the cells, so we meet this requirement. Based on our table, there is a significant relationship between the respondents' highest level of educational attainment and their tendency to migrate, since the significance level is 0.000054 <0.05, so we reject the null hypothesis and accept the alternative hypothesis. There is a significant relationship between the two variables, so in the case of ordinal variables, the value of the Gamma coefficient is also examined in our research.

Table 9. Gamma Value

	Value	Asymptotic Standard Error[a]	Approximate T[b]	Approximate Significance

Ordinal by Ordinal	Gamma	,099	,049	2,015	,044
N of Valid Cases		512			

Source: own editing based on primary data collection

Thanks to the table, we examine the value of the Gamma coefficient. It can be seen from our table that the value of Gamma coefficient is 0,098604. In this sense, the significant relationship between the two variables can be characterized by weak strength.

5 CONCLUSION

In our research, we tried to determine certain factors that influence the citizens of the Nové Zámky district to leave their homeland and their general opinion about labour mobility. A total of 512 people participated in our research who have permanent or temporary residences in different towns or villages of the chosen district. After summarizing the received answers, we can see that the 35-40 age group has the most experience of working abroad, while the 26-34 age group is the least experienced with working abroad. It's interesting to note that people who don't have abroad experience of working are unlikely to apply for a job in a new country. There are probably several factors that encourage them to stay within the borders of Slovakia, for example, the absence of family or job satisfaction. The majority of people who have already worked abroad once or several times are likely to do likewise within the next 2 years. This is maybe because their past experiences with working abroad positively influence them to apply for a job abroad again.

It's worth observing in our first contingency table the desire to migrate for each age group. It can be seen from our first table that 68% of the 18-25 age group tend to apply for a job abroad within the next two years. This can be interpreted as a negative fact for Slovakia in several aspects. The younger generation has got their highest level of educational attainment within the borders of

Slovakia. It can be stated as a loss for Slovakia because mostly the education is free for the students, which means the costs of the education is paid by the state. To avoid this, it would be useful to encourage young people in Slovakia to stay within the borders and find a new highly remunerative job in a new region of the state. In our opinion, the cooperation between universities and companies, as well as some vocational secondary schools, could provide an appropriate solution for this. Thanks to the cooperation, they could gain new work experience and also decrease the unemployment rate. In Slovakia, it's sometimes difficult to find a suitable job after university, as several years of experience is usually required.

Thanks to the weighted arithmetic mean at each factor, we can see that the participants in the research fully prefer job opportunities within borders. We can take this as a positive fact. In the future, we would like to extend our research and examine further factors influencing possible migration.

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KOZMA DOROTTYA EDINA – NEUMANNÉ VIRÁG ILDIKÓ – MOLNÁRNÉ BARNA KATALIN: CLIMATE CHANGE AND SUSTAINABLE DEVELOPMENT IN THE GROUP OF VISEGRAD FOUR

[1-3] Department of Accountancy and Controlling, Institute of Business, University of Pannonia, Veszprém, e-mail: kozma.dorottya.edina@gtk.uni-pannon.hu; barna.katalin@gtk.uni-pannon.hu
[2] Department of International Economics, Institute of Economics, University of Pannonia, Veszprém, e-mail: virag.ildiko@gtk.uni-pannon.hu

Abstract: In our study within the European Union, we examine the countries of the Visegrád Four in terms of climate change and sustainability. The Visegrád countries (also known as V4) have gone through great changes during the last two decades. The four countries – the Czech Republic, Poland, Hungary and Slovakia – have invested/are investigating great power in the regulation, mitigation of climate change and in sustainable development. It is essential to examine how the V4s adapt to climate change and what strategies they have put in place to reduce the problems and extent to which this is related to their sustainable development programs. The most important goal of the study is to identify the similarities and differences between the V4 countries in their climate change and sustainable development strategies and to provide insight into progress in the relevant indicators using simple statistical methods. The question is: do we find any difference from the indicators used to measure progress in the strategies or are they the same as the sustainable development indicators for SDGs?

Key words: climate change, sustainable development, V4

1. INTRODUCTION

Climate change is just one of the environmental, social and economic problems that threaten the supply and quality of natural resources and are an obstacle to sustainable development. It is one of the greatest challenges of our time. The adverse effects of climate change are hampering the achievement of sustainable development in all countries. With the growth and activities of humanity, it is increasingly influencing climate change, which is reflected in an organic way in the greenhouse gases released by the burning of fossil fuels through deforestation. Sustainable development based on inclusive growth, responsible resource management and the prevention and adaptation to climate change is a key objective for the European Union. The European Union seeks to promote priorities in all areas through its international cooperation activities. By supporting partner countries, the EU encourages the development of the so-called "Green" growth that benefits both the economy and the sustainable environment. It also helps Member States to cope with the effects of climate change better and provides them with strong support to improve their resilience to climate change and reduce greenhouse gas emissions. As a result, climate change requires global action in the world and within the EU. The EU is therefore playing a leading role in the international negotiations for a new global climate agreement.

2. LITERATURE REVIEW

If we think about exactly what climate change and sustainable development mean, when they first appeared and under which circumstances developed, we need to look back at the long-ago past (Fogarasi 2004). By time, Rachel Carson has recognized the consequences of overuse of pesticides. The next step towards

sustainability was taken by the Club of Rome, whose primary goal was to draw attention to problems in the environment as well as climate change (Rosta 2008). The beginning of a real change cannot be linked to these events but to the various conferences and conventions that have contributed organically to the concrete formulation of climate change and sustainable development.

The first steps towards sustainability can be traced back to the 1972 Stockholm Conference on the Human Environment, where documents adopted by participants already mentioned in general terms that anthropogenic activities pose a risk of climate change (Láng et al. 2007). From the point of view of sustainable development, it has been recognized that the problems that arise do not only affect one country, but also occur at the national level, regionally or globally. Climate change caused by human activities has long been brought to the attention of scientists nevertheless the dangers were recognized in the 1970s. The Helsinki Conference (1975) intended international cooperation in solving environmental problems (Zemankovics Hunkár 2012). Conceptually, sustainable development was introduced by the Brundtland Commission, the framework of which was set out in Our Common Future in 1987. It can also be said that the work of the Committee has brought breakthrough success and the danger of anthropogenic climate change has become even more pronounced in terms of climate change (Gyulai 2008). In 1988, the Intergovernmental Panel on Climate Change (IPCC) was established to summarize and evaluate the activities of man-made climate change (Láng et al. 2007).

Jumping in time, in 2015 it became necessary again to renegotiate forward-looking objectives. It took place in Paris (COP 21 - Conference of the Parties), where 193 UN Members were gathered to discuss the new sustainability and climate agenda. At Paris COP 21, the Paris Agreement was adopted which was the next stage of post-Kyoto climate policy, involving all parties to climate

protection agreements (Institute of Environmental Protection - National Research Institute 2019). The result was the development of the 2030 AGENDA for Sustainable Development (Transforming Our World: the 2030 Agenda for Sustainable Development), which applies to all nations without exception (Jancsovszka 2016).

3. MATERIALS AND METHODS

During the study, our main goal is to determine the similarities and differences among the examined European Union Member States or to put it another way, the Visegrad Four framework strategy for climate, sustainable development and of course, the application of indicator systems. Based on this, we also defined our research questions which read as follows:

Q1: What are the similarities and differences in the climate and sustainable development strategies of the four analysed countries?

Q2: Do we find a discrepancy in the indicators used to measure progress in the strategies or are they the same as the sustainable development indicators of SDGs?

In order to answer these questions, it is absolutely necessary to examine the climate change and sustainable development strategies of each country which have been included in the literature review. In addition, of course, there is a need for a comprehensive study of the climate and sustainability indicators of the Visegrad Four countries. The SDGs system, which provides a basis for comparison, along with the strategies of each member state, which contain and name country-specific information, are of a great help in this. It is generally the case that climate change strategies contain information on sustainability and vice versa, climate strategies also play a significant role in sustainable development. The indicators are characterized by the fact that for all four countries the statistical

offices collect the time series and also the data needed for comparison. Our hypotheses are as follows:
H1: None of the strategies of the Visegrad countries are completely the same, nevertheless they have common features.
H2: In the case of the indicators used to measure progress in the strategies, the SDGs indicators provide only a kind of basis for comparison.
In order to prove the research questions as well as the hypotheses, it is necessary to present the relevant strategies and indicator systems of all four countries, which will be implemented in the framework of a comparative analysis. Progress is measured using simple statistical methods.

4. RESULTS AND DISCUSSION

The Czech Republic, Hungary, Poland and Slovakia (group of V4s) have long-term roots in historical, economic and cultural terms. In the past and in the present, these countries have represented a civilization based on social and cultural roots. Their aim was to support Euro-Atlantic integration in the three post-socialist Central Eastern European states (Káposzta - Nagy 2015), to promote the expansion of economic relations by liberalizing trade between them (Arday 2015) After joining the European Union on 12 May 2004, the V4s signed another agreement in which the development of new goals was undertaken and cooperation among one other became even more important than ever. However, the countries sometimes behave like competitors rather than friends

4.1. The Czech Republic

In 1999, by Resolution 480, *the Czech Republic* adopted the "Strategy for the Protection of the Earth's Climate System in the Czech Republic", which sets out the national climate change policy as a priority environmental issue (Ministry of the Environment 2017).

In response to climate change, two basic measures can be taken: mitigation measures and adaptation measures. The adaptation to climate change aims at the reduction of the vulnerability of systems and their greater resilience to systems in a timely manner without compromising the quality of the environment and the potential for economic and social development of society (Ministry of Environment of the Czech Republic 2017).

To support the negative effects of climate change, the state has defined its environmental policy for 2012-2020 which provides an outlook for 2030. It aims to mitigate the effects on the environment which is reflected in its adaptability and maintains well-being. Climate change adaptation strategies cover forestry, agriculture, urban landscape, tourism and recreation and many other areas (Ministry of Environment 2015). One of the key goals of the strategies is to significantly reduce greenhouse gas emissions by 2030, amounting to at least 32 million tons by 2020 (Hanzlik et al. 2020).

In the Czech Republic, sustainable development is primarily assessed at the national level. Three years after the development of the European Union Strategy, on 8 December 2004, the Czech Government adopted the country's Sustainable Development Framework Strategy (Štreimikiene et al. 2016). It is a kind of framework for the development of various policies and similar official documents including sectoral policies and action programs. It serves as a basis for strategic decision-making (Office of the Government of the Czech Republic 2006).

The framework strategy focuses on the following areas: economic competitiveness; landscape, natural resources and environmental protection; stability and cohesion; R&D, education; European and international context; good governance (Fischer et al. 2013). It has become apparent that the strategy focuses on three main pillars and three complementary areas and that the concept of the Brundtland Commission is at the heart of the planning. Today, the

last Czech Sustainable Development Strategy for 2010 identifies five main priority axes which are also a strategic vision for sustainable development (Ministry of the Environment of the Czech Republic 2010).
In the case of *the Czech Republic*, the indicators can be divided in two ways. The first method of apportionment is based on the three dimensions of the sustainable development fund and three additional dimensions). In this case, we can talk about 34 aggregate indicators. Environmental indicators related to climate change can be found in the second pillar, such as GHG emissions, material consumption and expenditures on environmental protection. If the Czech Republic's indicators related to sustainable development are broken down on the basis of the five main priority axes, we get completely different indicators (Ministry of Environment of the Czech Republic, 2010). In this case, 3 priority axes also include indicators related to climate change. First, as a zero axis, the ecological footprint appears among the indicators. In the second axis we can find the primary energy consumption, the proportion of energy from recycled materials and the material consumption. The fourth and fifth axes include expenditure on environmental protection, the share of organic farming and GHG emissions (per capita and per unit of GDP).

4.2. Hungary

The National Climate Change Strategy - NÉS (Nemzeti Éghajlatváltozási Stratégia) is based on the Article 3 of Act LX / 2007 (V.28.) on the Framework Convention on Climate Change and the Kyoto Protocol which was first developed for the period 2008-2025. It sets out three main lines of action for a long-term policy on climate change (Hungarian Government 2008).
The second climate change strategy (NÉS-2) covers the period of 2018-2030, in which the public policy goal is to create a strategy

that sets objectives to address the long-term effects of climate change (Hungarian Government 2008). The instrument and target system of NÉS-2 enables the use of various domestic and EU resources focused on climate protection goals, as well as a long-term emission reduction strategy which names emission reduction ranges until 2050 (Huszár 2018).

Hungary has developed its first sustainable development strategy in 2007 (National Sustainable Development Strategy) after joining the European Union. Before the first strategy there were already preliminary aspirations for sustainability which were essentially not concrete strategies, but plans or drafts (NFÜ 2007). Hungary's second sustainable development strategy was published in 2013, covering the period from 2012 to 2024 (Kis-Orloczki 2014). The main goal is to recognize the so-called lending process of future generations, as well as to present the natural resources and circumstances of the state and how they can be used to develop the sustainability system (NFFT 2013).

Solving problems is not necessarily the sole responsibility of the political government. In order to solve them we need to involve families and businesses alike. In the case of Hungary, the three dimensions are supplemented by an additional one, the human dimension. The overarching goal of Hungary's sustainable development framework strategy is to create and ensure the conditions for continuous adaptation for all dimensions of sustainability. In addition, it should be able to improve cultural adaptation (NFFT 2013).

Until the second strategy, Hungary used the indicator system of Eurostat (EU SDIs), then on 3 December 2015 the National Sustainable Development Council adopted the first sustainability report, in which 16 key indicators were named (KSH 2017). In Hungary, we can name a total of 103 indicators which can be broken down according to the 3 + 1 dimensions of sustainability (Korsós-Schlesser – Marselek 2016). As the strategy was developed

earlier in time than the adoption of the SDGs, the objectives of the progress report are not linked to the SDGs. The indicators will only follow these objectives in the future (KSH 2017). Examining the various indicators in the environmental dimension, we find GHG emissions, energy consumption, organic farming, environmental taxes and expenditures and renewable energy sources.

4.3. Poland

Poland's international commitments on climate change can be seen in the consequences of the UN Framework Conventions and in particular the Kyoto Protocol. The second National Environmental Policy covered the period 2003-2006 and refers to the priorities of the 6th Environmental Action Plan (Baran et al., 2018). The goal of the strategy is to gradually eliminate activities that are harmful to the environment and human health, to promote appropriate farming practices and to change production and consumption patterns. The strategy that follows in time can be seen as a continuation of the previous one, as the short-term goals coincide in time with the time of the strategy (2003-2006), and medium (2007-2012) and long-term (2013-2020) goals have also been named (Zelljadt et al. 2013).
Being a member of the Visegrad Four, Poland was the first who developed a sustainable development strategy in the spirit of the millennium (2000) which is essentially a long-term strategy for sustainable development (Kis-Orloczki 2014). In Poland, the principle and concept of development, sustainable development, is a constitutional principle contained in Article 5 of the Polish Constitution (April 2, 1997) (Urbaniec 2015). On this basis, sustainable development is seen as a socio-economic development in which political, economic and social actions are integrated.

The Polish NSDS (Sustainable Development Strategy for Poland up to 2025 ~ Polska 2025) typically analyses the changes that have taken place since the transition to a market economy. The main goal of the strategy is to reverse the negative trends of the past, another goal is to ensure an increase in the welfare of Polish families and to minimize development gaps with developed countries (Ruotsalainen 2005). The strategy is a long-term, multidimensional framework program that presents an overall vision for the future of Poland. The country's sustainable development strategy is complemented by two additional areas which are the political and institutional dimensions (Urbaniec 2015).
The sustainable development indicators can be separated on the basis of three dimensions of sustainability (economic, social, environmental) and two additional dimensions (political, institutional). Based on this, the country manages a total of 76 indicators (Central Statistical Office 2011). We can conclude that the sustainability strategies of countries have been heavily influenced by the Brundtland Commission's concept of sustainable development. Indicators related to climate change are included in only three pillars of the environment, these are: aggregate sectoral GHGs and GHG emissions from energy consumption.

4.4. Slovakia

The strategy of the *Slovak Republic's* environmental policy until 2030 (Enviro strategy 2030) defines the vision until 2030, taking into account possible, probable and desirable future developments, defines the basic systemic issues, the goals and frameworks for 2030 and suggests improvement of the current situation and also includes key performance indicators that allow monitoring of the results achieved (Frumanczuk 2018). The basic idea of the 2030 Enviro strategy is to achieve better environmental quality and a

sustainable circular economy using the fewest renewable natural resources and toxic substances which should lead to an improved health of the population Slovakia's climate policy is defined by the framework of the European Union and mutually agreed goals. Two interconnected but separately addressed challenges are mitigation and adaptation (Filčák 2016).
The sustainability strategy was adopted by the Slovak government on 10 October 2001 and by the National Council on 3 April 2002. Sustainable development was enshrined in 17/1992. The strategy is based on the definition of the Brundtland Commission and has three dimensions which are further complemented by more, such as culture (Kis-Orloczki 2014). The Sustainable Development Strategy set out two action plans for the post-2000 period. One was between 2005 and 2010 ("Action Plan for Sustainable Development") and the other was between 2007 and 2013.
In *Slovakia*, the introduction of sustainable development indicators has been strongly influenced by the indicators developed by the Commission. This set of indicators contains a total of 134 indicators which can be separated according to the 3 + 1 dimensions: 23 economic, 41 social, 55 environmental and 15 institutional. The indicators listed here began to be tested in 22 countries in the period 1997-1999, including Slovakia (Lyytimäki 2011). The Slovak Environment Agency has proposed 92 indicators, including 65 environmental indicators, in addition to other economic, social and institutional ones. Unfortunately, the list of indicators cannot be found either in the country's sustainable development strategy or in any other area.

With regard to the indicators in the four Member States' own climate and sustainable development strategies (or not), we must not forget the fact that as Member States of the European Union, they also collect data centrally for Eurostat for the SDG indicators. In this case, the climate change indicators for the different

sustainable development goals are completely the same. Goal 7 *("Affordable and Clean Energy")* measures energy consumption and the intensity of its associated greenhouse gas emissions, while Goal 13 is one-on-one on climate *("Climate Change")*.

Climate change is already having observable effects, such as rising average global air and ocean temperatures, changes in rainfall, rising global average sea levels and rising ocean acidity. The effects of climate change threaten the viability of social, environmental and economic systems and may make some regions less livable due to food and water shortages. EU-level monitoring of Sustainable Development Goal 13 focuses on climate change mitigation, climate impacts and initiatives in support of climate change.

Although the EU has made some progress in mitigating climate change in recent years, it still faces unfavorable trends in climate impacts, such as rising surface temperatures and acidification of the oceans. In addition, climate change mitigation has recently slowed, jeopardizing the achievement of the energy efficiency target and slowing down positive developments towards the two targets for renewable energy and greenhouse gas emissions. As part of the Europe 2020 strategy, the EU has set a target of reducing greenhouse gas emissions by 20% by 2020 compared to 1990 levels. In 2017, EU emissions have already fallen by 21.7% and are well on track to reach the 2020 target. Most of these reductions have occurred over the past 15 years, as emissions fell by 15.4% between 2002 and 2017 (Eurostat 2019). Between 2008 and 2009, the economic crisis severely reduced industrial production, transport volumes and energy demand, leading to a relatively sharp decline in GHG emissions in the EU. Although gross domestic product (GDP) growth has gradually accelerated again in the coming years, greenhouse gas emissions have been steadily declining.

At Member State level, significant differences can be observed in the overall trends in greenhouse gas emissions between 1990 and

2017. Most countries have reduced their emissions with the largest relative decline occurring in the Baltic countries and some Central and South-Eastern European countries. For Eastern European countries in particular, economic developments since 1990 have led to large-scale greenhouse gas reductions which have been further encouraged by the modernization of electricity and district heating, as well as direct fuel use, for example for heating purposes. Energy GHG intensity is measured as the ratio of energy-related emissions to gross onshore energy consumption. Between 2002 and 2017, the intensity of GHG emissions from energy consumption decreased by 12.7%. This can be explained by the fact that countries have gradually moved away from GHG-intensive energy sources.

5. CONCLUSION

Comparing the climate and sustainable development strategies of the V4s, we concluded that there are fewer similarities among the countries' climate change strategies than with the sustainable development programs. First, Member States developed their climate strategies at a completely different time, Poland ratified the Kyoto Protocol as a "pioneer" in 1997 and began to reduce GHG emissions in line with trends, the Czech Republic adopted a resolution in 1999 entitled "The Earth's Climate Protection Strategy In the Czech Republic", while Hungary adopted its first climate program in 2007. Typically, each program seeks to reduce GHG and this goal is also in their heart. Of course, there are also various mitigation and adaptation measures, targets to mitigate the effects of climate change. Overall, countries have projected GHG reductions of around 20-40% for the period 2020-2030.
As far as sustainable development strategies are concerned, the common features include the Brundtland Commission's concept and the three dimensions that are organically linked to it (economy,

society, environment). In each country, however, these are complemented by more than institutional, political or human dimensions. In the case of Slovakia and Poland, we cannot talk about changes in strategies, while the Czech Republic in 2010 then Hungary in 2013 made their own. With this, we proved our assumption, in which we said that *"The strategy of none of the Visegrad countries is completely the same, but regardless of this, they have common features."*

Examining the indicators related to climate change strategies separately, we found that GHG emissions are found per capita and per unit of GDP in all V4 countries. Typically, each member state uses climate change in its strategies with a different number of indicators. Of course, we must not forget that the indicators for the 2030 Agenda for Sustainable Development are exactly the same as EU countries provide data centrally to measure progress. *In the case of the indicators used to measure progress in the strategies, the SDG indicators are only a kind of basis for the comparison.* Examining the climate and sustainable development strategies and indicators of the four Visegrad countries - the Czech Republic, Hungary, Poland and Slovakia - all in all, we can say that the countries show little similarity, regardless of their common long-term past.

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ARNE MARQUERING:
THE UNITED NATIONS NEW INTERNATIONAL ECONOMIC ORDER AND THE CONNECTED RISKS FOR MULTINATIONAL CORPORATIONS IN EMERGING MARKETS

Keywords: New International Economic Order, Political Risk Analysis Model, Country Risk

Abstract:

The New International Economic Order is the modern historical ground zero for global inequality between nations in terms of illustrating the problem to the world, where the economic visions of many emergent markets were formed and brought to the United Nations formally by the Group of 77. The failure of industrialized governments, to bring economic equality and prosperity to nations of the Group of 77, started risk developments shortly after the New International Economic Order was passed and are everlasting.

Today this failure still brings political risks for managements of Multi-National Corporations. Many political risk analysis models may date back to the middle of the past century, but the models never included specifically the intentions and outcomes of the New International Economic Order. This Paper tries to develop a model to assess the success of a G 77 nation to implement the goals of the New International Economic Order and sees the failure to do so, as political risk for the management of companies, which have ongoing business operations in a country of the Group of 77.

Introduction:

The United Nations New International Economic Order (hereafter also referred to as NIEO) was the United Nations afford to counter inequality between the industrialized world and the developing world. Often referred to as the North-South debate. The initiative originated from the Group of 77 (hereafter also referred to as G-77). The G-77 tried to lobby inside the United Nations for more economic equality with industrialized countries and therefore a fair trade and investment environment between non-equal countries. The group still exists today, now including 134 countries.

Most experts regard the New International Economic Order as a failure. Many economic conditions for the developing world are the same or have become worse. However, many developing countries in economic struggles are at the same time hosts for Multinational Corporations (hereafter also referred to as MNCs), since many of the G-77 countries are holding valuable materials in their soil, like oil and gas, other minerals like rare earth elements or govern over a large manufacturing population that produces cheaper compared with developed countries. G-77 countries are for MNCs emerging markets or have the possibility to develop into an emerging market.

Emerging market countries are holding opportunities for large MNCs, as well as risks from civil unrest or internal government problems (both part of political risk assessment). Contemporary risks could be identified in the failure of the NIEO and should have a role in the development progress and resulting precision of Political Risk Analysis Models (hereafter also referred to as PRA models). PRA models of the last century have the problem of a necessary modernization, taking modern geopolitical

developments into account, like changing business methods and technological innovation.

Risks of the past century in emerging markets are still existing and are often connected to trade tariffs, discriminating laws against foreign businesses, currency instability, risk of revolution and the risk of government actions to reverse privatizations. Many of the risks could be subsumed under one of the six of seven goals of the NIEO. For example, the lack of industrialization could lead a revolutionary government to reverse privatization, so state owned enterprises could expand. It is therefore necessary to look at the NIEO not solely as a political act for a better world, but as a source of business risks, which every MNC management is due to assess.

The whole complex of the NIEO includes, next to the final two parts of United Nations resolutions (Charter of Economic Rights and Duties of States and the Declaration on the Establishment of a New International Economic Order), a vast number of conferences and negotiations considering a variety of subjects and concerns of G-77 countries. In general, the G-77 countries had seven concerns of which number seven *The Restructuring of the United Nations System* is excluded from this research. This is due to the missing economic aspect of the seventh goal and to the difficulty of assessing this goal on a data driven evaluation. Leaving the remaining six subjects of concern, which are here called the six NIEO goals. I. International Trade, II. Transfer of resources for development, III. Science and technology, IV. Industrialization, V. Food and agriculture, VI. Cooperation among developing countries.[43] These six goals are partials of the final NIEO indicator.

[43] Global Dialogue: The New International Economic Order, B.P. Menon, 1977, Pergamon Press, Page 12

In regard to risk assessment, many political risk models are using dolphin techniques and therefore the quality opinion of experts. Therefore, the NIEO indicator could be a result from questionnaire, regarding the development of a G-77 country towards the six NIEO goals. It is highly unlikely that an expert could assess the development of all G-77 countries. A standardized data-based model should be better suited for the desired NIEO indicator. The NIEO indicator is a final accumulation of the six partial indicators.

H0: Assessing all developments in a G-77 country, regarding the success of progress in the six NIEO goals leads to an accumulated final indicator. The NIEO indicator. This indicator as a stand-alone result, can show the progress of a country in regard to the NIEO but also can indicate political risks for MNCs. The Hypothesis is based on the experience of political stability of countries, which are administrating a stable economy.

Materials & Methods:

Every goal out of the total six, is part of the final indicator and is assessed on its own without being influenced by another goal (another partial indicator). The final NIEO indicator will be the result of the combined partial indicators. For assessment, data is required for every partial indicator. The data here used is mainly extracted from the World Trade Organization (hereafter also referred to as WTO) and the world bank. Both are providing data for nearly every G-77 country. The data can be in percentage, numerical or an otherwise conducted rating. Which makes it necessary to convert the data into a unified scale.

The extracted data is here categorized into a 1 to 10 scale. Meaning the final indicator can reach a maximum of 60 points in the current

model. The higher the score, the more a country reached the intended purpose of the NIEO and is in accordance with the basic hypothesis, that an economically prosperous country is politically more stable than a lesser prosperous country. A country successful in the NIEO goals, is providing less political risks for a Multinational Corporation and its business operations.

The conversion of data into the scale is not unified here. Reasons and consequences of the missing unification are discussed below, in the section results and discussion. For this first version of the NIEO indicator, the conversion was subjectively attended to show the most realistic approach, in evaluating the extracted data. Also, the valuation of a single partial indicator is not always structured equally. Exemplified: A high achieved percentage or numerical value in the data, can result for one partial indicator in a high result, in another a low result. This is due to the heterogeneous nature of the data. Here following are the partial indicators (NIEO goals), the reason why they correlate with economic stability and the used scale of valuation.

The first goal of expanding *International Trade*

International trade is needed to have an excess of international import and export markets, acquisition of new international trading partners and the possibility to import necessary technology for the domestic industry. Furthermore, expand international relationships and improve international influence. The partial indicator *International Trade* is assessed through the trade percentage to Growth Domestic Product (% to GDP). The data can be extracted from the database of the world bank. The world bank

provides this data under the World Integrated Trade Solutions database.[44]

The scale of valuation is:

Indicator Value	1	2	3	4	5	6	7	8	9	10
Data Input	10	20	30	40	50	60	70	80	90	100

The second goal *Transfer of Resources*

The United Nations goal was to achieve more control for G77 countries over their own natural resources. A country which can control the exploitation of their resources, has more stability which can lead to better national benefits from those resources. The world bank calculates the rents for a country sustaining from their natural resources.[45] The world bank based their calculation after the method used in *The Changing Wealth of Nations: Measuring Sustainable Development in the New Millennium*. For the partial variable the reason for evaluating a high percentage of rent for resources is the following: Developing countries are still complaining that the resources of their countries are exploited by MNCs with no antiquated compensation. Therefore, a country which has less rent from the resources are considered to control their resources better and are therefore more in accordance with the NIEO goal regarding resources. This assessment is questionable and will be also discussed further below, in the section results and discussion.

The scale of valuation is:

[44] https://wits.worldbank.org/CountryProfile/en/Country/AFG/Year/2015

[45] https://data.worldbank.org/indicator/NY.GDP.TOTL.RT.ZS

Indicator Value	1	2	3	4	5	6	7	8	9	10
Data Input	20	20	15	9	7	5	3	1	0,08	0,09

The third goal of *Science & Technology*

The progress in the area of science & technology is assessed through the percentage of research & development expenditure to GDP. The data here is also examined from the world bank.[46] Science & Technology progress is the framework for the markets of the future and is an improvement to existing markets and also brings international recognition and partnerships forward. The higher the index value is, the higher the partial indicator result is.

The scale of valuation is:

Indicator Value	1	2	3	4	5	6	7	8	9	10
Data Input	0,05	0,10	0,20	0,30	0,40	0,50	0,60	0,70	0,80	>0,90

The fourth goal of *Industrialization*

The world bank also provides the data for the industrialization intensity index, which is used for the assessment of the partial

[46] https://data.worldbank.org/topic/science-and-technology

indicator *Industrialization*.[47] Industrialization was always a major part in the NIEO negotiations since G77 countries saw the wealth of industrialized nations and wanted their industry to grow within their country. For G-77 developments in the industry sector are still important today, to stabilized domestic economies. Therefore, the higher the industry intensity index the higher the partial indicator.

The scale of valuation is:

Indicator Value	1	2	3	4	5	6	7	8	9	10
Data Input	<0,05	>0,05	>0,10	>0,15	>0,20	>0,25	>0,30	>0,35	>0,40	>0,50

The fifth goal of *Food & Agriculture*

The partial indicator is produced by dividing the total exports of a country with the numerical value of the agricultural percentage of the country's agricultural exports. Improvement of food production and agriculture development within a country, improves the stability through food security and additional income from exports for the country. The more food security a country has, the more it can export food and agricultural products, indicating political stability. This means a higher export rate is considered positive for the partial indicator.

The scale of valuation is:

47

https://tcdata360.worldbank.org/indicators/mva.ind.int?indicator=3793&viz=line_chart&years=1990,2014

Indicator Value	1	2	3	4	5	6	7	8	9	10
Data Input	>10		8-9,9		6-7,9		4-5,9	2-3,9		</=1,9

The sixth goal of *Cooperation among Developing Countries*

The assessment of the cooperation among developing countries was created similar to a reversed engineering process. WTO provides data for every WTO member, regarding the number of WTO lawsuits a member is involved in. The WTO suits are divided into three categories of participation in a lawsuit. I. As a complaintive, II as a respondent and III. as a third party. The hypothesis here is that cooperation among developing countries suffers, because governments are aware of the number of lawsuits a country brings to the WTO or is subjected to. Both are not trustworthy facts. Therefore, if a country is a complaintive, as it is here the worst outline for cooperation, the reached value is 3, as a respondent 5 and a third party 8. Only in the case that a member state is not involved in any way in a WTO dispute does it reach a 10.

The scale of valuation is:

Indicator Value	1	2	3	4	5	6	7	8	9	10
Data Input			I.		II.			III.		0

The final NIEO indicator

The final result can reach a maximum of 60 points. The higher the result, the more successful a country is in the implementation of

the NIEO goals. According to the hypothesis, this means less political risks for MNCs in the assessed countries. The less points reached, the more potential for political risk is in the country.

Results and Discussion: Extractions of the current NIEO indicator version

Results

The tables below are illustrating six countries out of the complete G-77 table, which has the data for every G77 country. Three countries are attended to reflect positive examples of the NIEO implementations and three are attended to illustrate negative examples. The results are briefly compared to publications and data, discussing the economic and political stability and outlook of the assessed countries.

Positive 3 - data input without NIEO Indicator

	Int. Trade	Trans. o. Resources	Science & Tec.	Industrialization	Food & Agra	Cooperation	NIEO Indicator
Thailand	127,5	2	1,0004	0,68	5,7	I.14/II 4/III. 98	------
Morocco	80,86	1,6	0,715	0,37	4,7	II.3	------
Costa Rica	80,23	0,8	0,423	0,32	2,5	I.6/II.1 /III.19	------

Positive 3 - scaled into 1- 10 Frame with final NIEO Indicator

	Int. Trade	Trans. o. Resources	Science & Tec.	Industrialization	Food & Agra	Cooperation	NIEO Indicator

Thailand	10	7	10	10	7	3	47
Morocco	9	7	8	8	7	5	44
Costa Rica	9	9	6	7	8	3	42

Thailand has a NIEO indicator which is comparatively high with 47. Meaning Thailand is successful in implementing the goals of NIEO, providing a stable political and country risk for MNCs. The Oxford Business Group stated roughly the same in their assessment of the economic outlook of the country. Outline the positive development in the domestic economy, especially with regards to infrastructure investments.[48]

Morocco achieves in the last years a more dynamic, stable and prosperous economy. Making it possible for MNCs to operate there with low political risk. Morocco tries to diversify its economy and create a more stable economic growth outlook.[49]

Costa Rica has the NIEO indicator value of 42. Costa Rica provides prosperous economic data. Especially the high Foreign Direct Investment is an indicator of subjective low political and overall country risk.[50]

[48] https://oxfordbusinessgroup.com/overview/generation-demand-economic-indicators-and-development-strategies-contribute-positive-1

[49] https://oxfordbusinessgroup.com/overview/morocco-works-ensure-future-economic-growth

[50] https://www.oecd.org/economy/surveys/Costa-Rica-2018-OECD-economic-survey-overview.pdf (Page 19)

Negative 3 - data input without NIEO Indicator

	Int. Trade	Trans. o. Resources	Science & Tec.	Industrialization	Food & Agra	Cooperation	NIEO Indicator
Venez.	46,14	10,4	0,337	0,39	100	I.3/II.2/III.31	--------
Nigeria	20,72	11,5	0,132	0,22	45,45	III.6	--------
Kuwait	100,49	43,1	0,062	0,27	111	III. 1	--------

Negative 3 - scaled into 1- 10 Frame with final NIEO Indicator

	Int. Trade	Trans. o. Resources	Science & Tec.	Industrialization	Food & Agra	Cooperation	NIEO Indicator
Venez.	5	4	5	8	1	3	26
Nigeria	3	3	2	5	1	8	22
Kuwait	10	1	1	6	1	8	27

Venezuela has a NIEO indicator of 26, which is compared to the other assessed countries in the lower range. Compared to Venezuela's recent economic developments, it shows a reasonable result. Venezuela is in 2021 a country in a major crisis. Corruption and the mishandling of their natural resource wealth left the state on the brink of collapse.[51]

Nigeria is assessed with 22 and therefore also one of the lowest countries from the Group of 77 in regard to the NIEO indicator.

[51] https://www.cfr.org/backgrounder/venezuela-crisis

Nigeria's economy still has no sufficient and sustainable growth rate. Infrastructure and trade restrictions are holding the country back. Furthermore, corruption is widespread and a setback for economic development.[52]

Kuwait is also in the lower range with the NIEO Indicator accumulated to 27. Its economic outlook was recently rated negative by fitch. Kuwait is a G-77 country which has a high financial dependence on oil exports. The rents of resources compared to the GDP is 43,1%, which supports the assumption above regarding the goal of *Transfer of Resources*.[53]

Discussion

The final results give grounds for academic discussion and further research. In general, this paper gives two directions for developing the NIEO indicator further. First, the data and its recovery itself. The here presented version of the NIEO indicator is using data input for the indicator partials, that could be switched in the future for more precise data sources. Open-source data from the WTO and the world bank could be replaced for example by data from private databases. Also, the age of the data in this first version of the indicator must be questioned, since the WTO and the world bank can´t provide contemporary data for every G-77 country.

Second, a necessary development should be the practice of the indicator assessment. Like mentioned above, the indicator values were assessed with the most subjective realistic approach to the nature of the indicators. In the long term, there could be a more

[52] https://www.usaid.gov/nigeria/economic-growth

[53] https://www.fitchratings.com/research/sovereigns/fitch-revises-kuwait-outlook-to-negative-affirms-at-aa-02-02-2021

precise valuation of the indicators. Both developments would make the final NIEO indicator more precise.
Furthermore, the testing of the final NIEO indicator should progress. In this paper research results are compared to open-source economic intelligence. More precise could be the comparison towards a country risk analysis and political risk analysis report. Those analyses should be understood in their nature and then converted into the same 1-10 scale, so the comparison is reasonable and could be done by correlation analysis.

Last, it should be considered to raise the criteria for reaching 10 on the indicator value higher, so that it can´t be reached. This is due to the fact that there is in the current version the theoretical chance to reach the full 60 points in the final NIEO indicator, meaning a risk-free investment environment. Such an environment does not exist, so it would be more realistic to assume a value below 10 for a partial indicator.

Conclusion:
The NIEO indicator can be researched more and be developed with more precision. In the end the NIEO indicator must be judged by comparison. In a case-to-case comparison, the single country result can be compared to economic and political reports assessing the country. The indicator can be adjusted every time new data is available and therefore compared to such reports periodically.
Regarding the hypothesis of this paper. The exemplary countries have a NIEO indicator which correlates with negative and positive reports of those countries. Meaning there is evidence that further research into the NIEO indicator is justified, How the indicator would work over a longer period of time is another question. The

partial indicator and the final indicator must be assessed yearly, and the assessment period must have a larger time frame.
To be more precise in those compressions, the NIEO indicator should be compared to political risk analysis and country risks reports, which are also scaled into a 1-10 scale and therefore usable for a correlation test. Comparisons like that over the mentioned longer time frame, will show a more realistic value of the final indicator.

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LAURA NISTOR - GYÖNGYVÉR BÁLINT: SECOND-HAND CLOTHES BETWEEN AUSTERITY AND SUSTAINABILITY. THE CASE OF THE SZEKLERLAND-BASED (ROMANIA) CONSUMERS

[1]Department of Social Sciences, Faculty of Economics, Socio-Human Sciences and Engineering, Miercurea Ciuc, e-mail: nistorlaura@uni.sapientia.ro
[2]Department of Social Sciences, Faculty of Economics, Socio-Human Sciences and Engineering, Miercurea Ciuc, e-mail: balintgyongyver@uni.sapientia.ro

Abstract. A non-representative online questionnaire survey (N = 381) was conducted among inhabitants of the Szeklerland region in Romania with a view to look into their second-hand shopping habits. Based on an adapted version of an international scale, the present analysis aims to explore the motivational background of these shopping activities. The exploratory factor analysis indicated five motivational dimensions as follows: economic/austerity, critical/environmental, originality, social interaction, nostalgic and self-expression. Motivational dimensions were explained by a series of independent variables. Cluster analysis was adopted to model second-hand shoppers' typical consumer segments. Three clusters were found: austerity social interactionist, originality seekers, and nostalgic critics.

Keywords: second-hand shops, thrift, motivations, sustainability, Szeklerland.

1. Introduction

Second-hand retail refers to the acquisition of items previously owned and/or used "by at least one person prior to the present owner" (Borusiak et al., 2020). In formal contexts, second-hand products appear in charity shops, garage sales, or shops largely

resembling first-hand retail settings, and the products can be acquired through purchase (Laitala and Klepp, 2018).

One of the most popular categories encountered on the market of second-hand products is represented by used clothing items (Balsa-Budai and Kiss, 2019; Laitala and Klepp, 2018). Despite that fast-fashion brands' increasingly lower prices make these products available to an ever-wider range of consumers, a rising popularity of second-hand clothes can be observed in western countries as well (Laitala and Klepp, 2018). Data of the *2016 European Quality of Life Survey* (Eurofound, 2016) show that 42% of the Romanian citizens cannot afford to buy new clothes, and so they rather opt for buying from second-hand shops. Therefore, it appears that in countries in a weaker economic position it still pays off more to buy used products instead of new ones.

The ambition of our research was to map the shopping habits related to second-hand clothes among the consumers living in Covasna, Harghita, and Mureş counties in Romania. The investigation based on online questionnaire survey covered several aspects of thrifting, but the present study will include only the results on the motivations behind shopping.

The above-mentioned three counties correspond to the context of the historical Szeklerland in the broader sense, whose present-day feature is that it forms an economically less developed region in the territory of Romania. The region shows levels of unemployment below the national average in each economic segment (Kapitány, 2019), foreign investors are sporadic (Csíki, 2019) and the entrepreneurial activity and trade – due to the lack of major cities - is limited compared to the national average (Csata and Csata, 2019).

2. Material and Methods

Based on a complex, mixed-mode research performed in France, Guiot and Roux (2010) created the *Second-Hand Shoppers' Motivation Scale*. Since we have also made use of this scale as a starting-point in the exploration of the motivations included in our questionnaire, we must note that the authors distinguished between four motivational dimensions on the scale (economic motivation, critical/conscious consumption, experience consumption, and nostalgia appeared as motivations for thrifting), which were eventually classified into three second-order dimensions: economic constraints, critical motivations and hedonism.

The classical economic motivations of second hand shopping (e.g. Williams and Windebank, 2002) has been challenged by various other scholars[54] who accentuated that besides economic constraints, consumers can opt for second-hand shopping based on the consumption-critical, ethical, and environmental motivations (Bardhi and Arnould, 2005; Franklin, 2011; Waight, 2013). Experiences provided by thrifting are referred to as hedonic motivations in literature: those consumers will be driven by such motivations who visit second-hand stores because they find shopping there interesting, exciting, and adventurous (Bardhi and Arnould, 2005), prefer to look for special, unique goods (Mitchell and Montgomery, 2010; Guiot and Roux, 2010) or have nostalgia about old times and products (Roux, 2006), or see see a connection between the thrifting experience and social interaction (Williams and Paddock, 2003; Guiot and Roux, 2010; Laitala and Klepp, 2018).

In order to explore the motivations of second-hand clothes shopping we conducted an online questionnaire survey among the population of Harghita, Covasna, and Mureş counties in the period

[54] Due to the space limitations of the present paper, we are not able to present the complete literature review of our research.

of 4–19 June 2020. The questionnaire included 27 questions altogether and addressed participants' habits of shopping for second-hand clothes, particular focus being placed on the motivations behind buying used clothing items (Guiot and Roux, 2010). The questionnaire was published in Hungarian language, thus targeting ethnic Hungarian customers (see Bálint et al, 2020). The questionnaire survey was preceded by a qualitative research as well (Nistor, 2021), which assisted in formulating the questions.

The exploratory and explanatory analysis belonged to the type of open research, during which convenience sampling was adopted by applying the self-selection method. The questionnaire could be accessed via links placed on social media websites and was filled in by a total of 381 valid respondents. The greatest handicap of this type of research is the lack of researcher control as sample size and composition could not be regulated: this latter problem is also reflected by the normal distributions (*Table 1*).

Table 1. The demographic composition of the sample

Variable	Category	Frequency	Percent (%)
Gender	Male	13	3.4
	Female	368	96.6
	Total	*381*	*100.0*
Age	17-30	136	35.7
	30-45	188	49.3
	46-70	57	15.0
	Total	*381*	*100.0*
Education	Medium level	123	32.3
	Upper level	258	67.7
	Total	*381*	*100.0*
Family arrangement	Married/in partnership	282	74.0
	Single	82	21.5

	Divorced	14	3.7
	Widowed	3	0.8
	Total	*381*	*100.0*
Type of settlement	Urban	256	67.2
	Rural	125	32.8
	Total	*381*	*100.0*

International surveys using non-representative online questionnaire methods in their analysis of shopping for used clothing items also served as a reference point to our research method (e.g. Guiot and Roux, 2010; Balsa-Budai and Kiss, 2019).

The topic of the present research is mapping the motivations behind shopping for second-hand clothes. For this purpose, we relied on Guiot and Roux's (2010) work. Based on a complex, mixed-mode research performed in France, the authors designed the Second-Hand Shoppers' Motivation Scale. The original scale was composed of 24 statements, which corresponded to eight first-order and three second-order factors (critical, economic, and recreational motivations).

Due to space limitations deriving from the nature of online questionnaires, our research adopted only 19 Likert-type items from the original Second-Hand Shoppers' Motivation Scale (response options with five gradations: 1 – strongly disagree, 2 – disagree, 3 – neither disagree nor agree, 4 – agree, 5 – strongly agree), in accordance with the three dimensions (see *Table 1* in the *Appendix*). Since the questionnaire was compiled in Hungarian, the statements included in the originally English-language scale were translated into Hungarian, thus inevitably causing subtle differences compared to the original items.

Hypotheses and research questions were equally formulated in our research.

Hypothesis 1: Our research rests on the assumption that, given the economically disadvantaged position of the region as well

as the structural features manifested through the large number of second-hand shops and the relatively low share of other kind of clothing stores, it is most likely that economic motivations will be the most dominant elements.

Hypothesis 2: The second hypothesis relied on assertions found in the literature according to which the motivations behind thrift shopping may reach beyond scarcity explanations even with economically disadvantaged groups. Therefore, it was hypothesized that, although less dominantly, some other motivations for second-hand shopping may appear such as experiences and critical consumer attitude.

With a view to performing a deeper analysis of the motivations behind thrifting, three multivariate analysis methods were adopted as follows: as a first step, we carried out an exploratory factor analysis (in lack of similar regional research, confirmatory modelling was discarded); secondly, linear regression analysis was performed to examine the variables explaining factor variables; finally, in a similar vein to Guiot and Roux's (2010) and Balsa-Budai and Kiss's (2019) research, the major groups of second-hand shoppers were explored using the method of non-hierarchical (K-Means Cluster) cluster analysis.

3. Results and Discussions

3.1 The Results of the Principal Component Analysis

We ran a factor analysis based on the 19 statements measured on a 1–5 point Likert scale (see *Table 1* in the *Appendix*). The situation of multicollinearity can be excluded (the highest $r = 0.678$), and the measure of sampling adequacy is good since according to the anti-image correlation matrix each variable fits the factorial model (the values of the diagonal range between 0.682 and 0.925). The value of the KMO test is 0.832, the Bartlett's Test of Sphericity is

significant (approx. chi-square = 2659.495, p = 0.000), so that the data were highly suitable for the purposes of factor analysis.

The final factor model (principal component method based on the Kaiser Criterion and Varimax rotation) contained only 15 variables. Four of the initial variables (the b, k, l, and q statements from *Table 1* in the *Appendix*) had high factor loadings on more factors, so that they were left out of the final model. The KMO value of the final model is 0.798, the Bartlett's Test of Sphericity is significant (approx. chi-square = 1956.237, p = 0.000), and the communalities of the original variables have values ranging between 0.424 and 0.825. The resulted 5-factor solution explained 68.556% of the original variance. *Table 2* presents the motivational dimensions as reflected by the five factors.

Table 2. Factor structures (Model 1)

1.	*Economic/austerity motivations* f) - For the same amount of money, I can buy more things in second-hand shops compared to traditional shops. g) - Second-hand shops tend to come up with such good offers that it would be a pity not to buy them. e) - By buying in second-hand shops, I can experience the feeling of not having to leave the product in the shop. h) - I have often found new products in second-hand shops for a fraction of their regular price. j)- I consider that second-hand shops have fair prices. i) - I think that new products on sale in traditional shops are overpriced.
2.	*Critical/environmental motivations* d) - By buying in second-hand shops, I can contribute to reducing waste. c) - I like to buy in second-hand shops because this way I can save clothes intended to be discarded but that are still in a good condition. a) - By buying in second-hand shops, I can distance myself from the consumer society.
3.	*Originality motivation* n) - One can find products in second-hand shops that are not available in traditional shops. m) - Unique and special products can be found in second-hand shops.
4.	*Social interaction motivation*

	o) - In second-hand shops, there is often opportunity to initiate a conversation with other people. p) - Visiting second-hand shops is, for me, a way of spending leisure time in the company of others.
5.	*Nostalgic and self-expression motivation* r) - I am more into old-time fashion than today's trends. s) - I can express myself better with products bought in second-hand shops.

The value of Cronbach's alpha is higher than 0.7 in the case of each factor, and in the case of the 1st and 3rd factors it is even higher than 0.8, which means that the internal consistency of the variables corresponding to the specific factors is good (see *Table 2* in the *Appendix*).

The results confirm both our first hypotheses: the economic/austerity motivations are the most important determinants of second-hand clothing shopping. This result is similar to those found in Hungary by Balsa-Budai and Kiss (2019) and is in contrast with recent results found in Norway (Laitala and Klepp, 2018), where the sustainability motivations were dominant. Thus, it can be suspected that in economically less developed settings the economic/austerity motivations are more dominant in shaping consumers' preferences for second-hand shopping.

The second hypothesis is also confirmed: the second most important set of motivations is made up by the critical/environmental motivations. The following three factors can be subscribed under the stimulation/hedonic dimension as each of them refers to specific preferences linked to second-hand shopping: the possibility to find unique, original articles, nostalgia, and social interaction. Hence, our results suggest that the motivations behind thrift shopping in the Szeklerland region are not of economic nature alone.

3.2. Determinants of the Motivations for Second-Hand Shopping

With a view to explain the various motivations behind second-hand shopping, a linear regression analysis (stepwise and enter selection methods) was performed to examine the independent variables included in the research. Eleven out of the twenty-five explanatory variables used during the analysis (see their list in the *Appendix*) do not contribute significantly to the explanation of any of the motivations for thrift shopping (these are written in italics in the list included in the *Appendix*).

The first regression model (Model 2 from *Table 3*) looks into the effects on the economic motivation. As the table shows the older the second-hand shopper and the greater the household income, the less typical financial motivation becomes. Frequent second-hand shoppers are financially more motivated to shop in such settings than individuals who rarely pursue this kind of activity. Therefore, this result reveals that the scarcity motivation reflects quite closely the case represented by persons in a financially more vulnerable situation (William and Windebank, 2000; Williams and Paddock, 2003).

Table 3. The significant determinants of the economic/austerity motivational factor (Model 2)

	Coefficients		t-values	sig. (t)	VIF
	B	Beta			
Frequency of shopping	0.421	0.210	4.120	0.000	1.005
Age	-0.010	-0.119	-2.313	0.021	1.018
Houeholds' monthly net income/person (RON)	-0,000	-0.104	-2.025	0.044	1.023
Adjusted R^2	0.061				
F-statistic	8.806				
Prob. (F-statistic)	0.000				

Durbin-Watson Statistics	1.872
Number of Observations	364

The second most important factor variable was the ecological and anti-consumerist motivation behind thrift shopping. The six variables (Model 3 from *Table 4*) included in our second model jointly account for 9.9% of the dispersion of the factor variable, and the influence of age shows the greatest significance: the older the second-hand shopper, the less likely it is to shop out of ecological and anti-consumerist motivation. Additionally, it also appears that the more important one considers the financial side, the less relevant this motivation becomes for them. Also, the more important politics and friends are and the higher the net monthly income per capita and educational attainment, the more predominant this motivation is.

Table 4. The significant determinants of the environmental/critical motivational factor (Model 3)

	Coefficients		t-values	sig. (t)	VIF
	B	Beta			
Age	-.0019	-0.209	-3.968	0.000	1.121
Upper level education	0.347	0.161	3.052	0.002	1.122
Material values are important	-0.277	-0.138	-2.663	0.008	1.082
Politics is important	0.601	0.140	2.773	0.006	1.027
Friends are important	0.324	0.128	2.502	0.013	1.058
Households' monthly net income/person (RON)	0.000	-0.123	-2.351	0.019	1.105
Adjusted R^2	0.099				
F-statistic	7.633				
Prob. (F-statistic)	0.000				
Durbin-Watson Statistics	2.016				

Number of Observations	364

The originality motivation behind thrifting is related solely to the frequency of second-hand shopping (Model 4): frequent thrift shoppers are more characterized by the originality motivation compared to individuals shopping for second-hand goods on rare occasions. (Adjusted R2 = 0.035, F = 14.725, Prob. (F-statistic) = 0.000, B = 0.389, t = 3.837). The social interaction motivation indicates a relationship with five independent variables, which jointly have an explanatory power of 13.7% (Model 5 from *Table 5*). Individuals who consider religion and friendship important, go to thrift stores more often, live in rural areas, and have a lower educational attainment usually visit second-hand shops because of the social interaction motivation. Our results strongly corroborate this social capital component of thrifting and are similar to the findings described by Bardhi and Arnould (2005) and Guiot and Roux (2010): recreational motivation assumes shopping around in groups.

Table 5. The significant determinants of the social interaction motivational factor (Model 5)

	Coefficients		t-values	sig. (t)	VIF
	B	Beta			
Frequency of shopping	0.257	0.128	2.666	0.008	1.011
Upper level education	-0.522	-0.244	-5.013	0.000	1.044
Importance of friends	0.324	0.129	2.687	0.008	1.014
Importance of religion	0.326	0.159	3.268	0.001	1.047
Size of locality	-0.221	-0.104	-2.109	0.036	1.070
Adjusted R^2	0.137				
F-statistic	13.064				
Prob. (F-statistic)	0.000				

Durbin-Watson Statistics	1.895
Number of Observations	381

The final factor variable is the nostalgia and self-expression motivation. This regression model (Model 6 from *Table 6*) includes four independent variables with a significant role, which jointly account for 4.8% of the variability of the nostalgia and self-expression motivation. This motivation is a characteristic feature of individuals who have no children, are economically active, and see friendship and work as relevant values. This has a very-difficult-to-explain rationale: it is most likely that a specific clothing (vintage) subculture emerging along independent, economically active respondents is what lies behind this motivation (Jenss, 2005; Cassidy and Bennett, 2012).

Table 6. *The significant determinants of the nostalgic and self-expression motivational factor (Model 6)*

	Coefficients		t-values	sig. (t)	VIF
	B	Beta			
Presence of children	-0.242	-0.120	-2.240	0.026	1.065
The importance of work	-0.331	-0.147	-2.771	0.006	1.051
The importance of friends	-0.287	-0.111	-2.108	0.036	1.033
Economically active	0.287	0.132	2.481	0.014	1.048
Adjusted R^2	0.048				
F-statistic	5.431				
Prob. (F-statistic)	0.000				
Durbin-Watson Statistics	1.922				
Number of Observations	356				

3.3. The Size and Patterns of Specific Second-Hand Shopping Groups

Similarly to other scholars' works (specifically: Guiot and Roux, 2010; Balsa-Budai and Kiss, 2019), in order to reveal the composition of specific second-hand shoppers' segments, we ran a cluster analysis (K-Means method) on the motivations of second-hand shopping as well as on the already presented independent variables (see the list of variables in the *Appendix*). Following 13 iterations, a stable and homogenous 3-cluster solution along 14 variables was obtained (Model 7). According to the 7th model of our analysis (*Table 3* from the *Appendix*), the most important variable of cluster segmentation is represented by age, followed by importance attached to work, post-secondary education, importance attached to material values, the environmental/critical motivation, and the monthly net income/person in a household (the values are presented in *Table 4* in the *Appendix*).

Thus, contrary to the results of Guiot and Roux (2010) as well as Balsa-Budai and Kiss (2019), which revealed four clusters, we managed to discover three segments. The first cluster comprises 127 respondents (34.9% of the sample) and can be defined as the thrifty social interactionist segment. This cluster comprises respondents who have the lowest monthly net income/person in the household, are the youngest, and are mostly from rural areas. The two major motivations determining their second-hand shopping are the economic/austerity and the social interaction motivation. Work and friends are important to them, have a medium level of education, and show a moderate frequency of second-hand shopping.

The second cluster comprises 119 respondents (32.7%), and its members can be defined as originality seekers. They are respondents to whom the most important motivation of second-

hand shopping is the originality motivation and who visit these shops in order to find unique, original clothes. They are the oldest respondents (above 40 years old) with the highest monthly income, mostly living in urban areas, generally having a higher level of education, and visiting second-hand shops frequently.

The third cluster includes 118 respondents (32.4%). Given that the two most important motivations for second-hand shopping are represented in this segment by the environmental/critical as well as the nostalgia and self-expression motivation, we define this segment as nostalgic critics. They are middle-aged individuals, mostly city dwellers with a higher level of education who visit second-hand shops with a lower frequency.

4. Conclusions

In this paper, we have presented the results of an online questionnaire which explored Szeklerland-based (Transylvania, Romania) customers' motivations for second-hand shopping. To that end, our research made use of the adapted, abridged version of Guiot and Roux's (2010) Second-Hand Shoppers' Motivation Scale.

Results of the exploratory factor analysis revealed five motivational factors: economic/austerity, critical/environmental, originality, social interaction, and nostalgic and self-expression. Out of these, the last three correspond to the motivations categorized by the reviewed literature under the group of hedonic motivations (e.g. Bardhi and Arnould, 2005; Guiot and Roux, 2010; Laitala and Klepp, 2018) – hence, it can be stated that motivations behind thrift shopping as discussed in our case coincide with those presented in the literature. Considering that our research territory covered a region that is in a more vulnerable economic position within the national context, it came as no surprise that the economic/austerity motivation was the most

representative feature. Further, results also suggest that critical/environmental motivation is the second most essential reason underlying second-hand shopping.

The economic/austerity motivational dimension is related to modest financial situation, frequent thrifting, and younger age-group, while the critical/environmental motivational dimension is linked to higher educational attainment, younger age-group, post-material values, and good financial standing. Motivations falling under the hedonic motivational dimension are connected with social capital and the frequency of thrift shopping, i.e. with specifics of second-hand shopping/settings that make thrifting an experience.

We were able to reveal three segments of second-hand shopping with the help of cluster analysis as follows: thrifty social interactionists, originality seekers, and nostalgic hedonists. As the cluster names also indicate, various shopping-related motivations or combinations of them can be demonstrated in these cases, while some typical sociodemographic and consumption-related variables can also be associated with each segment. The clusters identified more or less coincide with consumer segments described in previous research (Guiot and Roux, 2010; Balsa-Budai and Kiss, 2019). We take the view that differences can be accounted for by the dissimilar geographical-cultural context of the research and the distinct methodological approaches. At the same time, we find it remarkable to have results consistent with the cited sources: the coexistence of motivations in certain segments, the connection between critical environmental motivation and frugal shopping, etc.

We therefore believe that despite the previously mentioned limitations, our research results live up to the expectations of an exploratory study and can be used as a starting-point for further regional research.

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Appendix

Table 1. The 19 items from the Second-Hand Shoppers' Motivation Scale (adapted from Guiot and Roux, 2010)
To what extent do you agree with the following statements?
(1 – strongly disagree, 2 –disagree, 3 – neither disagree nor agree, 4 – agree, 5 – strongly agree)

a)	By buying in second-hand shops, I can distance myself from the consumer society.	1	2	3	4	5
b)	By buying in second-hand shops, I can take revenge on consumer society.	1	2	3	4	5
c)	I like to buy in second-hand shops because this way I can save clothes intended to be discarded but that are still in a good condition.	1	2	3	4	5
d)	By buying in second-hand shops, I can contribute to reducing waste.	1	2	3	4	5
e)	By buying in second-hand shops, I can experience the feeling of not having to leave the product in the shop.	1	2	3	4	5
f)	For the same amount of money, I can buy more things in second-hand shops compared to traditional shops.	1	2	3	4	5
g)	Second-hand shops tend to come up with such good offers that it would be a pity not to buy them.	1	2	3	4	5
h)	I have often found new products in second-hand shops for a fraction of their regular price.	1	2	3	4	5
i)	I think that new products on sale in traditional shops are overpriced.	1	2	3	4	5

j)	I consider that second-hand shops have fair prices.	1	2	3	4	5
k)	I like to visit second-hand shops just to have a look around.	1	2	3	4	5
l)	In second-hand shops, I often get the feeling that I am on a treasure hunt.	1	2	3	4	5
m)	Unique and special products can be found in second-hand shops.	1	2	3	4	5
n)	One can find products in second-hand shops that are not available in traditional shops.	1	2	3	4	5
o)	In second-hand shops, there is often opportunity to initiate a conversation with other people.	1	2	3	4	5
p)	Visiting second-hand shops is, for me, a way of spending leisure time in the company of others.	1	2	3	4	5
q)	Things bought in second-hand shops have their own history.	1	2	3	4	5
r)	I am more into old-time fashion than today's trends.	1	2	3	4	5
s)	I can express myself better with products bought in second-hand shops.	1	2	3	4	5

Table 2. The results of the exploratory factor analysis (Model 1)

Factor	Item	Factor Loading	Communality	Variance (%)	Cronbach's alpha
Economic motivation	f	0.802	0.698	30.42 %	0.808
	g	0.731	0.618		
	e	0.713	0.576		
	h	0.679	0.613		
	j	0.643	0.424		
	i	0.573	0.440		
Critical/environmental motivations	d	0.877	0.796	12.02 %	0.752
	c	0.852	0.762		
	a	0.634	0.504		
Originality motivation	n	0.875	0.825	10.95 %	0.808
	m	0.862	0.823		

Social interaction motivation	o	0.872	0.804	7.95%	0.789
	p	0.871	0.812		
Nostalgic and self-expression motivation	r	0.881	0.817	7.21%	0.727
	s	0.768	0.770		
Total	15			68.56	

Table 3. The final Cluster Centers (Model 7)

	Cluster		
	1	**2**	**3**
Zscore: Household monthly net income/person	-0.44478	0.64171	-0.16844
Zscore: Age	-0.71650	0.69715	0.12983
Zscore: Type of locality	-0.40755	0.42974	0.01287
Economic/austerity motivations	0.20200	-0.06914	-0.15001
Originality motivation	-0.09710	0.24390	-0.10898
Social interaction motivation	0.46914	-0.22679	-0.27207
Nostalgia and self-expression motivation	-0.35618	-0.06861	0.47064
Zscore: Importance of work	0.34268	0.40395	-0.77379
Zscore: Importance of friends	0.30291	-0.09380	-0.23886
Zscore: Importance of material values	0.60583	-0.10132	-0.55983
Environmental and critical motivations	0.02700	-0.59365	0.57357
Zscore: Importance of politics	0.18876	0.09962	-0.30238
Zscore: Level of education	-0.67274	0.34853	0.41804
Zscore: Frequency of shopping in second-hand shops	-0.19522	0.42595	-0.22728

Table 4. The cluster-model's statistics (Model 7)

	F	**Sig.**	**Minimum**	**Maximum**	**N**

Zscore: Household monthly net income/person	48.978	0.000	-1.33312	4.43039	364
Zscore: Age	93.504	0.000	-1.60355	3.10156	381
Zscore: Type of locality	24.358	0.000	-1.42920	0.69785	381
Economic/austerity motivations	4.310	0.014	-4.07108	2.20832	381
Originality motivation	4.811	0.009	-3.61559	2.17655	381
Social interaction motivation	24.075	0.000	-2.04384	2.41742	381
Nostalgia and self-expression motivation	24.057	0.000	-2.16737	2.91310	381
Zscore: Importance of work	71.287	0.000	-3.15267	1.19938	381
Zscore: Importance of friends	10.160	0.000	-3.74996	0.86631	381
Zscore: Importance of material values	55.814	0.000	-2.63366	1.64078	381
Environmental and critical motivations	51.435	0.000	-3.04147	1.97154	381
Zscore: Importance of politics	8.446	0.000	-0.76630	3.52724	381
Zscore: Level of education	62.650	0.000	-1.44639	0.68956	381
Zscore: Frequency of shopping in second-hand shops	17.773	0.000	-0.89167	1.11855	381

The list of the independent variables introduced in the regression and cluster analyses (those written with italics have are variables without significant influence)

Frequency of shopping in second-hand shops. 0- once or less than once a month, 1- frequently, at least several times a month
Income. Households' monthly net income/person (in RON)
Age. Numerical age
Presence of childre. 1-at least one children, 0- no children
Education. 0-not upper level, 1-upper level
Economically active. 1- economically active, 0-economically inactive
Household's income. Appreciated by class mean.
Type of locality. 1- urban, 0-rural.
Importance of work. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Importance of family. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Importance of friends. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Importance of politics. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Importance of material posessions. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Importance of religion. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Amount of money spent in second-hand shops. Appreciated by class mean.
Number of children.
Employment. 0-not full time, 1-full time
Family arrangement. 1- has a spouse/partnet. 0-single

Household's members. How many people live in the household (together with the respondent)?
Subjective social status. Measured on a 1-10 scale.
Importane of aquintances. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Importance of leisure time. 0 – not important (somewhat or less then somewhat important), 1- important (important and very important)
Working abroad in the last 6 months. 1- yes, 0- not.
Subjective income status. 1- above the average, 0- below the average
Shopping alone in second-hand shops. 1- yes, 0- not

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VIZELI IBOLYA – ALT MÓNIKA-ANETTA: MOVING TOWARD A KNOWLEDGE-BASED ECONOMY – AN ANALYSIS OF THE QUATERNARY SECTOR IN ROMANIA AND IN TRANSYLVANIA

[1] Department of Economics and Business Administration in Hungarian Language, Faculty of Economics and Business Administration, Babeş-Bolyai University, Cluj-Napoca, e-mail: ibolya.vizeli@stud.ubbcluj.ro
[2] Department of Economics and Business Administration in Hungarian Language, Faculty of Economics and Business Administration, Babeş-Bolyai University, Cluj-Napoca, e-mail: monika.alt@econ.ubbcluj.ro

Abstract: The present paper aims to review the definitions of the quaternary sector and to analyze its role in the Romanian economy, with special emphasis on Transylvania. The quaternary sector was defined according to Turečková and Martinát (2015)'s definition based on the NACE Rev.2 classification of economic activities. The data was collected from the National Statistical Office's database. The longitudinal data, between 2008 and 2019 was analyzed through descriptive statistical methods. The results of the research reveal that the quaternary sector contributes significantly to Romania's and Transylvania's economy and its importance is expected to increase further in the future. The development of the quaternary sector in Romania is driven by the growth of information, communication, financial, insurance, professional, scientific and technical activities, and government services (e.g. public administration).

Keywords: knowledge intensive services, quaternary activities, economic growth, extended sectoral structure of the economy, region

1. INTRODUCTION

For decades, economists have been preoccupied with the classification of economic activities into industries. Traditionally, the economy is divided into three main sectors, the primary (agriculture, extraction), the secondary (industry), and the tertiary (services) sectors (Kuznets 1973). Due to economic, social, and demographic reasons, the tertiary sector has undergone significant development in recent years (Mallick 2015a). Moreover, technological advancements have increased the importance of knowledge-based and information services and their contribution to economic growth has been steadily increasing (Mallick 2015b).

The emergence of the information society or knowledge-based economy has a significant role in the growing dominance of information and knowledge-intensive services (KIS), which ultimately contributes to structural changes in the economy (Mallick 2015b). This process is leading to an extension of the traditional sectoral divisions, resulting in the emergence of a fourth, so-called quaternary sector alongside the three main economic sectors.

The quaternary sector's key components are knowledge-intensive and information services (Selstad 1990; Mallick 2015b), and this sector has the potential to be the foundation of the knowledge-based economy. The quaternary sector includes activities and services that are based on highly specialized knowledge and expertise. In this context, the nature of science, the creation and usage of specialized knowledge, with a focus on scientific and technical knowledge, research and development (R&D), and invention, are the pillars of the knowledge-based economy (Bryson-Daniels 2007, p. 277).

The less developed countries of the European Union have recently made significant progress in industrialization and made

steps toward the development of the secondary sector, while the more developed countries, such as Belgium, Denmark, Finland, France, Italy, the Netherlands, Portugal, the United Kingdom or Spain, have focused on the tertiary and quaternary sectors (Mirun et al. 2018). The quaternary sector is expected to become increasingly important in developed countries, which can be explained by the efficient use of highly skilled labor as well as human and intellectual capital (Turečková-Martinát 2015). The quaternary sector can be seen as the driver of innovation, which highlights the potential of this sector to become a core component of economic growth in the coming era and to contribute to the advancement of national economies and society (Turečková 2014). As a result, greater emphasis is being put on the implementation of interventions and instruments to facilitate the advancement of the knowledge-based economy, such as funding research and development, increasing the added value of manufacturing, improving technical standards, and enhancing human capital (Lengyel 2010).

The role of the service sector in the economy has received a lot of attention in the literature, but only a few studies have looked at the role of the quaternary sector. The present research aims to fill this gap by studying the transition between the service sector and the quaternary sector. Moreover, the study aims to analyze the performance of the quaternary sector in Romania and in Transylvania.

2. LITERATURE REVIEW

2.1. Traditional classification of economic sectors

The division of the major economic sectors has a long tradition in economic thinking (Kenessey 1987). Clark (1940), in his book "The Conditions of Economic Progress", writes that the economy can be divided into different sectors based on different

economic activities. This can be explained by the fact that sectors may vary in terms of productivity rates, employment rates or even the structure of demand for the products of a given sector (Clark 1940; Wolfe 1955).
Similarly, Kuznets (1973) suggests that economic activities can be divided into different sectors, since each sector differs significantly from the other in terms of the use of natural resources in production processes, in the final products created by the sectors and the final outputs of the sector. Thus, the author divides economic activities into three main sectors: agriculture (primary sector), industry (secondary sector) and services (tertiary sector). Economic activities in the primary sector are characterized by the production of raw materials through the processing of natural resources; economic activities in the secondary sector or industrial activities produce processed products; and the tertiary sector consists of service activities (Wolfe 1955).
The NACE Rev.2 classification system is used in the European Union for statistical classification of economic activities. The aim of this classification is to ensure that economic reality is describable and to enhance the comparability of national, European and international statistics (*The statistical classification of economic activities*, Regulation 1893/2006).

2.2. Knowledge-based economy: knowledge-intensive and information services

During the twentieth century, the emergence of the tertiary sector was followed by the increasing importance of information, technology, and innovation as significant components of economic growth. A number of economic, social and demographic factors have contributed to the rapid development of the services sector, particularly in developed countries. In recent years, the developing economies have seen

the rise of knowledge intensive services (KIS) and information services, which has contributed to an increase in demand for skilled labor. The growing demand for knowledge-intensive services and information services is generated primarily by high-tech industries. Thus, the recent growth of the services sector can be attributed to the emergence of relatively new and fast-growing economic activities which offer knowledge-intensive and information services (Mallick 2015a).

Knowledge-based and information services can directly contribute to economic development by increasing employment and incomes. In addition, these services can also increase economic system efficiency by continuous technology transfer and sharing, as well as progressive specialization. As a result, a greater emphasis on competitive advantage and efficiency development in fields such as technical advancement, organization, corporate finance, management, and marketing is encouraged (Mallick 2015b).

Recent structural developments in the economy have thus been characterized by a steady increase in information and knowledge-based services. This process is rooted in the emergence of the information society or knowledge-based economy (Mallick 2015b). The terms "knowledge economy" and "knowledge-based economy" are often used interchangeably. Dating back to the 1950s, the term "knowledge economy" is the older one and it has been mostly used to describe the composition of the labor force. In contrast, the term "knowledge-based economy" reflects a system-level perspective and emphasizes the structural aspects added by technological systems (Cooke-Leydesdorff 2006).

The recent rise in the importance of knowledge-intensive and information services has led to an expansion of traditional economic sectors. Although there is still no consensus on the issue in the literature, there has been increasing discussion about

the emergence, growing importance and rapid development of the quaternary sector alongside the primary, secondary and tertiary sectors of the economy (Turečková-Martinát 2015), which could be a driver of the knowledge-based economy.

2.3. Definition of the quaternary sector

The concept of the quaternary sector was introduced by Jean Gottmann in the 1970s with the aim of distinguishing between advanced information and transactional (e.g. retail and personal services) service industries and occupation types (Bryson-Daniels 2007, p. 167). The main characteristic of the quaternary activities are their orientation toward knowledge and information (Selstad 1990; Mallick 2015b). In recent years, the quaternary sector has increased its importance in developed countries due to recent changes in demographic behavior, lifestyles, technology and the growing demand for new services (Mallick 2015b).

Machlup (1962) attempted to identify the economic activities where the role of knowledge is of prime importance. The author classifies knowledge production into six main sectors: education, R&D, artistic creation, communication, media, information services and information technology. According to Mallick (2015b), the appreciation of knowledge-based and information services has led to the quaternary sector being interpreted as a complementary factor to production, which constantly drives entrepreneurs to innovate and devise productivity-boosting processes.

Foote-Hatt (1953) also attempted to classify economic activities into economic sectors. They classify the tertiary sector as personal and related services, the quaternary sector as transportation, trade, communication, financial and administrative services, and the quinary sector as medical services, education, research and recreation (including the arts).

However, when identifying economic sectors, most scholars do not include the quinary sector.

Kuznets' (1973) classification of the economy into three main sectors (primary, secondary, tertiary) is extended by Kutscher-Mark (1983) with a fourth sector, the quaternary sector. This is justified by the division of the large tertiary sector (services), which includes many economic activities that can be divided based on the growth rate of each activity, their capital intensity and the growth of productivity. Kenessey (1987), based on the work of Kutscher-Mark (1983), analyzed the four sectors of the economy. In his work, the primary sector includes agriculture, forestry and fishing, and mining; the secondary sector includes construction and manufacturing/processing; the tertiary sector includes transportation, electricity, gas and health services, wholesale and retail trade; and the quaternary sector includes financial, insurance, real estate and other services, and public administration. This classification is justified for two reasons. First, the primary, secondary, tertiary and quaternary sectors of the economy as well as the activities within them are sufficiently distinct to allow for this form of separation, comparison and analysis. Second, the overall growth rate and efficiency of the economy is affected by the changing relative importance of these four sectors, the contribution of each sector to economic output and the different input-output relationships of these four sectors (Kenessey 1987).

According to the ISIC Rev. 4 classification system, the quaternary sector includes the following economic activities: public administration and defense; compulsory social security; health care; care activities; social work activities; scientific research and development; other professional, scientific and technical activities; education; creative, arts and entertainment activities; sporting activities; amusement and recreation

activities; and activities of libraries, archives, museums and other cultural activities (Mallick 2015b).

Turečková and Martinát (2015) classified activities into primary, secondary, tertiary and quaternary sectors according to their knowledge and information orientation, based on the NACE Rev.2 framework.

In the present study, the quaternary sector is defined according to the classification of Turečková-Martinát (2015) (Table 1), which can be justified by the fact that in their division the authors defined the economic activities included in the quaternary sector according to the NACE Rev.2 framework. Since Romania also uses the NACE Rev.2 classification system to classify economic activities, a similar form definition of the quaternary sector allows the sector to be categorized and analyzed using Romanian data. Thus, in this study, the quaternary sector is considered to be composed of the following seven economic activities: J) Information and communication; K) Financial and insurance activities; M) Professional, scientific and technical activities; N) Administrative and support service activities; O) Public administration and defense; compulsory social security P) Education; Q) Human health and social work activities.

Table 1.: Classification of economic activities by sector, including the quaternary sector

Economic sector	Economic activities by NACE rev. 2
Primary sector	A. Agriculture, forestry and fishing
	B. Mining and quarrying
Secondary sector	C. Manufacturing
	D. Electricity, gas, steam and air conditioning supply
	E. Water supply; sewerage, waste management and remediation activities

	F. Construction
Tertiary sector	G. Wholesale and retail trade; repair of motor vehicles and motorcycles
	H. Transportation and storage
	I. Accommodation and food service activities
	L. Real estate activities
	R. Arts, entertainment and recreation
	S. Other service activities
	T. Activities of households as employers; undifferentiated goods- and services-producing activities of households for own use
	U. Activities of extraterritorial organizations and bodies
Quaternary sector	J. Information and communication
	K. Financial and insurance activities
	M. Professional, scientific and technical activities
	N. Administrative and support service activities
	O. Public administration and defense; compulsory social security
	P. Education
	Q. Human health and social work activities

Source: Turečková- Martinát (2015)

3. MATERIAL AND METHODS

3.1. Research questions

Based on the literature review, the quaternary sector was described as the fourth sector of the economy. However, the role of the quaternary sector in the Romanian economy is unknown. Therefore, the present study aims to investigate the role of the quaternary sector in the Romanian economy, as well as to provide answers to the following research questions:

1. How does the quaternary sector contribute to the performance of the Romanian economy?
2. How does the quaternary sector perform in Transylvania?

3.2. Research methodology

The analysis of the quaternary sector in Romania, and in Transylvania, was carried out by using relevant data from the database of the National Institute of Statistics (INS), namely Tempo Online. Data on the following economic activities were collected: J) Information and communication; K) Financial and insurance activities; M) Professional, scientific and technical activities; N) Administrative and support service activities; O) Public administration and defense; compulsory social security P) Education; Q) Human health and social work activities. The research focuses on the performances of Transylvania's quaternary sector, which is analyzed for the following counties: Caraş-Severin, Timiş, Arad, Hunedoara, Bihor, Satu Mare, Maramureş, Bistriţa-Năsăud, Sălaj, Cluj, Alba, Mureş, Harghita, Covasna, Brasov and Sibiu. For the analysis of the quaternary sector, the following data were collected and analyzed: gross value added (GVA) by counties between 2009-2017; net investments between 2008-2018; active enterprises by counties between 2008-2018; average number of employees by counties between 2008-2019; average monthly nominal gross earnings by counties between 2008-2019. Data analysis was carried out using descriptive statistical methods.

4. RESULTS AND DISCUSSION

4.1. Gross value added

"The gross value added (GVA) measures the surplus value of produced goods and services over the value of consumed goods and services for production, representing therefore the new

created value during the production process" (Tempo Online, 2020).

In Romania, GVA has shown an increasing trend since 2009, reaching RON 776.6 billion in 2017. The contribution of Transylvania to the Romanian GVA has been stable between 2009 and 2017, at 31%-32%, reaching the highest value in 2017 (32.9% of the national value added). The contribution of the Bucharest-Ilfov region to the national GVA shows an increasing trend in the studied period: while in 2009 the region's to the national GVA was 24.9%, in 2017 it increased to 27.1%. The rest of Romania accounted for 40%-42% of the national GVA (Fig. 1).

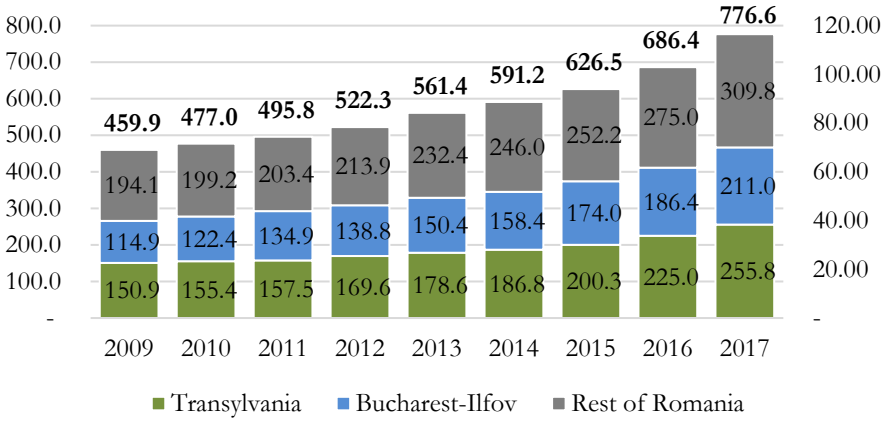


Fig. 1.: Transylvania's contribution to GVA in Romania, 2009-2017 (billion RON)

Source: authors' own editing based on data retrieved from Tempo Online database

The data show that the performance of the Bucharest-Ilfov region in terms of GVA is increasing. The contribution of the quaternary sector to GVA has shown a steady increase between 2009 and 2017. While in 2009, the quaternary sector accounted for 24% of the GVA, in 2017 the contribution of this sector to the national

GVA reached 30.6%. In 2017, the remainder was distributed among the other three economic sectors as follows: the contribution of the primary sector was 4.8%, the contribution of the secondary sector was 31.9%, and the contribution of the tertiary sector was 32.6% to the national GVA (Fig. 2). The figure shows that the tertiary sector has the largest contribution to the GVA, followed by the secondary, the quaternary and finally the primary sector. It is worth noting that the GVA of the primary and secondary sectors has steadily decreased over the studied period. The contribution of the tertiary sector to the national GVA was at around 32%, with the exception of the years 2010, 2011, 2013 and 2014 (when the sector's contribution to the national GVA was at around 28%). By contrast, the contribution of the quaternary sector to GVA has shown a steady increase over the studied period, it increased from 24% in 2009 to over 30% in 2017. This increase is in line with the upward trend in GVA nationally, but also indicates that the importance of the quaternary sector is growing.

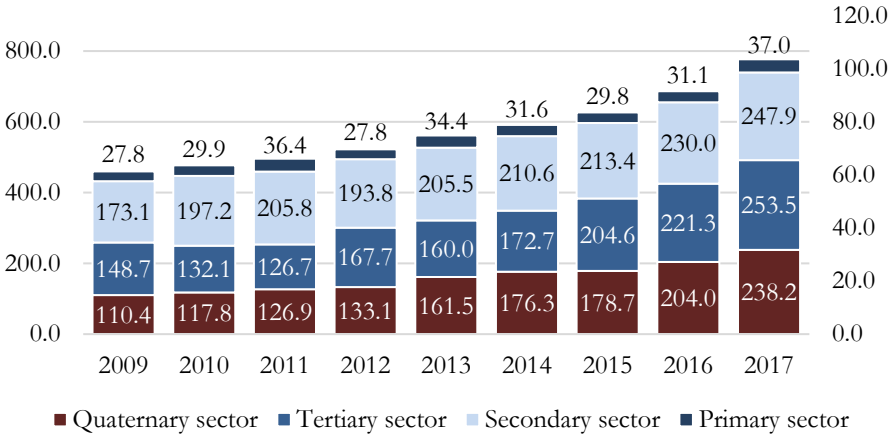


Fig. 2.: The quaternary sector's contribution to GVA in Romania, 2009-2017 (RON billion)

Source: authors' own editing based on data retrieved from Tempo Online database

Transylvania's contribution to the GVA of the Romanian quaternary sector between 2009 and 2017 was at around 26-27%, reaching the highest value in 2017 (27.7% contribution). The contribution of the Bucharest-Ilfov region to the GVA of the quaternary sector is the highest, but shows a fluctuating trend. The region's contribution was at around 39-45% in the studied period, reaching 41.4% in 2017. The rest of Romania's contribution to the quaternary sector's GVA was at around 30-34% in the studied period, reaching 30.3% in 2017 (Fig. 3). The data indicates that the dominance of Bucharest-Ilfov in terms of the quaternary sector's GVA is unquestionable, whereas Transylvania and the rest of Romania contribute similarly.

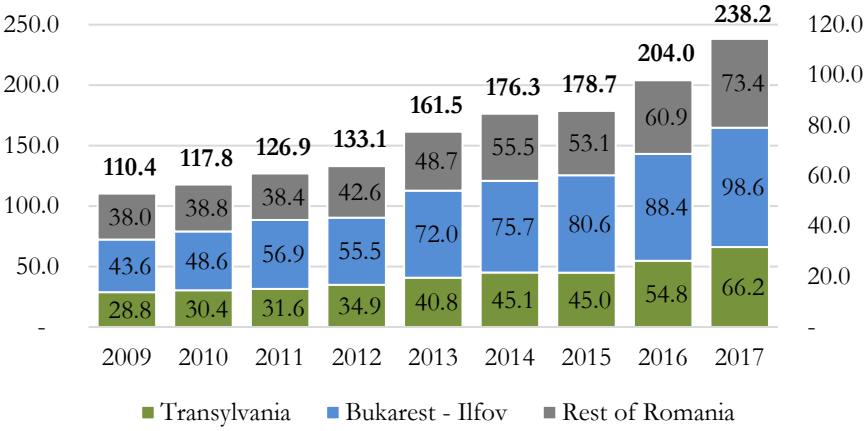


Fig. 3.: Transylvania's contribution to the GVA of the quaternary sector in Romania, 2009-2017 (RON billion)

Source: authors' own editing based on data retrieved from Tempo Online database

In the case of the evolution of the GVA of the quaternary sector by economic activity, it is important to note that the publications of the National Statistical Office, unlike those mentioned earlier, provides data on GVA broken down by four economic activities

rather than seven. Data is available for information and communication activities and financial and insurance activities. However, data for professional, scientific and technical activities and administrative and support service activities are available are combined in a single category. Similarly, data on public administration, defense and compulsory social security, education, and human health and social work activities are combined in one category as well. Fig. 4 shows that, of the quaternary sector's activities, public administration, defense and compulsory social security, education and human health and social work activities have the largest contribution to GVA. In 2017, this category accounted for 44.3% of the quaternary sector's GVA. This is followed by the professional, scientific and technical activities and administrative and support service activities, with a contribution of 27.1% in 2017. The contribution of information and communication activities to the GVA of the quaternary sector was 19.6% in 2017. It is noteworthy that the contribution of these activities to the GVA of the quaternary sector remained stable at around 19-20% over the studied period. Lastly, the contribution of financial and insurance activities to the GVA of the quaternary sector was 8.8% in 2017, which is the lowest value for financial activities in the monitored period.

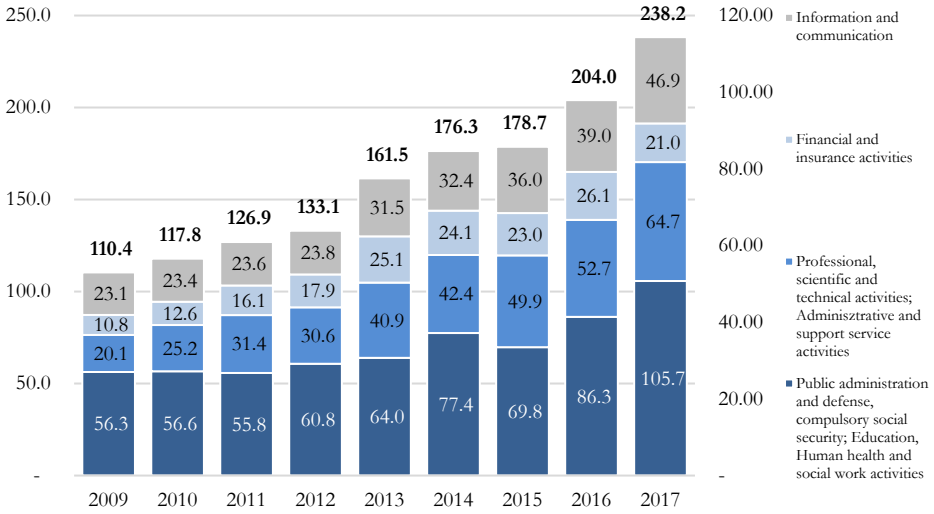


Fig. 4.: GVA of the quaternary sector by economic activity in Romania, 2008-2018 (billion RON)

Source: authors' own editing based on data retrieved from Tempo Online database

4.2. Net investments

"Net investments represent expenses made for construction, installation and erection works, for the purchase of equipment, transport means, other expenses destined for creating new fixed assets, for developing, modernizing and rebuilding the existing ones, as well as the value of services related to the ownership transfer of existing fixed assets and lands (notary fees, commissions, transport and loading-unloading expenses, etc.)" (Tempo Online, 2020).

Net investments in Romania show no clear downward or upward trend between 2008 and 2018. In the years following the 2008 crisis, there was a sharp decline in the value of net investment, reaching its lowest point in 2010 (RON 72.3 billion). After 2015, net investment did not fall below RON 90 billion, reaching the highest value in 2018 (RON 101.7 billion) (Fig. 5). The

contribution of the quaternary sector to the Romanian net investments was stable at around 20-21% between 2008 and 2018, reaching the highest value, RON 23.1 billion, in 2018 (22.7% contribution to the national value). In 2018, the secondary sector had the highest share from the net investments (38.2%), followed by the tertiary (30.5%), quaternary (22.7%), and primary sector (8.6%) (Fig. 5).

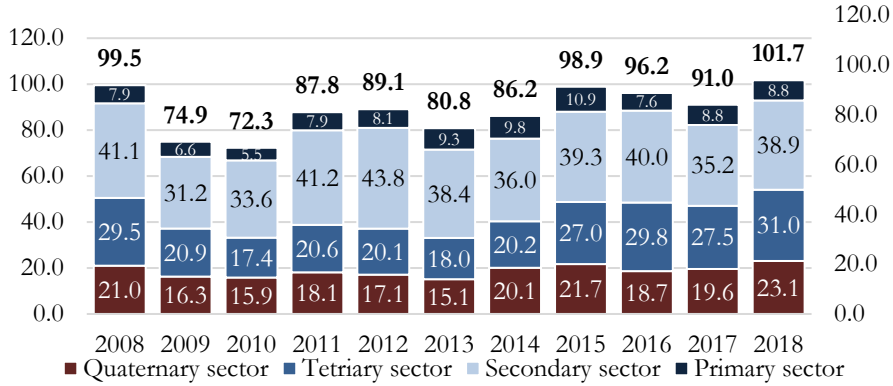


Fig. 5.: The quaternary sector's contribution to net investments in Romania, 2008-2018 (RON billion)

Source: authors' own editing based on data retrieved from Tempo Online database

Fig. 6 shows the contribution of the seven economic activities of the quaternary sector's net investment value. In 2018, public administration, defense and compulsory social security had the highest share from the quaternary sector's net investment value (48.8%). This is followed by information and communication activities (16.9%), administrative and support service activities (11.0%), professional, scientific and technical activities (10.6%), human health and social work activities (6.4%), financial, insurance activities (4.2%) and finally education (2.2%) (Fig. 6). It is worth noting that the value of investment in education shows a relatively large decrease over the studied period.

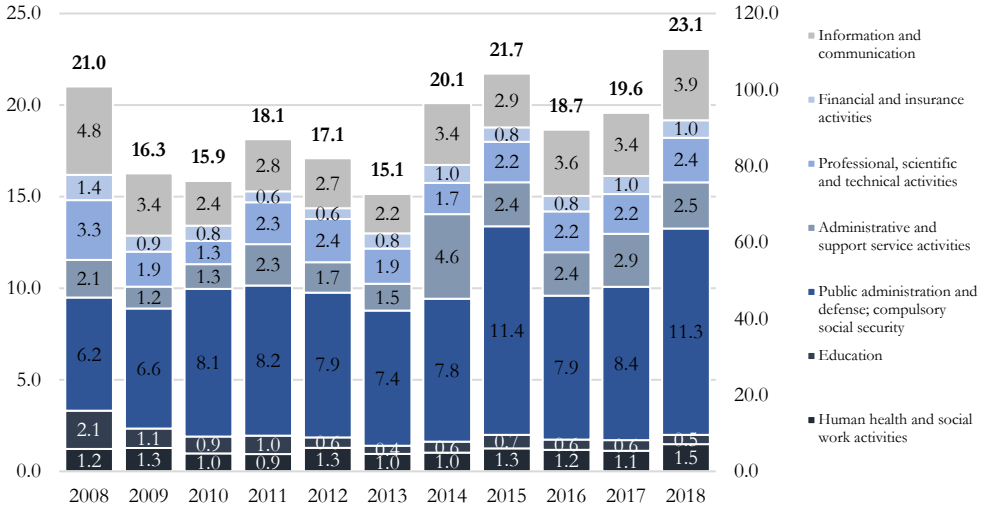


Fig. 6.: Net investments in the quaternary sector by economic activity in Romania, 2008-2018 (RON billion)

Source: authors' own editing based on data retrieved from Tempo Online database

4.3. Active enterprises

"Active enterprise is the entity which, from an economic viewpoint is active (during the observation period), namely it produces goods or provides services, outlay and draws up the balance sheet." (Tempo Online, 2020).

The number of active enterprises in Romania has been on a downward trajectory from 2008 to 2011, which could be the result of the 2008 economic crisis. Between the years of 2012 and 2018, the number of active enterprises has been increasing, reaching 576.5 active enterprises in 2018. The increase in the number of active enterprises was also observed in Transylvania, in the Bucharest-Ilfov region and in the rest of Romania during the studied period. In 2018, the share of Transylvania from the number of active enterprises was 35.6%, the contribution of the

Bucharest-Ilfov region was 24.7% and the rest of Romania shared 39.8% (Fig. 7).

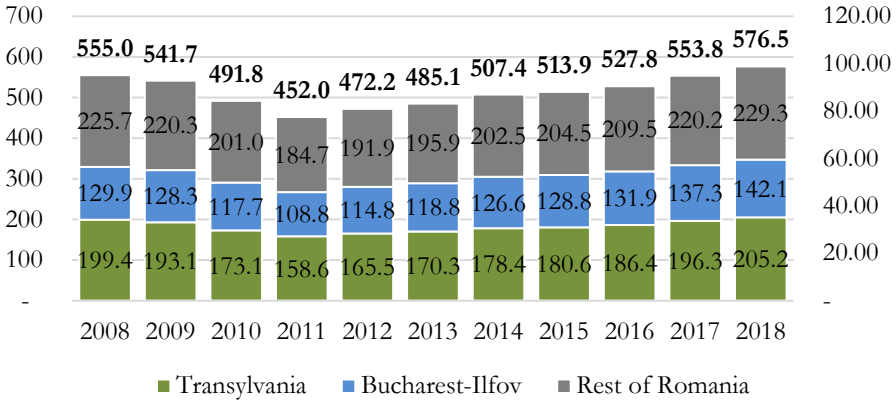


Fig. 7.: Transylvania's contribution to the number of active enterprises in Romania. 2008-2019 (thousands)

Source: authors' own editing based on data retrieved from Tempo Online database

In 2018, the tertiary sector had the largest share from the number of active enterprises with 51.2%. This was followed by the quaternary sector (25.5%), the secondary sector (19.5%) and the primary sector (3.7%) (Fig. 8). The contribution of the quaternary sector to the number of active enterprises shows an increasing trend after 2012.

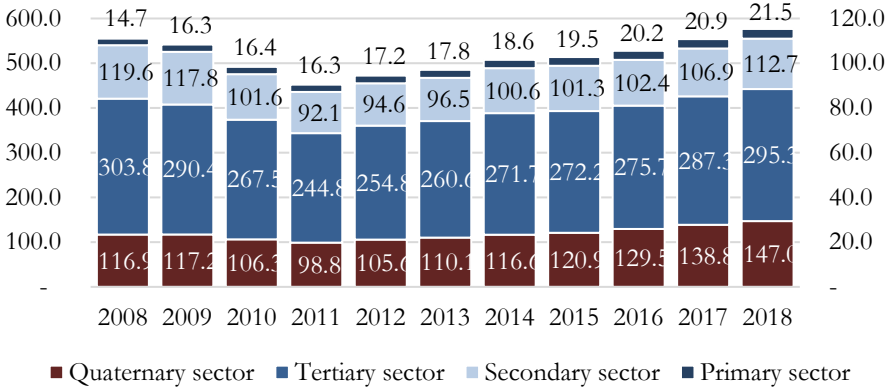


Fig. 8.: Contribution of the quaternary sector to the number of active enterprises in Romania, 2008-2018 (thousands)

Source: authors' own editing based on data retrieved from Tempo Online database

In 2018, the share of Transylvania from the number of active enterprises was 33.1%. In the same year, the contribution of the Bucharest-Ilfov region was 36.1% and the share of the rest of Romania was 30.9% (Fig. 9).

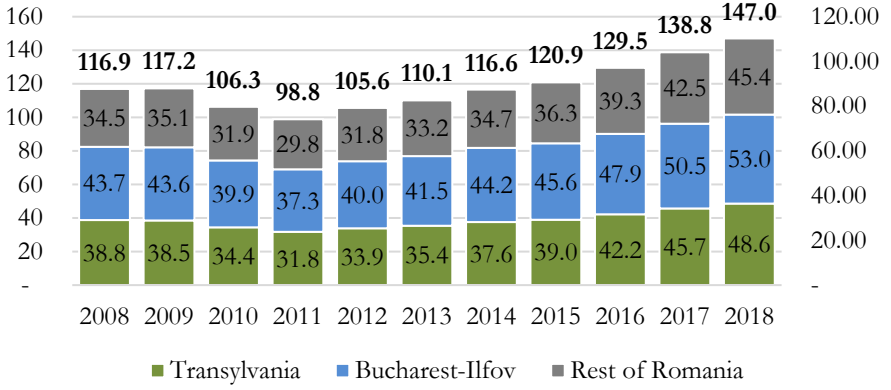


Fig. 9.: Transylvania's contribution to the number of active companies in the quaternary sector in Romania, 2008-2018 (thousands)

Source: authors' own editing based on data retrieved from Tempo Online database

Fig. 10 shows the number of active enterprises in the quaternary sector by economic activities. In 2018, professional, scientific and technical activities had the largest contribution to the number of enterprises in the quaternary sector (45.4%). This was followed by the information and communication activities sector (17.3%), the administrative and support service activities sector (15.5%), human health and social work activities (11.6%), financial and insurance activities (5.8%) and education (4.4%). It is worth noting that no data were available for the public administration, defense and compulsory social security activities.

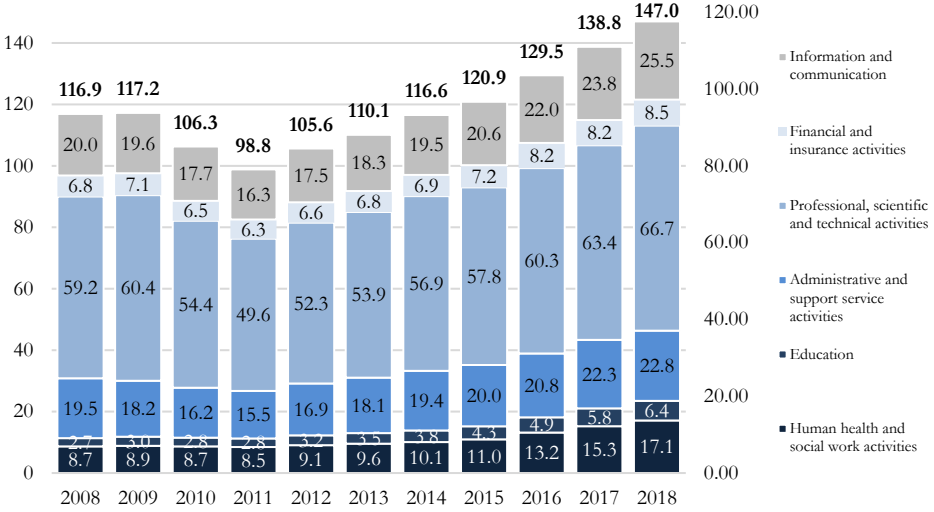


Fig. 10.: The number of active enterprises in the quaternary sector by economic activity in Romania, 2008-2018 (thousands)

Source: authors' own editing based on data retrieved from Tempo Online database

4.4. Average number of employees

"The average number of employees comprises all persons with individual labor contract/agreement for a definite or indefinite duration (including seasonal workers, the manager or the

administrator) whose labor contract/agreement was not suspended during the reference year" (Tempo Online, 2020).
The average number of employees showed a decrease after the 2008 crisis and has been on an upward trend since 2012, reaching 5.16 million in 2019. The increase in the number of employees in Romania was also observed in Transylvania, in the Bucharest-Ilfov region and in the rest of Romania during the studied period. In 2019, the share of Transylvania from the number of employees was 36.6%, while the share of the Bucharest-Ilfov region was 22.0% and the rest of Romania's share was 41.3% (Fig. 11).

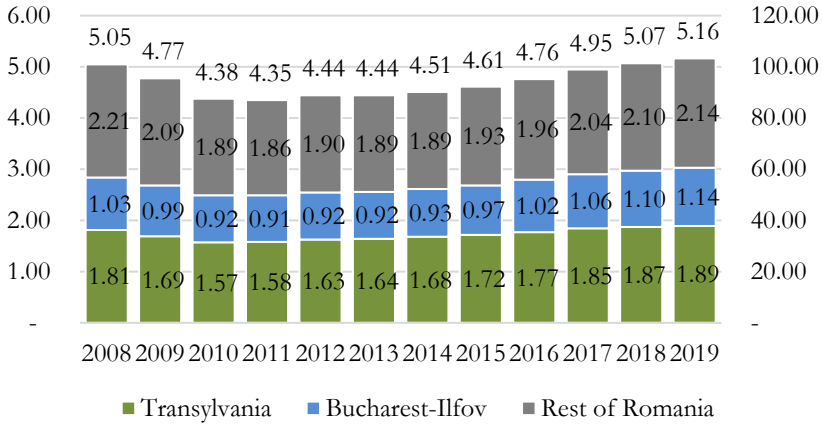


Fig. 11.: Transylvania's contribution to the average number of employees in Romania, 2008-2019 (million persons)
Source: authors' own editing based on data retrieved from Tempo Online database

In terms of gender, employees were nearly evenly divided between men and women. In 2019, 47.7% of workers were women, while 52.3% were men (Fig. 12).

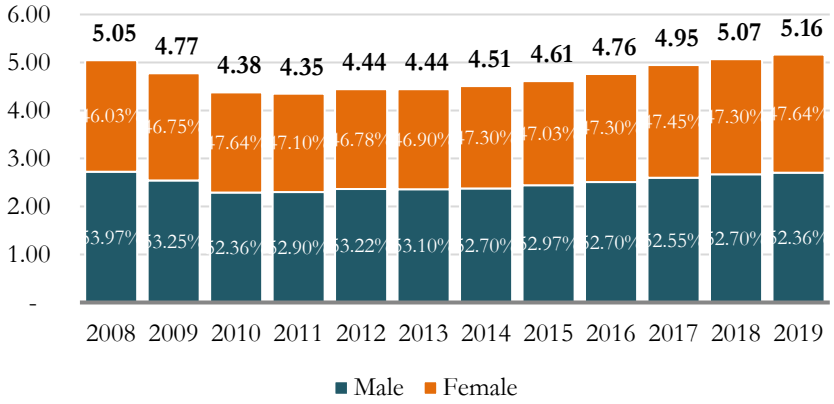


Fig. 12.: Average number of employees in Romania by gender, 2008-2019 (million persons)

Source: authors' own editing based on data retrieved from Tempo Online database

In 2019, the secondary sector had the largest share from the average number of employees with 33.8% share. This was followed by the quaternary sector (33.3%), the tertiary sector (29.5%) and the primary sector (3.4%) (Fig. 13).

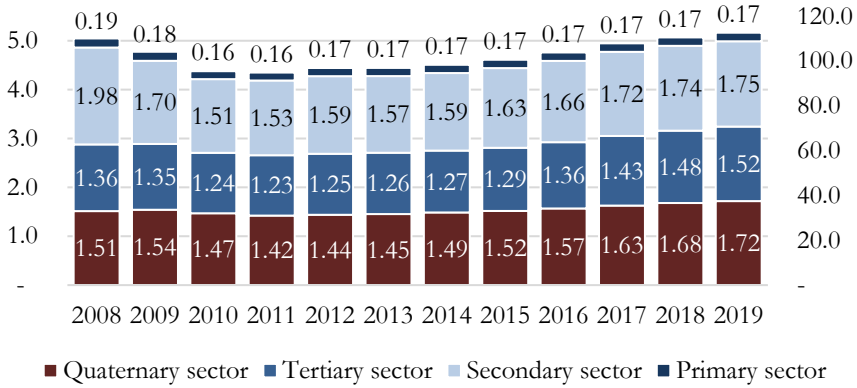


Fig. 13.: Contribution of the quaternary sector to the average number of employees in Romania, 2008-2019 (million persons)

Source: authors' own editing based on data retrieved from Tempo Online database

In 2019, the share of Transylvania from the number of employees in the quaternary sector was 31.3%. This share of the Bucharest-Ilfov region was 29.3%, while the contribution of the rest of Romania was 39.5% (Fig. 14).

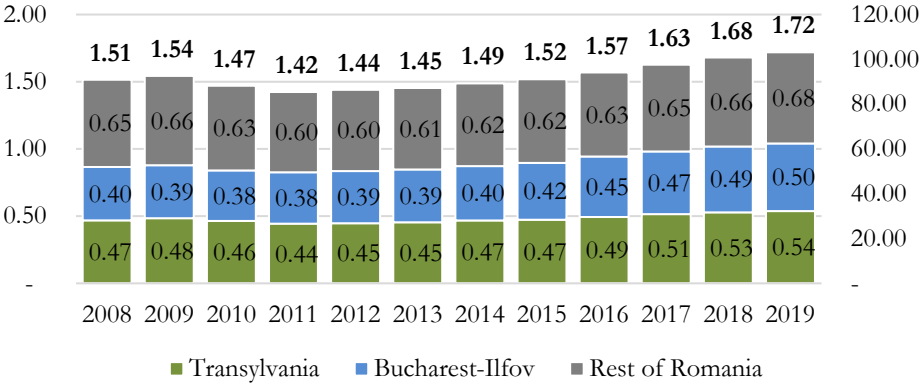


Fig. 14.: Transylvania's contribution to the average number of employees in the quaternary sector in Romania, 2008-2019 (million persons)

Source: authors' own editing based on data retrieved from Tempo Online database

Following 2012, the number of employees in the quaternary sector increased which is in line with the national average. Contrary to the national trend, women make up the bulk of employees in the quaternary sector. In 2019, for example, 59.9% of the sector's employees were women, while men accounted for just 40.1% (Fig. 15).

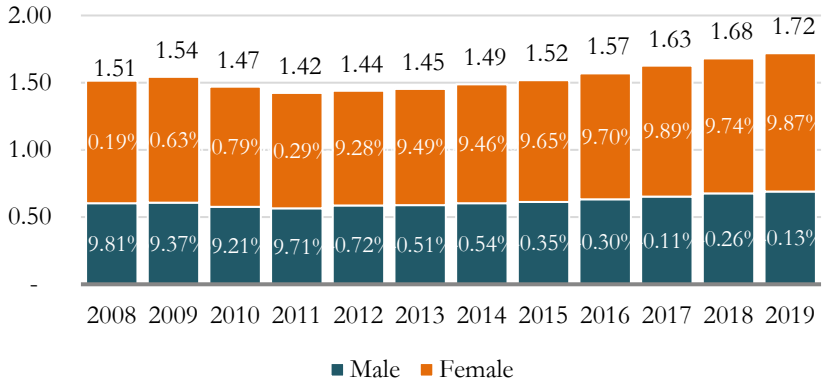


Fig. 15.: Average number of employees in the quaternary sector in Romania by gender, 2008-2019 (million persons)
Source: authors' own editing based on data retrieved from Tempo Online database

Fig. 16 shows the number of employees in the quaternary sector by economic activities. In 2019, human health and social work activities had the largest contribution to the number of employees with 23.0%. This was followed by education (20.3%), administrative and support service activities (17.7%), public administration, defense and compulsory social security (12.0%), information and communication activities (11.3%), professional, scientific and technical activities (10.46%) and financial and insurance activities (5.2%) (Fig. 16).

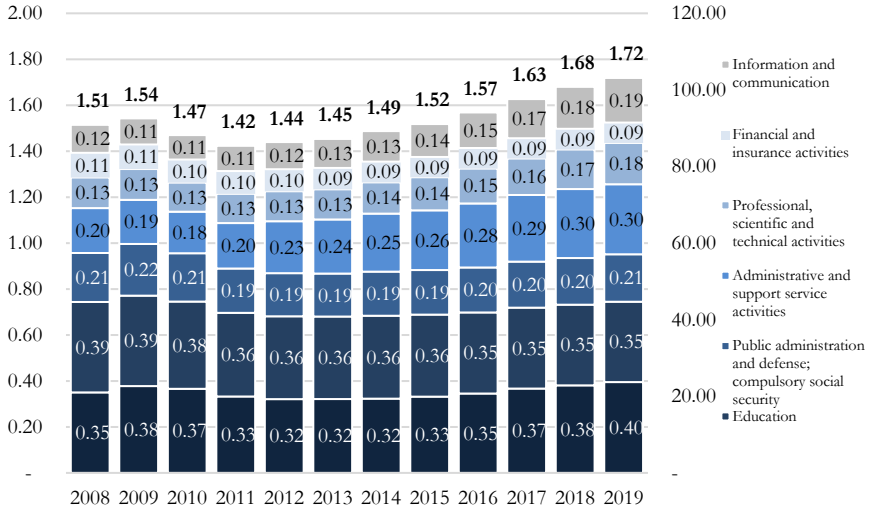


Fig. 16.: Average number of employees in the quaternary sector by economic activity in Romania, 2008-2018 (thousands)

Source: authors' own editing based on data retrieved from Tempo Online database

4.5. Average monthly nominal gross earnings

" The gross nominal earnings comprises salaries for the effectively done work (including overtime), according to the salary type applied, benefits and indemnities granted as salary percentage or in fixed amounts, other legal rises of salary, amounts paid for the non-worked time (indemnities for rest and study leaves, holidays, other days-off, amounts paid from salary fund for medical leaves), awards, holidays bonuses and other amounts paid from salary fund according to normative documents or collective labor contracts, amounts paid from the net profit and other funds (including the value tickets equivalent)" (Tempo Online, 2020).

Over the period 2008-2019, average monthly nominal gross earnings in Romania increased year on year. While in 2008 average monthly nominal gross earnings were 1,761 RON, the value reached 4,856 RON in 2019. The gross nominal wage for the seven

economic activities that comprise the quaternary sector has increased over the period 2008-2019, in line with the national trend. It is noteworthy that, between 2008 and 2017, four economic activities (information and communication activities, financial and insurance activities, public administration, defense and compulsory social security, and education) had higher average monthly nominal gross earnings than the national value. From 2017 onwards, the average monthly nominal gross earnings in human health and social work activities has also exceeded the national average. It is also worth noting that, while between 2008 and 2015, financial and insurance activities offered the highest average monthly nominal gross earnings among the economic activities studied, from 2016 onwards, information and communication activities have been the first in this respect (Fig. 17).

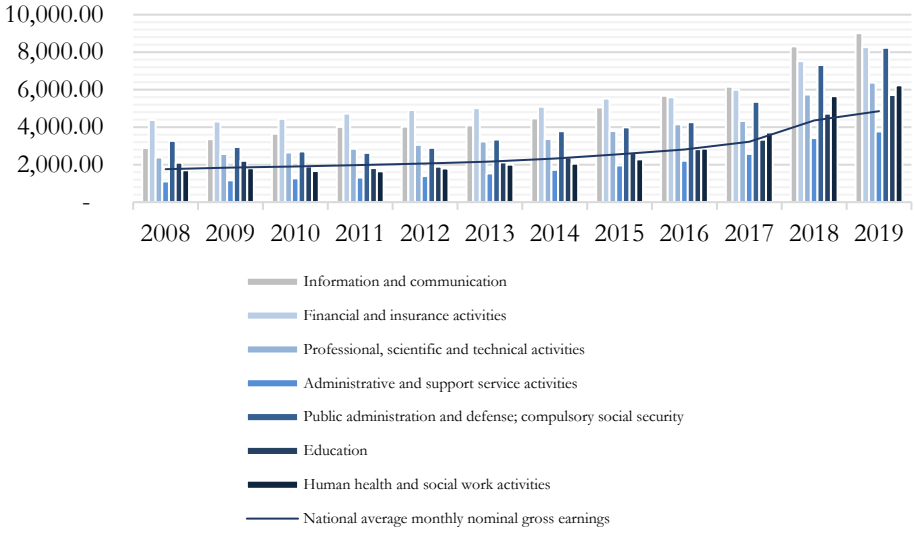


Fig. 17.: Average monthly nominal gross earnings in the quaternary sector by economic activity in Romania, 2008-2019 (RON)
Source: authors' own editing based on data retrieved from Tempo Online database

5. CONCLUSION

The main objective of this research was to review the definitions of the quaternary sector and to analyze its role in the Romanian economy, with special emphasis on Transylvania. In order to answer the research questions, indicators such as the gross value added, net investments, active enterprises, average number of employees and average monthly nominal gross earnings were collected and analyzed in this research.

It was found that the tertiary sector has the largest contribution to the Romanian GVA, which is followed by the secondary, the quaternary and the primary sector, respectively. Speaking of the quaternary sector, it was concluded that public administration, defense and compulsory social security, education and human health and social work activities have the largest contribution to the sector's GVA. The Bucharest-Ilfov region has the largest contribution to the quaternary sector's GVA, which is followed by the rest of Romania, and Transylvania, respectively.

Data indicated that the secondary sector accounts for the largest part from the Romanian net investments, which is followed by the tertiary, the quaternary and the primary sector. In terms of the quaternary sector, it was shown that economic activities such as public administration, defense and compulsory social security, information and communication, and administrative and support services have the highest share of the sector's net investment value.

It was also revealed that the majority of the active enterprises in Romania operate in the tertiary sector, which is followed by the quaternary, secondary and primary sector. The highest number of the quaternary sector's enterprises are registered in professional, scientific and technical activities, information and communication and administrative and support services. The rest of Romania region has the highest share of the quaternary sector's active

enterprises, which is followed by Transylvania and the Bucharest-Ilfov region.
The average number of employees is the largest in the secondary industry, which is followed by the quaternary, the tertiary and the primary sector. In the quaternary sector, the majority of the workers are employed in human health and social work activities, financial and insurance activities, and information and communication services. Similarly to the number of active enterprises, the rest of Romania region accounts for the highest share of the quaternary sector's employees, followed by Transylvania and the Bucharest-Ilfov region.
Over the study period, the gross nominal wage for the seven economic activities that form the quaternary sector, have increased. Interestingly, between 2008 and 2017, four economic activities (information and communication activities, financial and insurance activities, public administration, defense and compulsory social security, and education) had higher nominal gross wages than the national nominal gross wage. From 2016 onwards, information and communication activities have the highest gross nominal wage.
The results provide answers to the research questions and indicate that the quaternary sector contributes significantly to Romania's and Transylvania's economic performance and its importance is expected to increase in the future. Our findings indicate that the quaternary sector, along with the tertiary sector, is becoming more and more important in the Romanian economy and could significantly contribute to economic growth in the future. Thus, appropriate measures are needed to support the development of the quaternary sector in Romania. Creating special business hubs for supporting enterprises, introducing special tax advantages for employees working in the quaternary sector, or flexible work schedules (e.g. remote work) for women and men who plan to have

families could all serve with important roles in the development of the quaternary sector.

6. LIMITATIONS AND FUTURE RESEARCH

The present research was exploratory in nature, with the aim of defining and analyzing the performance of the quaternary sector in Romania and Transylvania. Descriptive statistical analyses were carried out, which, while helpful in providing a snapshot of the quaternary sector in Romania and Transylvania, do not allow for a thorough comprehension of the topic. Therefore, repeating the analysis in the future using more sophisticated statistical methods, such as regression or time series analysis, would be advisable. Furthermore, other indicators, in addition to those presented above, should be included in the study to assess the importance of the quaternary sector in the Romanian economy in greater depth and precision.

ACKNOWLEDGEMENTS

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SECTION G 2: Regional disparities and territorial problems

BALCSÓK ISTVÁN-CSÁSZÁR ROZÁLIA-HORVÁTH OLIVÉR-THÉKES ISTVÁN- SZARVÁK TIBOR: KEY CONCEPTS METHODOLOGY OF SOCIAL INCLUSION PARTNERSHIPS

[1] Chief Directorate for Social Inclusion, email: balcsok.istvan@tef.gov.hu
[2] Chief Directorate for Social Inclusion, e-mail: csaszar.rozalia@tef.gov.hu
[3] Chief Directorate for Social Inclusion, e-mail: horvath.oliver@tef.gov.hu
[4] Gál Ferenc University, Chief Directorate for Social Inclusion, e-mail: thekes.istvan@tef.gov.hu
[5] University of Debrecen, Chief Directorate for Social Inclusion e-mail: szarvak.tibor@tef.gov.hu

Abstract: The problem- and solution-centric content of the methodological Toolkit serves as an aid for further trainings related to the professional support of projects that alleviate or eliminate segregated life situations, and can be used independently during both project generation and implementation. At the same time, we believe that no two colonies are the same, so the problems cannot be the same either, and individual solution strategies need to be developed for individual diagnoses. The Toolkit attempts to show the complexity, boundaries and methodological foundations of social inclusion, and to inspire a deeper understanding of the methodology. Encouraging the birth of local collaborations and communities and supporting existing communities is a priority in social inclusiveprograms. Five functions of the community can be disntinguished. The first is socialization, which defines an individual's identity, provides norms and values that provide an attitude to life and orientation in the community. Its second function is to provide economic prosperity and livelihood

opportunities for community members. The third provides space for social participation, ie it satisfies the desire to experience the community experience, including the possibility of free expression of opinions, as well as the arena for the possibility of conflict of opinions and dialogue. Its fourth task is to ensure community control, as the nurturing of community values and ensuring the protection of values serves the long-term harmonious survival of the community. Its fifth function is to support members of the community in all areas of life in a spirit of empathy and community togetherness. The current study focuses on elaborating on these functions and presenting the core concepts of attendance-based social work.

Keywords: Hungarian social inclusion, methodology of social work, community building

1. Introduction

The problem- and solution-centric content of the methodological Toolkit (Dallos et al. 2019) serves as an aid for further trainings related to the professional support of projects that alleviate or eliminate segregated life situations, and can be used independently during both project generation and implementation. The Toolkit was created through the joint summarizing work of the professional team of the EFOP-1.6.1-VEKOP-16- 2016-00001 Support for social inclusion collaborations priority project. At the same time, we believe that no two colonies are the same, so the problems cannot be the same either, and individual solution strategies need to be developed for individual diagnoses. The Toolkit attempts to show the complexity, boundaries and methodological foundations of catching up, and to inspire a deeper understanding of the methodology. We strive to formulate issues related to the existing social inclusion, affecting many traditional sectoral areas (procedures, legislation, knowledge, etc.) in the light

of activity systems that effectively reduce segregated life situations. The professional managers of each chapter tried to display and go around all the topics that can form the future protocol of Attendance-based social work in the field environment on the one hand, and reflect professional dilemmas that arise as recurring issues in daily practice. In this publication, we highlight the need for presence social work.

2. Discussion

2.1. Attendance-based social work

Attendance-based social work, which means a unified, supportive approach to catching up, is a method that can be effective in the small settlements and rural segregated communities of rural Hungary. Attendance-based social work goes back to the roots of helping / supporting work. Helps family, raises roles / goals, creates relationships, develops personality. The support team not only deals with social problems, but also catches up with an integrated approach. With a continuous presence and a complex approach, the presence method can renew the classical standards of social work and give a chance to segregated communities and settlements. All this contributes to the strengthening of the local care system, which deals with the problem of families in a complex way. In connection with this, one of the main tasks of community developers is to find the central "driving forces" and actors in the communities, and through them, among other things, to get to know the functioning of the community, to acquire the main knowledge on the basis of , their abilities, social relationships, skills, in a word, the resources available and usable. An important factor in these developments is that the community itself determines its development based on its hitherto unknown endowments, so it becomes important for them to build on their own and the success they will proudly achieve when they achieve their goal. Therefore, the professional operation of the community house is important.

In segregated life reduction programs, social diagnosis is based on personal relationships, community acceptance and inclusion, and trust structures, and a number of further developments based on diagnosis cover not only social work and social services, but also child protection and employment. involve a professional and a service provider. This is also well linked to the social sector policy development policy.

The complexity of the presence approach is also well illustrated by the fact that they are age-independent (eg leisure programs) aimed at reducing segregated housing (Andorka 1997). Settlement programs based on the flow between children and parents and common experiences can mean the cultural surplus with which social inequalities and gaps can be reduced. In this way, the principle of the population retaining capacity can also be strengthened, thus supporting the general objective of rural development called the population retention capacity. An important spectrum of social inclusivework is the support of the achievement of wider well-being, the development of a quality of life adapted to a kind of life situation. When the person in action focuses not only on himself but also on the other person, win-win situations can emerge and the community well-being and the good of all, the common good, can be realized. Such a life situation is also a healthy lifestyle. The successful implementation of health screening and prevention programs is therefore a win-win situation for both the community and the individual. The aim of the social economy is to meet uncovered local community needs, to strengthen local (micro and medium level) employment and community involvement (becoming an entrepreneur). Of course, the social economy also needs to strengthen the level of skills and employee competence. Raising cultural capital is also a key element of successful social inclusion work in this segment. Successful adult education programs are therefore directly related to local labor market needs. Among the Hungarian initiatives of local economic

development in the direction of the social economy are social land programs and social cooperatives.

Current issues of social work in programs to reduce segregated life situations non-profit employment projects, the kalaka movement, and projects to produce and sell local products may already have a good track record of offering feasible practices to reduce segregated habitats. Many dimensions of inequality can be distinguished - income, wealth, working conditions, school, education, health status, etc. -, nevertheless, in our present definition publication, we consider deprivation of satisfactory and adequate housing conditions, severe housing deprivation, to be one of the most important and fundamental barriers to generating inequalities. In our chapter on housing issues, we address problem-centric approaches to the design and implementation of a housing plan. The future of small settlements is fundamentally determined by what sub-societies live together, so one of the most important and difficult tasks of catching up is the development of various infrastructures.

2.2. Content of the book on methodology of social inclusion partnerships

The Toolkit aims to provide practice-oriented, methodological assistance to the management and the social team in the design and implementation of Attendance-based social work, as well as specific methodological support beyond the instructions of the call EFOP-1.6.2 / 16 Elimination of Segregated Life Situations with Complex Programs (ESF) and EFOP-2.4.1 Elimination of Segregated Living Situations with Complex Programs (ERDF) for tender schemes. The problem- and solution-centric content of the methodological Toolkit serves as an aid for further trainings related to the professional support of projects reducing segregated life situations, and can also be used independently during the implementation of applications. The need for programs to

eliminate segregated life situations In sociology, segregation is most often understood as the phenomenon when the place of residence of different social strata or ethnic groups within a settlement is strongly and perceptibly separated from each other. Spatial segregation is thus also social, partly a cause and partly a consequence of significant inequalities[55] in terms of income conditions and human infrastructure. As a result of decades (possibly centuries) of spatial, economic and social processes in Hungary, in addition to housing segregation within settlements (so-called slums in cities, settlements and Putri lines in villages), the phenomenon can also be observed between settlements and regions. In the settlement development approach, the concept of segregation means only the concentrated coexistence of families with low social status, which perpetuates inequalities in income conditions, settlement infrastructure, and access to various services. The approach is justified by the fact that the biggest losers of residential segregation are the low social status strata, because the high status social groups have the opportunity to concentrate in the way and areas of the settlement as they wish and where they want, while the low status they can only segregate as and where they are "left"(Mező 2014).

Statistically, the Hungarian Central Statistical Office (HCSO) separates the actual segregated areas and the endangered areas by block-level processing of the census data, using the so-called segregation index (this is its official name, but it is also used as a segregation index). Segregates delimited by the segregation indicator are those areas where the proportion of the active age population (ie the population aged 15-59) with no more than primary education and no regular income is higher than 50% for both indicators, additional criterion that the population should reach 50 people. By the second half of 2016, as a result of several

years of preparatory work, the national segregation database and map were prepared using the data of the 2011 HCSO census, according to which there are 709 settlements in the country, 1384 mainly Roma settlements and underdeveloped settlements. 2.8% of its population lives. These places are accompanied by serious unemployment, social and health problems and difficulties in accessing services (MNTFS 2014). In Table 1 definitions of segregated areas are presented.

Table 1. Definitions

Wild settlements	"Wild" areas established or expanding near or near settlements: Total or almost complete lack of infrastructure, initially tangled, mostly residential buildings consisting of a room that look more like a cave, a putri, a hut.
Former feudal pusztas, residence for labourers far from the settlement	Ownership of residential buildings is often unsettled, leading to the rapid deterioration of buildings. Today, these settlements are characterized by strong spatial separation and incomplete infrastructure, as they have been closed public institutions, shops, deteriorating transport and underestimation of production those who stay here or those who move here (who are not infrequently arbitrary occupiers).
Old remaining settlements	It is mostly on the edge of the settlement on pasture, in a wetland or just at the bottom of a forest, on a hilltop located on irregular plots, irregularly arranged, usually as early as 1945 It was a unit of residential buildings built before the 16th century, forming the

	"peasant" buildings of the poor peasants at that time. There is no water, sewer or gas, only electricity, and the roads are dust-free.
So-called social policy settlements	On the outskirts of cities / towns, typically in enclosed garden areas. Typically urban refugees from cities, or those oriented towards cities, but there the high overhead and impoverished families unable to move due to rental costs, poor provided with infrastructure and other services (eg transport connections) areas.
Loosely structured segregated areas studded with low-quality apartments	Settlement established after 1965, originally not considered a settlement: on narrow plots, based on type plansalready built in poor quality, with reduced comfort, often unfinished, an ensemble of buildings that have fallen far short of contemporary norms, tastes and aspirations. The buildings of even lower quality may often be associated with the original building stock, often approaching the image of wildlife.
City segregated areas	6.1 Slum workers' colonies, settlements of social rental housing: former factories, identical and simple buildings built next to railway junctions, and inherently poor flats built for families, separated from the rest of the settlement.
	6.2 Degrading neighborhoods: The higher-status population of former rental housing is more modern

	moving into flats or green areas, leaving his former rental apartment, into which he is becoming more and more lower status families move.
Viilages becoming perifery settlements	In areas which are unsuitable for hill or agricultural cultivation for other reasons, former peasant villages in closed areas with poor traffic, of which the from the sixties to the seventies, tea making and discriminatory settlement policy as a result, a strong emigration began. In vacant houses for this purpose gradually, in line with the pace of relocations poor families moved, making the affected settlements segregated in their own right become / have become.
Deteriorating villages	In the 1990s, it took place together under the influence of the "post-communist demographic turn" suburbanization and the suburbanization of poverty, or the rich or at least moving to areas and settlements "abandoned" by the middle class, from where they are still can commute, but in the event of job loss, re-engagement and spatial mobility too expensive, almost impossible.

Between 2005 and 2007, the Hungarian government launched 29 small settlement and segregated district settlement programs, mainly from domestic sources. The European Union regulation was amended in 2009, as a result of which 55 complex colony programs could be implemented in 2013, at that time mainly from EU support. 5 The research working group of the priority project

"game farm" developed the following definition: In a general sense, a settlement structure unit located on the outskirts of the village / large village can be considered a game farm. The municipality concerned does not wish to declare the area to be a built-up area. The settlement structure unit cannot be developed and the number of people living here does not exceed 50 people.

An important category under special conditions is that the residential properties of the settlement unit used for residential purposes are not legally designed living spaces; is left out of basic communal and other infrastructure networks (Fehér et al. 2017). It is completely or largely left out of basic services, community relations, and its inhabited structures endanger life and physical integrity. Building on the experience of the predecessor projects, almost 100 small municipalities have now successfully applied for the EFOP-1.6.2-16 Elimination of Segregated Living Situations with Complex Programs (ESF) tender, which is closely related to the EFOP-2.4.1 Elimination of Segregated Living Situations with Complex Infrastructure Programs. The basic goal of the complex small settlement colony programs is for the local community targeted by the support to contribute actively, actively and at the same time creatively, with an innovative attitude to shaping and improving its own destiny. During the implementation of the programs, infrastructural developments, investments and human resource investments, complex interventions are planned and implemented. Infrastructure intervention areas mainly mean improving housing conditions, making residential buildings more livable, improving the segregated approach and creating community spaces. The so-called "soft" elements are aimed at improving the quality of life and employability of the people living in the settlement, developing the local community and shaping attitudes. The toolbox of small settlement Attendance-based social work synthesizes existing knowledge and methods: the basics of settlement methodology, the approach and methods of the

Hungarian Maltese Charity Service Presence Program (Kiss et al. 2013), the experiences and good practices of previous complex settlement programs and civil / church model pilot programs. Roots and antecedents of Attendance-based social work Settlement movement and settlement-type complex services The roots of Attendance-based social work are related to the Settlement movement, which dates back to the 19th century. It started in 19th century England and its history began with the Toynbee Hall in London. Newly graduated university students moved into the slum, created a community space, and began to deal with the poor who lived there. In Hungary, Rezső Hilscher - the outstanding social politician of the age - founded the first settlement, the Újpest College Social Colony, in 1912, in Budapest.

The settlement-type complex service includes individual, family and community level service planning, community building and development to enhance social activity, exploration of local needs and development of adequate services, local culture, public life, implementation of municipal youth work, and learning. partnerships and support for lifelong learning (Molnár-Peták-Vercseg 2014). The spirit of the Hungarian Maltese Charity Service (MMSZ), established in 1989 - an important element of which is that it pays serious attention to reaching and helping the most needy - means that the organization has appeared in those areas where extreme forms of poverty and social exclusion were experienced, which required intervention based on an intensive helping presence. Thus, the Tabán Integration Model Program was launched in Monor and the Inclusive Village Program in Tarnabod, which has now grown into a complex social program based on settlement work and using the tools of community social work. Following their success, similar initiatives have been established in many settlements of the country with the involvement of MMSZ. The methodological basis of the programs is the "presence type" approach: to be there, to be together, to live almost together with

the excluded, disadvantaged communities, to try to get to know them, and to develop ideas serving social enhancement based on mutual acceptance and respect. The attendance-based method is suitable for social groups based on open, proactive, continuous helping presence and trust, such as excluded social groups living in deep poverty.

2.3. Community building

Encouraging the birth of local collaborations and communities and supporting existing communities is a priority in social inclusiveprograms. Five functions of the community can be disntinguished (Sadan 2005):

1) The first is socialization, which defines an individual's identity, provides norms and values that provide an attitude to life and orientation in the community.

2) Its second function is to provide economic prosperity and livelihood opportunities for community members.

3) The third provides space for social participation, ie it satisfies the desire to experience the community experience, including the possibility of free expression of opinions, as well as the arena for the possibility of conflict of opinions and dialogue.

4)Its fourth task is to ensure community control, as the nurturing of community values and ensuring the protection of values serves the long-term harmonious survival of the community.

5) Its fifth function is to support members of the community in all areas of life in a spirit of empathy and community togetherness.

By creating and developing communities, we tackle as a group problems we are unable to solve individually. True, there is no guarantee that joint effort will triumoh where the individual has failed, but cooperation, participation, commitment to a common goal, the ability to influence the decision-making process that affects a person's life in order to improve quality of life and the environment make it better. These processes provide for new

motivations and new abilities of the participants - and that in itself is a very important achievement. In Table 2 the fundamental concepts of attendance-based programs are presented.

Table 2: Fundamental concepts of attendance-based programs

Personal assisting attendance	Site work always starts with a personal presence, "door to door" personal work to get people living on the farm accustomed to social professionals continuing to settle presence and a relationship of mutual trust between them. The "acquaintance" phase a can also be implemented in parallel with the construction of a community house. The service provider and community It is advisable to create a space / point in one of the flats and houses of the site.
Assisting partnerships	Getting to the segregate "as a stranger" is not an easy task, often the people who live there they also feel threatened because they don't know why we came and what we want from them. A subjective sense of security threatened by multiple factors rather than a partnership must be developed, which is a long-term process, since it is necessary to build the basic trust which will be the cornerstone of the future partnership. Out of threat the helper partnership.
Publicity	In order for the local community to know and understand what is happening, proper information is always needed to provide for those living on the site. The flow of information helps to avoid conflicts is. In many cases, the program is unable due to

	lack of information or misreporting to be successful and therefore need to be rebuilt.
Pesron-centered problem revelance of wide range	We must see first and foremost the person, the family, not consumption and debt. We need to understand the essence of the problem, "dig deeper," make surveys, diagnoses, and think in terms of a systems approach.
Provision for basic comfort	In the segregated community and service house / point, we must ensure access to services to meet basic needs (heated room, laundry, cooking, laundry facilities, social information service) until families are able to create basic comfort in their own households on their own.
Complex interventions	For different types of problems (crisis situation, social, housing problems, illegal public procurement) etc.) with the same approach but different - for family coping strategies, we need to develop an alternative solution that is adapted to life situations. Interventions include social care, education / training, employment, economic development, they focus on health and culture.
Cooperation frameworks	In addition to providing opportunities, precise rules need to be defined. The first step in any farm job is to set the rules, for ourselves and those living on the farm. We also need to know the rules and customs of the farm, and those living on the farm also need to know what rules we are following along.

Partnership, sustainable solutions, vision	After mapping potential partners, it becomes clear which ones are a organizations, institutions with which cooperation is essential for effective for work. The partnerships support the success of the programs and the future sustainability. In presence-type social work, every little step is a result considered. It is important that these small results are maintained in the long run, and integrated into the personality of the individual and the life of the community.
Activation and independent living support	The social worker explores and activates families and the community using the existing internal resources and targeted problem-solving assistance oriented teamwork with its pulling force and dynamics, and its basic task is to be able to item. Applying the "net instead of fish" principle, development work must become a common cause, in which each participant has a defined role and responsibility. The program is an option provides them with basic needs, often related to human dignity often inaccessible to people living on farms. In the battery programs those living in the settlement environment have an important role to play also involving and strengthening the role of professionals who are affected by the segregation and the population of the settlement both recognizes and accept.

2.4. Tools of the attendance based-programs

The tools of the Presence (attendance-based) programs are not limited to the social field because the development of each segregated area requires a complex approach and methodology:
• Social support: family assistance, debt management, making basic needs available.
• Education, training, development: early childhood skills development and development services, children's homes, strengthening parental roles, cooperation with local educational institutions and mutual professional support, operation of out-of-school children's programs, community venues, schools.
• Promoting employment: organizing training, promoting job mobility, transit employment, job creation, DIY, kitchen garden and backyard programs. Supporting the social economy. • Housing assistance: facilitating local house renovation (by donation, in Kalaka), relocation support, housing escort.
• Health support: establishment of a community spa, screening programs, access to a doctor, assistance in drug switching, support for medical aid from donations.
• Community development: operation of community spaces, organization of community actions and programs. • Mediation, attitude formation: sending positive messages about the excluded group, establishing professional dialogue, involving supporters, volunteers, reverse integration, conflict management, mediation.

The basic goal of the Presence programs is to create a community living in socially atomized places, to initiate more or less developments adapted to the state of a given segregation, and to create a bridge between the majority society and those living in the segregation. As a result of the helping work, the community of the settlement should learn to face the challenges independently, thus being able to take on and manage their own problems. (Presence programs of the Hungarian Maltese Charity Service: General methodological foundations) The first Maltese settlements attracted more EU funds only after 2-3-4 years, when

the social workers working there already had so much knowledge and experience of the target area that the strict expectations its designability and affordability became visible. According to the available opportunities and the identified needs and demands, the presence type of social work is implemented in each settlement at a different pace and on the basis of different methods. In this work, it is essential to "develop" the helping professionals, to establish their cooperation, to experience the power of joint action.

The settlement-type, complex service also includes community building and development that promotes the enhancement of social activity, the exploration of local needs and the development of services based on the needs of the target group. The most important advantage of community spaces is that they are able to reach locally those social groups that are more mobile in many respects due to their life situation. These spaces are easily accessible to the local community not only because of their physical proximity, but also because they provide low-threshold services, that is, they can be used by anyone without special conditions being met. Another element of the effectiveness of community spaces is that local people are helped in an integrated way with complex tools. In addition, their activities are cost-effective, as they perform a wide range of tasks in the presence of relatively few professionals.

Social diagnosis based case management

In a narrower sense, social diagnosis is a situation map mapping the strengths, social network and problems of the client and his family, the main documents of which are the environmental study, problem tree, ecomap. In a broader context, it is also part of the planning process and the agreement to which the individual and family development plan, the client and the social worker are linked.

2.5. Programs for children and parents

The complexity of the program also means that all target groups must be given the opportunity to develop and spend their free time usefully. Early childhood skills development is supported by playhouses, early development programs, Safe Start Orphanages, and other similar types of services. Leisure, cultural and sports programs that support non-formal and informal learning opportunities and extracurricular learning promote children's personality development, creative abilities, talent development and talent development, and compensate for their disadvantages.

As for further affordances, they are effectively developing their various competencies (contributing to reducing early school leaving and Social Inclusion for acquiring the knowledge needed for secondary education and entering the labor market) and also contributing to maintaining their health.

2.6. Addiction treatment, health screening and prevention programs

Recognizing the types of addictions and delegating those involved to specialist care is a fundamental task for the social worker working in the field. The organization of health screening and prevention programs is also part of the complexity. By getting to know the community and making individual social diagnoses, we can map out which health problems at a given site that the existing care system cannot respond to, which ones are from our own resources, and which we can solve through partnership. We also plan screenings and prevention programs to support a healthy lifestyle based on local needs.

2.7. Adult education, competence development and support for social enterprises

There are many disadvantaged regions in Hungary where market-oriented enterprises cannot operate efficiently due to the lack of

economic conditions that meet their needs. There are several components to this, such as the fact that there is no suitable professional in the area where you may have been now looking for work elsewhere. In these areas, it is crucial that it is not just aid that sustains people, as most of those who live there want to work, to be a useful member of the local community. Adult education programs and social economy organizations can also help solve these problems. One of the keys to the efficiency and effectiveness of the labor market programs is that the scope and content of the trainings are adjusted to the needs and expectations of the prospective employers and to the conditions of the jobs to be filled. The courses also include courses for the development of basic and key competencies, the acquisition of a basic qualification, vocational training and courses leading to vocational qualifications.

2.8. Housing investment and debt management

Interventions to address segregated living situations should address, in particular, cases of extreme housing exclusion, with priority given to resolving legal conditions, closing wildlife settlements, addressing the worst housing situation in terms of quality of life and health risks. In the case of larger and more concentrated settlements (even situations covering the whole settlement), the strengthening of settlement structure connections, outward mobility, poverty alleviation, reduction of housing density and access to services should be helped without creating new segregates and segregated services. In the case of settlements and residential properties that are not being liquidated, the improvement of the quality of housing and housing and the availability of public utilities have priority. In order to achieve sustainable results, housing investment must always go hand in hand with social work: phased out and housing. One of the focuses of debt management is the elimination of illegal public procurement and the development of legal services. Attendance-

based social work plays a key role in finding a consensual solution. The bridge has a role to play in promoting dialogue between him, utilities and stakeholders and in solving the problem that has arisen. The social worker needs to support the deployment of consumption-based, prepaid, card-based meters, with an emphasis on financial awareness, household management, and preventing the debt spiral. If necessary and the services are available, your client must be delegated to the municipal debt management program and / or the MMSZ "Credit-S" program. In addition to individual case management, community work also plays a major role in Attendance-based social work, which can be seen in the activation of the community on the one hand, and in the community development and attitude-forming program elements for the entire population. An important task of programs aimed at eliminating segregated life situations is to address local conflicts, geographical and social segregation.

3. Conclusion

In this paper we intended to present the lex concepts of social inclusion and Social Inclusion in Hungary. The main framework of the Toolkit inclusive of the methodology of social work in segregated areas was presented here. We attempted to show the complexity, boundaries and methodological foundations of catching up, and to inspire a deeper understanding of the methodology. We also strove to formulate issues related to the existing social inclusion, affecting many traditional sectoral areas (procedures, legislation, knowledge, etc.) in the light of activity systems that effectively reduce segregated life situations.

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CSIZMADIA ADRIÁN – BAREITH TIBOR: EXAMINATION OF THE INCOME SITUATION OF SOMOGY COUNTY IN THE PERIOD 2013-2018

[1] PhD student at Doctoral School of Management and Organizational Sciences, Hungarian University of Agriculture and Life Sciences, Kaposvár Campus, Kaposvár, e-mail: csizmadia.adrian@gmail.com

[2] assistant lecturer at Institute of Business Regulation and Information Management, Hungarian University of Agriculture and Life Sciences, Kaposvár Campus, Kaposvár, e-mail: bareith.tibor@uni-mate.hu

Abstract : The scope of intervention in modern, postmodern and neomodern territorial policies include geographically delimited, problematic, backward areas (Rechnitzer–Smahó 2011). Since the regime change, Somogy county has been one of the lagging regions socially and economically. Income as a measure of development provides an important opportunity to compare the welfare of the population of each territorial unit. In our study, we analysed the income situation of the population of Somogy county at the settlement level in the period between 2013 and 2018 using different panel regression models (fixed effects, random effects, panel-corrected standard errors). Based on these, among our explanatory variables built into the models, total domestic income per capita is affected by demographic indicators, the proportion of registered self-employed, and employment indicators and geographical distance. The impact of EU subsidies on income is negligible in the county.

Keywords : income distribution, fixed and random effects, PCSE

1. INTRODUCTION

Income inequality is an essential part of the functioning of a market economy, and to some extent it encourages people "to excel, compete, save, and invest to move ahead in life" (Dabla-Norris et al. 2015, 6 p.). On the other hand, significant income disparities are harmful and may limit economic growth in the long run (Czelleng - Losoncz 2020), high and persistent levels of inequality can have high social costs, citizens can lose confidence in institutions, which can undermine social cohesion and a positive vision (Dabla-Norris et al. 2015). Exploring income distribution and its relationships provides important and necessary information for policy makers (Sarel 1997), as information on income distribution provides a picture of the welfare situation within a given territorial unit (Ékes 1998). Furthermore, income distribution can determine macroeconomic processes such as growth, sustainability (Dabla-Norris et al. 2015) and can also affect people's daily lives and their health and social relationships (Rowlingson 2011).

"The geography of inequality is at least as important as interpersonal inequality as the source of political shocks because our democratic political systems are fundamentally geographical in nature", as they are made up of electoral districts and thus inequalities can lead to political shocks (Rodriguez-Pose 2018 cited in McCann 2020 257 p.). In our research, we examine the income distribution of the population of the settlements in a county, in a narrowed area unit compared to the national scale, incorporating the time dimension into our models. But considering the distance of the settlements from the county seat and the district seat, the spatial dimension also appears in our work.

In addition to GDP, a GVA (Gross Value Added) and various development indices (see e.g. Fertő–Varga, 2014), income, such as RDI (Regional Disposable Income), has become an important measure of development in research, providing an important

opportunity to compare the well-being of the population of individual territorial units. The HDI (Human Development Index) also appears more and more frequently in regional development studies (Horváthné Kovács et al. 2017). The advantage of income indicators over GDP and GVA is that they are measured at the place of residence rather than at workplace (McCann 2020). Furthermore, it is important that income data are among the readily available indicators for which we have detailed sources (Pénzes 2011). Income indices are excellent for examining certain aspects of living standards (such as determining purchasing power), but are less useful for researching economic prosperity and dynamism because they ignore profit, investment, economic aspects of wealth (McCann 2020), and the size of the black economy (Varga 2017) also affects the accuracy of income studies. In our research, we analyse the horizontal income distribution through the data of Somogy county, where the examined groups are the population of each settlement. The basic aim of our research is to identify factors that affected the income situation of the county's population between 2013 and 2018, as exploring the determinants of income can contribute to the success of settlement development programs, rural catch-up and local economy development (Rechnitzer–Smahó 2011).

Both Somogy county and its narrower environment, the South Transdanubia region, have been among the disadvantaged areas of Hungary since the change of regime. The county accounts for about 3 percent of the Hungary's population, and major demographic changes are in line with national trends. The resident population continuously decreased in the period under review (2013: 318 096 people; 2018: 303 802 people) (HCSO 2021a), the number of live births changed in a positive direction, but lags behind the national average (HCSO 2021b). The aging index developed in an unfavourable direction, similarly to the national situation, but in Somogy the situation is worse than the national

average, here the aging of the society can be observed to a greater extent (HCSO 2021c).
Examining the main economic indicators, we can see that the county maintained its unfavourable position in GDP per capita since the change of regime. In the 6 years examined, it ranged from 15th to 16th place, which is, of course, far below the national average. GDP per capita does not reach two-thirds of the national average (CSO 2021d), despite the fact that the number of enterprises registered in the county exceeds the data calculated at the national level in proportion to the population. With regard to the total domestic income per capita, which is the result variable of our study, it is also significantly lower than the national average of the Hungary's population. The per capita PIT[56]-obligatory income of the people living here is only 78-79% of the total population of Hungary. The favourable effect of the economic recovery can also be read from the unemployment data in the case of Somogy, however, the county also performs worse in this indicator compared to the national unemployment rate (KSH 2021f, Kóti 2020).

2. MATERIALS AND METHODS

In our research, the outcome variable of the regression models is the total domestic real income per capita available at the settlement level. This means the PIT-obligatory income per capita of the settlements, so it does not include social and other incomes. The data were obtained through the TEIR (National Spatial Development and Spatial Planning Information System).
Our models include 10 important economic, social and geographic explanatory variables. Our result variable and the explanatory variable of the EU subsidy per 1000 permanent residents have

[56] Personal Income Tax (PIT)

been adjusted with the consumer price index, they are included in our analysis in real terms in 2013. EU subsidies include, on the one hand, the operational programmes of the New Hungary Development Plan in 2013 and 2014 and the subsidies paid within the framework of the New Hungary Rural Development Plan. For the period between 2015 and 2018, the payments of the operational programmes of the Széchenyi 2020 constitute this variable, with the exception of the Rural Development Programme. The subsidies data include all subsidies paid, regardless of the type of beneficiary organization, according to the place of implementation, i.e. municipality. The variables included in the models are described in the Results chapter, and the descriptive statistics in the Appendix. We used the natural logarithm of the variables in the regression models.

In our database, the variables are available for 6 consecutive years (2013-2018) for 246 settlements, resulting in a balanced panel database. The two most common methods for analysing panel databases in the literature are the fixed effects and random effects models. In both models, the so-called unobserved effect plays an important role.

In the fixed effects model, we assume that the variables are different from each other, however, the variables are stable over time and show constancy (Kiss 2017). The model assumes that the unobserved variable correlates with the explanatory variables and by eliminating the unobserved effect, determines the partial effects of the observed explanatory variables from the model. (Wooldridge 2009).

The fixed effects transformation excludes from the regression equation variables that are constant over time, so in our case, the distance from the county seat and the district seat is not included in the models based on the constant effect transformation.

The basic assumption of the random effect model is that the unobserved effect does not correlate with any of the observed

explanatory variables, the unobserved effect is included in the error term. Correlation is handled by the model using the generalized least squares method. The random effect model allows variables to be included in the model that are constant over time. If the various specification tests indicate that our constant and variable effect models violate the conditions of homoskedasticity and cross-sectional independence and the prohibition of autocorrelation, the panel corrected standard errors (PCSE) can be used as an alternative method (Fertő–Varga, 2014).

3. RESULTS AND DISCUSSION

3.1. Panel model specification

The focus of our study is on the real per capita incomes of the settlements of Somogy county. The financial situation and opportunities of the population are mainly determined by incomes. At the household level labour incomes are dominant, the ratio of capital incomes is negligible compared to labour income.
Two aspects were considered in the selection of factors affecting income. On the one hand, we looked for variables that were used in similar research, and we included variables that, in our opinion, can explain settlement-level incomes. On the other hand, we kept in mind one of the potential sources of error in this type of research, endogeneity. Taking these aspects into account, a total of ten explanatory variables were used in the model building.

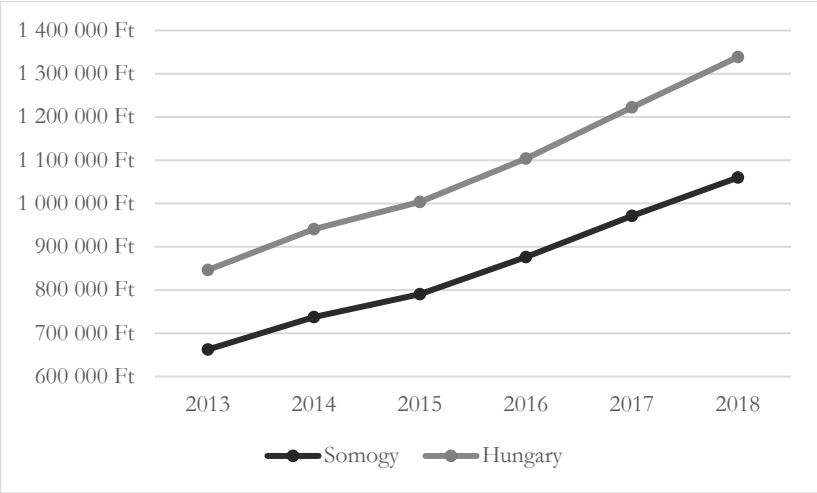


Figure 1: Total domestic income per capita of Somogy county and Hungary (income subject to personal income tax) (calculated in real terms)
Source: Own editing based on TEIR

Independent variables can be divided into three groups. *Social type* variables include the resident population and the proportion of recipients of pensions, benefits, annuities and other allowances. Somogy county is also affected - and even to a greater extent than average - by demographic processes. The county is characterized by a declining population and an increase in the proportion of the elderly. In addition to old-age pensioners, those receiving disability and rehabilitation benefits are also disadvantaged from the labour market point of view. These processes are expected to have a negative impact on incomes. This is supported by a study by Kilgarriff and Charlton (2020), which found that the proportion of people over 65 has a significant effect on income distribution, namely a negative correlation between income size and the proportion of the elderly population.

An important explanatory variable in the research of the income situation is the population of the given territorial unit. According to some results, the relationship between the population and the income level is close (Molnár–Ilk 2010), but other studies have concluded that there is not always a correlation between the size of the settlement and the income situation (Lőcsei 2004).

Economic variables predominate in the model. On the one hand entrepreneurship (sole proprietorship and partnership) can provide a higher-than-average income for the entrepreneur and his family, and on the other hand, can create jobs in the settlement. According to the results of Szendi (2017), the business environment has a positive effect on the income situation. Kolber et al. (2019) show that the enterprises of the more developed regions are more territorially concentrated, which also affects the income conditions of the settlements. In Somogy county there is a high degree of afforestation and agricultural activity. The more small-scale agricultural producers in a settlement, the small-scale form of agriculture can even result in an increase in income as an additional activity (Varga–Sipiczki 2017; Sipiczki–Rajczi, 2018; Baranyi et al. 2012).

There are two variables in the model regarding employment. In the case of the proportion of jobseekers, the lowest possible value is considered favourable, therefore we are expected to obtain a coefficient with a negative sign during the estimation. The proportion of those employed in non-skilled jobs (FEOR code 9) is expected to have a positive effect on the income situation of settlements; those employed in this job are typically employed on the minimum wage. The average per capita income of the settlements of Somogy county is lower than the amount of the minimum wage, therefore, due to the fact of employment, this variable is expected to have a positive effect. Research shows that unskilled labour market status (unskilled and auxiliary work) reduces income (Sik 2014), and unemployment and low

educational attainment also cause a worse income situation. The latter is supported by the study of Kilgariff and Charlton (2020) and confirmed by spatial regression analyses at Spanish provincial level with data from 2004 (Chasco et al. 2008) and in the Greek capital at postal code (districts) level with data from 2001 (Kalogirou–Hatzichristos 2007). As data on educational attainment are only available from the time of the last census (2011), we tried to replace this variable with the proportion of employees in non-skilled occupations and the number of library units borrowed from municipal libraries. We assumed that higher educational attainment is also reflected in the employment situation and in reading and library use habits.

Subsidies from the European Union also include resources received by the local government and the private sector, depending on the place of implementation. The utilization of resources supporting the private sector is most likely to occur in the given settlement, so these subsidies will increase the local economy and local wages. In the case of municipal subsidies, the causal relationship is not so clear. At best, a business in the county or region will win the job, but it is not expected to employ workers living in the winning locality to do the work, so this money will be transferred to another locality. Therefore, this variable is not expected to affect or reduce household incomes. In their study, Fertő and Varga (2015) reached a similar result to our expectations, who concluded on the basis of data from 2002 and 2008 that the European Union development programs did not have a demonstrable effect on the well-being of Hungary's micro-regions.

Considering *the geographical location*, our assumption was that the proximity of a settlement with greater economic power increases the chances of someone finding a job with a higher wage. In determining the settlement with greater economic power, we took into account the county seat and the district headquarters, as well as the distance of the settlement from them. Based on the

literature, geographical distance (Németh 2002) and transport geographical location (Dusek 2004) play a role in the income differences at the settlement, city and micro-regional levels.

3.2. Models explaining Somogy county incomes

To check the robustness of the results and the potential violation of our linear panel model assumptions, we estimated several models. In the first step, we ran the fixed effects and random effects models (Table 1). Our models contain robust standard errors, so the Hausman test cannot be used to select the better-fitting model, so as an alternative, we can use the Sargan–Hansen overidentification test to decide between the two models (Fertő–Varga 2014). Sargan–Hansen statistics suggest the use of the FE model.

Based on the tests, we have to accept the fixed effects model (see Table 2), however, we also get similar results from the results of the random effects model. In the RE model, the geographical, time-constant variables (X9; X10) can also be included in the analysis. There is a difference between the two models in terms of permanent population and registered partnerships. The random effects model estimates a positive relatively low effect of the permanent population, while the fixed effects model estimates a larger negative effect. The permanent population typically decreases in the settlements, therefore the negative sign means an increase in incomes assuming a declining population. It is likely that the population who wants to work will leave the settlement where they do not get a job and move to another settlement in Hungary, where the job opportunities are better. It is a less favourable scenario for Hungary if the emigrant takes up work in another country. We know from other studies (see e.g. Bíró et al. 2020) that there is a positive correlation between income conditions and life expectancy, the life expectancy of the

unemployed is lower than that of workers, which may also explain this effect. The RE model estimates a positive effect of the permanent population variable under the control of geographical variables. Geographical location is a cardinal issue in income conditions (Dusek 2004, Egri 2020), this effect can be seen in this model as well. The farther the settlement is from an economically strong center, the more incomes fall. This reinforces our assumption that people move from settlements where there are no or inadequate job opportunities and in part economically stronger settlements attract the population.

Recipients of pensions and other benefits show a negative relationship with income in both models, in line with our expectations. The negative sign is due to the fact that pensions and similar benefits are not part of our outcome variable and that the recipients of such benefits are economically inactive. Bodorné Kovács et al. (2019) points out that persons with disabilities are typically employed only part-time, and in Somogy county only 1.5% of employees is person with reduced capacity to work.

The proportion of registered sole proprietors has a positive sign in both models, the proportion of registered partnerships is not significant in the FE model. The form of sole proprietorship has become extremely popular in recent years due to fixed-rate tax of small taxpayer enterprises and small company tax (KATA), it is the most popular form of taxation among sole proprietors (Gősi 2019).The presence of an individual entrepreneur is in all cases a positive "sign of life" for a settlement. A self-employed person can earn income in an environment where the private sector is willing and able to pay the sole proprietor.

Table 1: FE and RE models

	Fixed effects	**Random effects**
Permanent population (X1)	-1.8489 *** (0.3391)	0.0577 ** (0.0226)
Recipients of pensions and other benefits (X2)	-1.2323 *** (0.1167)	-0.0054 *** (0.0872)
Registered sole proprietors (X3)	0.1309 *** (0.0225)	0.2160 *** (0.0274)
Registered partnerships (X4)	0.0226 (0.0277)	0.0429 * (0.0258)
EU subsidies (X5)	-0.0040 *** (0.0008)	-0.0061 *** (0.0008)
Unemployment rate (X6)	-0.1128 *** (0.0273)	-0.1664 *** (0.0331)
Non-skilled job (X7)	0.1232 *** (0.0297)	0.0990 *** (0.0357)
Borrowing from the library (X8)	-0.0116 (0.0111)	-0.0089 (0.0079)
Distance from county seat (X9)	Excluded	-0.0415 (0.0276)
Distance from district seat (X10)	Excluded	-0.1112 *** (0.0269)
Constant	31,3653 *** (2.5042)	15.9175 *** (0.6559)
N	1476	1476
R^2	(within) 0.6215	(overall) 0.2973

**** p <0.01, ** p0.05, * p0.1; in brackets the robust standard error*

Source: own calculation based on TEIR data

In a settlement where there is no solvent demand, the entrepreneurial spirit is also much lower. Of course, the sole proprietor can not only earn income from his micro-environment, but typically these enterprises are based in settlements where per capita income is also high.

Increasing EU subsidies, albeit not to a large extent, but reducing per capita income. This may be due to the reasons discussed in the previous subsection. The settlement is left out of the economic cycle from the obtained EU subsidies. A company registered in another settlement performs the work with employees living in another settlement, although the renovation and development are completed, but the settlement no longer or only slightly benefits from its further use.

Rising unemployment will reduce incomes, increasing the proportion of people in unskilled jobs will increase per capita incomes. Both variables yielded results in line with our expectations, the fact of employment increases incomes. The number of borrowing from library is not significant in either model.

Our FE and RE models did not meet the specifications during tests (Table 2), so based on the literature guidance (Fertő–Varga 2014), we also performed our estimates with the PCSE (panel corrected standard errors) model.

Table 2: Specification tests of FE and RE models

Model	**Test**	**p-value**
FE, RE	Wooldridge test for autocorrelation in panel data	0.0000
	Sargan–Hansen statistics	0.0000
	Pesaran test for cross-sectional independence	0.0000
FE	Modified Wald test for heteroskedasticity	0.0000

RE	Breusch–Pagan LM test	0.0000
	Autocorrelation LM test	0.0000

Source: Own editing based on STATA

Time-constant variables (variables measuring geographical distance) can be included in the PCSE model. In this model, the distance from the county seat is also significant, everything else is the same as in the RE model. Overall, it can be said that the results of the classical panel models were not changed by the corrected method, our results can be considered robust.

Table 3: PCSE model

	PCSE
Permanent population (X1)	0.00504 ** (0.0220)
Recipients of pensions and other benefits (X2)	-0.1862 *** (0.1534)
Registered sole proprietors (X3)	0.1795 *** (0.0289)
Registered partnerships (X4)	0.0335 ** (0.0156)
EU subsidies (X5)	-0.0020 (0.0024)
Unemployment rate (X6)	-0.0997 *** (0.0239)
Non-skilled job (X7)	0.0292 (0.0458)
Borrowing from the library (X8)	-0.0031 (0.0047)
Distance from county seat (X9)	-0.0792 *** (0.0143)
Distance from district seat (X10)	-0.0947 *** (0.0143)
Constant	14.2741 *** (0.7885)
N	1476
R^2	0.9980

**** p <0.01, ** p0.05, * p0.1; in brackets the standard error*

Source: own calculation based on TEIR data

4. CONCLUSION

It is worthwhile to conduct income inequality research in as narrow a territorial unit as possible, so it is most likely that the observations in the sample represent a similar social, economic and cultural value system and will be affected by similar effects. In our study, we looked for the determining factors at the settlement level that can explain the total domestic per capita real income of settlements. We found a significant relationship between the permanent population, the proportion of recipients of pensions and other benefits, registered sole proprietorships and the income situation. Furthermore unemployment rate, the proportion of unskilled workers, and geographical distances also explain the income conditions of settlements. Our results can be considered robust, we ran three types of panel models (FE, RE, PCSE), we obtained almost identical results in all cases. From a policy point of view, our most important result is the negative impact of EU subsidies on the income situation of municipalities. This is in stark contrast to one of the important objectives of EU subsidies to help economically lagging regions catch up. Another breakout point could be to increase employment opportunities for retirees and especially those receiving other social benefits. This process is facilitated by the contribution exemption for employers of pensioners, which came into force in the middle of 2020, and the retired employee only has to pay PIT. Various family policy subsidies try to make the countryside popular, however, based on our results, small settlements close to county and district headquarters may be the winners of these programs. Thus, it is likely that variables measuring geographical distance will play an even greater role in subsequent studies.

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6. APPENDICES

Appendix 1: Descriptive statistics of variables (N = 1476)

Variable	Average	Std dev.	Min.	Max.
Total domestic income per capita in real terms (HUF) (Y)	662 193	224 134	115 457	1 323 624
Permanent population (persons) (X1)	1303	4554	40	65645
Recipients of pensions, benefits, annuities and other allowances per 1000 permanent residents (persons/persons) (X2)	251.85	59.68	62.28	716.49
Number of registered sole proprietors per 1000 permanent residents (pcs/person) (X3)	30.09	17.78	0	140.35
Number of registered partnerships per 1000 permanent residents (pcs/person) (X4)	23.67	34.87	0	553.57
EU subsidies per 1000 permanent residents in real terms (HUF million/person) (X5) *	210	2 327	0	67 986
Number of registered jobseekers per 1000 permanent residents aged 15-64 (persons/person) (X6)	100.46	56.95	0	377.48
Persons employed in non-skilled occupations 1000 permanent residents aged 18-64 (persons / person) (X7)	256.30	97.76	48.19	698.28
Library units borrowed from municipal libraries per 1000 permanent residents (pcs / person) (X8)	1518	1635	0	11 195
Road distance to the shortest road from own county seat (km) (X9)	44.56	20.93	0	90.62
Distance from the shortest road to the shortest road on the road (km) (X10)	17.54	7.70	0	36.11

Source: Own editing based on TEIR data * For technical reasons, the value is given in HUF million

ZOLTÁN ANDRÁS DÁNIEL - MELINDA KOCZOR-KEUL: CHANGES IN THE LOCAL BUSINESS TAX IN THE SETTLEMENTS OF HUNGARY

[1] Department of Business Economics, Faculty of Economics, University of Pannonia, Veszprém, e-mail: daniel.zoltan@gtk.uni-pannon.hu
[2] Department of Business Economics, Faculty of Economics, University of Pannonia, Veszprém, e-mail: keul-melinda@gtk.uni-pannon.hu

Abstract One of the most controversial of the measures introduced to counter the effects of the 2020 crisis caused by the Crown Tax Act was the halving of business tax for the SME sector. The effect of the measure is that the revenue left with the SME sector could help businesses to survive, while on the other hand local authorities will lose revenue. In our research, we will briefly describe the history and background of this type of tax, show the burden it places on businesses and how the revenue is reflected in the budgets of local authorities. We will show how the tax rate has evolved in each municipality in relation to the maximum rate, where it has been lower, whether it has changed and in what direction, and how these changes have affected the revenue generated by this type of tax in the municipalities concerned and, in some cases, the number of businesses operating and the volume of other tax revenue paid by these businesses in the municipality. We also examine the geographical aspects of the location of the municipalities that apply different concessions or lower tax rates, i.e. the correlation between the geographical and, in part, the resulting economic situation of the municipality and the tax rates applied.

Literature review

One of the main financing sources of the local government system – as an important subsystem of public finances–, are the collected local taxes, regulated by Act C of 1990 on Local Taxes. Local governments have the right to decide within the framework of this Act about the introduction of a certain local tax, about the period of levying it, the sphere of exemptions and tax allowances. In case of these taxes the law sets only an upper limit, and the local government has the decision power to decrease it, even up to the tax exemption, based on the decision of the Board of Representatives. This is the reason why we encounter different types of taxes and tax rates in different settlements. An important segment of local governments' revenue is the local business tax, being the most widely spread and used local tax.

In Hungary all business activities pursued (for income or profit) in the area of jurisdiction of a local government are subject to the local business tax (if introduced). The taxable person is the entrepreneur, who carries out economic activity on a permanent or temporary basis in the territory of the local government concerned. The permanent or temporary nature of the business is important primarily in order to determine the tax base. If an enterprise performs business activities in the administrative territories of multiple municipalities, the tax base has to be allocated among these locations using the detailed rules specified in the legal regulation.

For permanent business activity the tax base of local business tax is the total net sales revenue reduced by the cost of goods sold and the value of mediated services, sums paid to subcontractors, material costs, and the direct costs of basic research, applied research and experimental development claimed for the tax year. These items are deductible under a decreasing scale in case of

taxpayers with larger turnover (above 500 million HUF), with the effect that lower margin businesses may have higher effective tax rates. For permanent commercial activities the maximum rate of tax per annum is 2% of the tax base. Persons carrying out temporary or intermittent economic activity pay tax at a daily rate of a maximum of HUF 5,000.

Among the 6 types of local taxes that may be levied in Hungary, the significance of the local business tax is high. The tax has created a responsibility in the minds of local governments to care for businesses operating in their area. Many factors influence companies' site selection decisions. The location of the market, partners and competitors, as well as the local characteristics of the area are equally important. Of the latter, the level of local taxes can be decisive. Understanding the factors that play a role in business establishment decisions is key to regional policy and planning.

The importance of the local business tax is increased by the fact that the most important local revenue of Hungarian local governments comes from this tax. The Local Tax Act leaves room for local governments only in the introduction of the tax and in the determination of the tax rate, and uniformly fixes the method of calculating the tax base. As a result, the tax base is mobile, and since the business tax is a determining tax burden, the amount of HIPA introduced by a given municipality can be an important consideration when selecting a site for the business. This should lead to strong tax competition between municipalities. Szalai Á. (2005) examined the business tax data of Hungarian settlements with more than 5,000 inhabitants between 2000 and 2004 and proved the hypothesis of strategic competition between local governments. However, after 2007, revenues were more driven by the economic cycle (Muraközy B. and Reizer B., 2017).

Firms usually settle where other plants are already present, as they expect positive externalities from this. Ottaviano and van Ypersele (2005) have shown that in the presence of agglomeration economies, tax competition can be a factor in increasing prosperity as it can alleviate excessive spatial concentration of firms. The most important proposition in the new economic geography literature is that when capital (or any other relevant factor of production) is mobile and commercial costs are low enough, agglomeration forces lead to a spatial concentration of firms that cannot be easily distorted by tax differences. Charlot and Paty (2006) have even shown that some local governments take advantage of such situations by increasing taxes in places where many companies are present. Thus, central regions with large economic activity can set a high tax rate without having to fear that companies will relinquish the benefits of agglomeration economies and lose companies in favor of peripheral regions. The positive effects of urban agglomeration (access to markets, proximity to suppliers, skills of the workforce, etc.) compensate for the disadvantages of higher taxation.

Tax competition between local governments and the effects of agglomeration economies on strategic taxation have been examined in a number of studies and it has been shown that agglomeration benefits are taxed by municipalities (Baldwin and Krugman (2004), Borck and Pflüger (2006), Koh and Riedel (2010)). Municipalities with a concentration of economic activity in their area of competence may tax businesses to a greater extent, so local taxes are positively correlated with local agglomeration economies.

The development of the financing and revenue structure of local governments in Hungary was studied by Bordás (2015, 2019) who

showed that in addition to the support rules, several factors have an influence on it. One such factor is the administrative size and legal status of the local government. His conclusion is that the taxing capacity of cities with county status is the highest, and this power decreases as the administrative status decreases.

Businesses prefer larger settlements when choosing a headquarter or site, as they have easier access to skilled labor and the infrastructural development is higher (Koczor-Keul and Molnár, 2020).

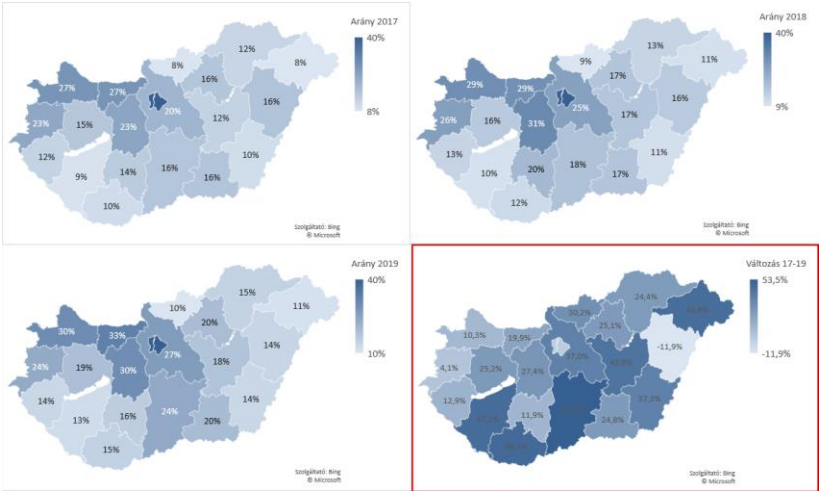
The importance of HIPA is also enhanced by the fact that it can be one of the main tax burdens for businesses. There are several problems for companies due to the way the tax base is determined, which caused extensive debates among policy makers, taxpayers and academics and the local business taxation has been a constant source of discomfort and critique. The tax is levied on the turnover and not on the profit. This means that loss-making businesses are also liable to pay this tax. Although this does not contradict the principles of taxation, an enterprise operating in the area of competence of the municipality compensates by paying local taxes for the use of public services provided by the municipality, and this use is independent from the efficiency of the companies' economic activity. The infrastructure of the settlement, public services, etc. are used regardless of the realized profit. It is therefore legitimate not to do so for free, as a "slacker" (Fellegi, 2012). Another problem is that the local business tax has become a type of tax that imposes a different burden on taxpayers operating in different sectors due to the method of determining the tax base. Some companies, other than those engaged in traditional productive or commercial activities, cannot or only to a limited extent benefit from the possibility of reducing their net sales due to the nature of

their economic activity. In their case, this tax is levied on their business as a quasi-turnover tax, as they have to pay it on the net sales or on a tax base close to it. The local business tax thus provides different conditions of competition for businesses, which raises the issue of distortive effects in the national economy.

Despite the contentious issues that arise, the local business tax remains one of the main financing sources of local governments and most of them take advantage of introducing it.

Analysis

After a review of the theoretical background, we examined the importance of local business tax in the management of local governments. To do this, we examined the total revenue of local government budgets between 2017 and 2019 and showed the share of revenue from local business tax. We examined changes in the proportion, changes in the absolute size of the amount collected and the spatial evolution of the changes. We found that the share of business tax in the budgets of municipalities increased from 9.32% to 10.95%. At the same time, the amount collected at national level increased by 23%, from HUF 630 billion to HUF 777 billion.



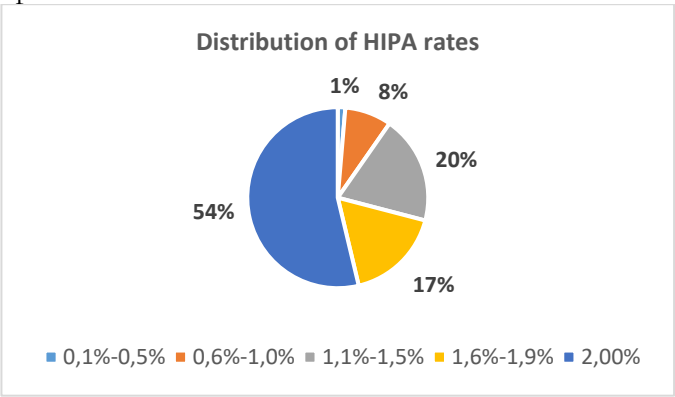
4. Figure: The share of HIPA in local government budgets 2017-2019

Source: teir.hu

At the municipal level, the number of municipalities with no business tax revenue decreased from 322 to 289, while at the other end of the scale, the municipalities with the highest share accounted for 90.88% of total business tax revenue. The following chart shows the share of business tax revenue for each municipality at the county level and the rate of change between 2017 and 2019. In Budapest, the internal rate has not changed over the years, remaining at 60% throughout.

The legal maximum for business tax was 2% until 31 December 2020. Municipalities are allowed to levy a rate lower than 2%. The size and diversity of the discounts that can be granted is also a municipal competence. Exemptions from business tax can be found in 32 municipalities and discounts in 1105 municipalities, i.e. around one third of municipalities in Hungary offer a discount on business tax. The most common discounts are related to the tax base, where a discount is granted below HUF 2.5 million. The other most common discount is health and socially oriented, with general practitioners and nurses being the beneficiaries of the

discounts. Municipalities may also grant discounts depending on the investments made. The following graph shows that the majority of municipalities levy a maximum business tax of 2%, with only 9% of municipalities below 1%, which represents 267 municipalities in terms of size.



5. Figure : Distribution of HIPA rates

Source: teir.hu

The following table shows the business tax rates for all municipalities in Hungary between 2015 and 2019. After compiling the database, we analysed the data and found that in a significant number of municipalities the local business tax rate has not changed. This value represents 2720 municipalities.

10. Table: Average HIPA rate

2015	2016	2017	2018	2019
1,55%	1,57%	1,59%	1,60%	1,61%

Source: teir.hu

In the next group are those municipalities where business rates have increased, 283 municipalities in total. The average increase is

0.8353%. We also looked at which municipalities have seen a change in the rate of business rates that is favourable to businesses, and we found this for 90 municipalities. The average rate of decrease is 0.5672%. The following table shows the average rate of business tax for all municipalities in Hungary in the years under review. Overall, it has increased by 0.06% over 5 years, i.e. by about 0.015% per year.

In the next stage of our analysis, we examined the impact of the change in the local business tax rate on the amount of local business tax collected in the municipalities. As mentioned above, the increase in the years under review was HUF 147 billion. In terms of the amount, the local business tax collected decreased in 623 municipalities and increased in 2251 municipalities. We examined whether the change in the business tax rate had any impact on the amount collected. Our results are summarised in the table below.

11. Table: HIPA change cross-tab

Changes of HIPA rates	Number of municipalities concerned	Incoming HIPA change rate
Nem változott	2720	+86,38%
Csökkent	90	+106,02%
Nőtt	283	+36,69 %

Source: own editing

It can be seen that in the municipalities where the business tax rate did not change, there was an increase in the amount of tax collected, an increase of 86.38%. For those municipalities where the business tax rate increased, the amount collected increased by an average of 36.69%. For those municipalities where the local

government reduced the business tax rate, the revenue increased by 106.02%.

Summary

It can therefore be concluded that, despite the reduction in business tax, the municipalities concerned have seen a much higher increase in tax revenue than the municipalities where the tax rate has been increased. The reason for this increase can be explained by the fact that the reduction in tax rates attracted new businesses to the municipality, which in turn increased the overall tax revenues of the municipalities. However, it should be stressed that the government's intervention to cap the rate of business tax at 1% will not have such an impact, i.e. it is expected that municipalities' tax revenues will decrease significantly. This will be particularly problematic for large cities where there is no government compensation and where municipal revenues from business rates are high, such as Budapest. It can also be noted that the increase in business tax has not been accompanied by a significant increase in the amount of tax.

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ZOLTÁN ANDRÁS DÁNIEL – JÚLIA TOBAK – TAMÁS MOLNÁR: REGIONAL ASPECTS OF SUPPORTING ENTREPRENEURSHIP IN HUNGARY

[1] Department of Business Economics, Faculty of Economics, University of Pannonia, Veszprém, e-mail: daniel.zoltan@gtk.uni-pannon.hu

[2] Department of Business Economics, Faculty of Economics, University of Pannonia, Veszprém, e-mail: tobak.julia@gtk.uni-pannon.hu

[3] Department of Business Economics, Faculty of Economics, University of Pannonia, Veszprém, e-mail: molnar.tamas@gtk.uni-pannon.hu

Abstract People are divided on what it means to be an entrepreneur. Some think that it is a very good way to become independent and not be at the mercy of employers, while others want to stay away from insecurity and therefore do not choose to do so, but instead take a job as an employee. Many are afraid to take the plunge, others lack the knowledge and, not insignificantly, the start-up capital is not always available. From an economic and social point of view, it is important to have a sufficient number of entrepreneurs in a region, as the jobs created, the products produced and the services offered can all be an important factor in the prosperity of a municipality, county or region. For these reasons, it is particularly important to encourage more people to want to set up in business and, once they have made the decision, to start up with as little risk as possible. The government and the various chambers of commerce and industry are trying to help prospective entrepreneurs with various training courses, programmes and mentoring grants, and it is not uncommon for this to be done financially, through various tenders. In our work, we examine the spatial and temporal distribution of these grants in

Hungary's counties, and we also try to show the short- and medium-term effects of the grants awarded.

Literature review

The term "entrepreneur", originally French in origin, meaning mediator, relationship builder, has been defined and circumscribed in many different ways throughout history. In the Middle Ages, the emphasis of the word 'entrepreneur' was typically on the coordination and management of large-scale works. The next characteristic of the entrepreneur, which gave a new framework to his activity, was risk. Cantillon in 1725 described the entrepreneur as a risk-taker.

Beaudeau in 1797 also described him as a proprietor, in addition to the characteristics of a manager and a risk-taker. In the early 1800s Say separated entrepreneurial profit from capital profit. By the late 1800s, Walker had already distinguished between those who share in the profits of the business by virtue of their capital invested and those who profit by the use of their managerial skills. Schumpeter's 1934 definition of the entrepreneur is that he 'innovates and develops untried technologies' (Shumpeter, 1980a, 1980b).

According to Drucker (1993), the entrepreneur seeks to maximise opportunities, and Shapero (1975) emphasises the entrepreneur's initiative and risk of failure. Hisrich (1985) defines entrepreneurship as 'the process of creating something new and valuable in which the entrepreneur provides the time and effort, assumes the expected financial, psychological and social risks, and receives the financial and personal satisfaction that comes from the process' (Hisrich-Peters, 1991).

It can be seen, therefore, that the definition of the entrepreneur until the third quarter of the 20th century focused primarily on the individual and the activity he or she undertook. Accordingly, as the

times have changed, different parts of the definition have been given different emphases. Entrepreneur and enterprise are nowadays merging concepts. According to the Hungarian Academy of Sciences' hand dictionary (MTA, 2004), an enterprise is: "the action of undertaking something; the work for which one undertakes; the activity of creating or maintaining a productive or service-providing economic unit or form of economic activity that provides income."

According to Vecsenyi (2009), "a key role in entrepreneurship is played by the entrepreneurial person who recognizes a business opportunity and creates or transforms an entrepreneurial organization to exploit it, assuming the risks that go with it in the hope of expected professional, market, financial, social and individual success." Within this entrepreneurial process, a business opportunity has to be recognised, an economic organisation has to be created or transformed and operated, value has to be created, all in a way that is acceptable to society (Vecsenyi, 2003).

According to Timmons-Spinelli (2003), "entrepreneurship is a way of thinking and acting that is opportunity-oriented, holistic in approach, and balanced by governance (leadership)".

According to the European Union's 2003 Green Paper on Entrepreneurship in Europe, "entrepreneurship is a way of thinking and a process of creating and developing economic activity, combining risk-taking, creativity and/or innovation with sound management, within a new or existing enterprise." The term 'enterprise' in the definition is often used in everyday language as a synonym for 'business'. Nevertheless, several analyses (Ács et al, 2003; ec, 2011) seek to emphasise the differences. According to the literature, an enterprise is the economic activity itself, while a company is the organisational framework of an enterprise.

In Hungarian analyses, legislation and HCSO data, the word enterprise appears as a kind of generic term. It is used for companies, cooperatives and sole proprietorships (Kállay-Imreh, 2004). Szerb (2004) criticised this practice, he also argued for the separation of the two concepts by the differences between organisation and activity.

In Chikan's (2004) interpretation, the enterprise is nothing but a business activity and the company is its organisational framework.

According to Wennekers-Thurik (1999), entrepreneurship is nothing more than a manifestation of individuals perceiving or creating new economic opportunities, entering the market with new ideas, and confronting uncertainty and other obstacles.

In interpretation of one of the Authors, entrepreneurship is an activity within a regulated organisational framework, defined by law, which focuses on the entrepreneur as a person who uses his or her knowledge and other competences to make a profit by using the available resources economically and efficiently, managing a socio-technical system, risking his or her own capital or that of his or her clients (Dániel, 2016).

We therefore consider the enterprise as a socio-technical system, since people and assets are involved in the work processes and in the production of added value as living and dead factors of production.

SME sector in Hungary

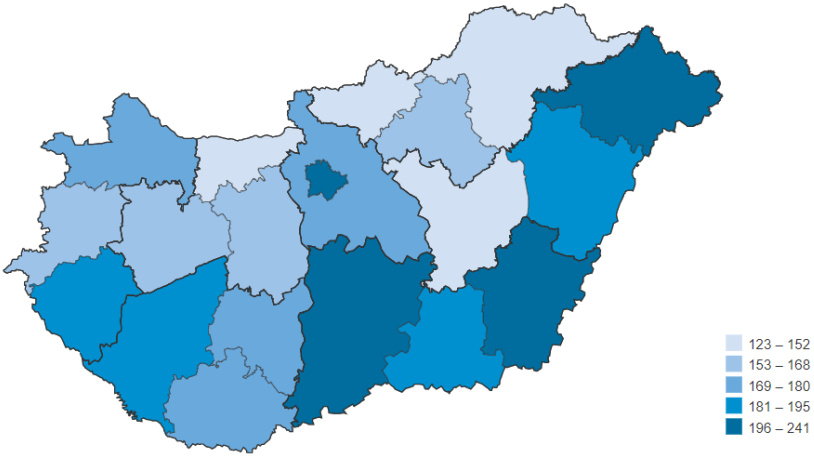
The growth of the entrepreneurial sector, the creation of new businesses, the increase in the number of people who want to start a business is in the social and economic interest of the EU. Indeed, researchers agree that entrepreneurship is the engine of the economy, creating jobs across the country, including in lagging areas with high unemployment, and thus contributing to reducing

territorial disparities through self-employment. Enterprises contribute to meeting needs, as most of the micro and small enterprises that are created are SMEs that produce for the local market and are adapted to local needs. Another characteristic of such enterprises is that a significant part of the income generated remains in the region, thus having a multiplier effect.

Another characteristic of modern enterprises is their innovativeness. Innovative start-ups tend to create high value-added products and services and thus contribute a higher share of budget revenues and local tax revenues.

Accordingly, the focus of government policies is on micro, small and medium-sized enterprises, including the development of innovative SMEs. The SME sector is significant in many emerging economies. It accounts for 99.8% of enterprises in Hungary and the same proportion in the European Union. In Hungary, micro, small and medium-sized enterprises employ 68.3% of the workforce, compared to 66.6% in the EU. 54.1% of the value added generated is linked to these enterprises, compared to 56.4% in the EU. It can therefore be seen that they play an important role in the life of the economy.

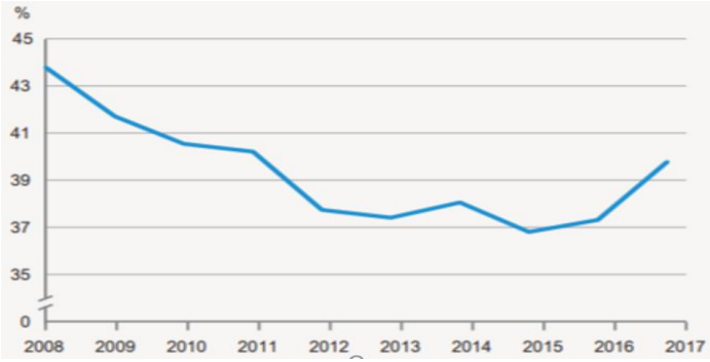
As mentioned above, they also play an important role in terms of employment and self-employment, and it can be seen that the number of enterprises per 1000 inhabitants is high in regions with relatively high unemployment.



6. Figure: Number of enterprises per 1000 inhabitants

source: CSO

Unfortunately, while starting a business seems relatively easy, running one is not so positive. The graph shows a five-year survival graph for start-ups, which, while showing an increase, is still below 50%. This dismal statistic will not be helped by the crisis that starts in 2020.



7. Figure: Five-year survival rate

source: CSO

Supporting organisations

In Hungary, institutions that aim to support entrepreneurship play a key role in the start-up and survival of businesses, including umbrella organisations for entrepreneurship, various institutions that provide training and for-profit trainers and consultants who provide training and services based on their profile.

Two of the most prominent umbrella organisations are the Hungarian Foundation for Enterprise Development and its county organisations and the National Association of Young Entrepreneurs (FIVOSZ). These two organisations, alongside the Hungarian Chamber of Commerce and Industry, have done a lot to mentor start-ups. Of these, FIVOSZ is mainly helping young people. The SEED Foundation is also a smaller but also supportive organisation, and they have drawn attention to themselves by supporting women entrepreneurs.

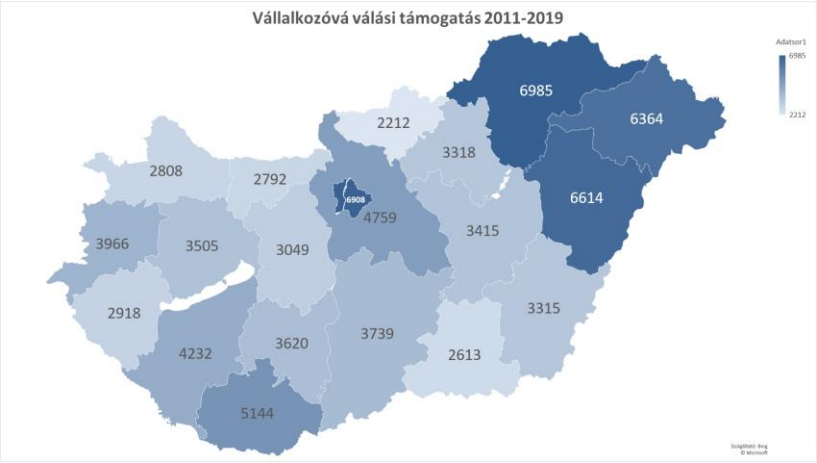
As regards training programmes, we would highlight in particular the vocational training courses where a specific module is dedicated to the transfer of entrepreneurial competences and skills. Fortunately, a very wide range of training courses include such modules, which means that in the future a higher proportion of new graduates will already have the necessary competences. Some of the modules also cover start-ups and business planning.

They are also part of the training and output requirements in higher education in many engineering and IT courses, and are self-evident in business courses. What is very positive is that there are programmes already at an early age (kindergarten, primary school) that try to make entrepreneurship attractive.

In addition to this, there are profit-oriented training courses and programmes that target this group. The state (in partnership with the EU) also provides funding for this through tenders.

Support for becoming an entrepreneur

In this section we would like to present two programmes that have been implemented nationally and have been large enough in scale to have a lasting impact. The first is Entrepreneurship Support. This programme was typically open to unemployed people and therefore had the direct and not hidden aim of reducing unemployment. The programme, implemented with the assistance of the Hungarian State Treasury, was successful in all counties and, as the following graph shows, it became a mass programme mainly in counties with high unemployment rates. The project was open to applications for a six-month grant of six times the current minimum wage. In addition to this, there was a compulsory requirement for expert advice to ensure that the businesses set up were more likely to survive.



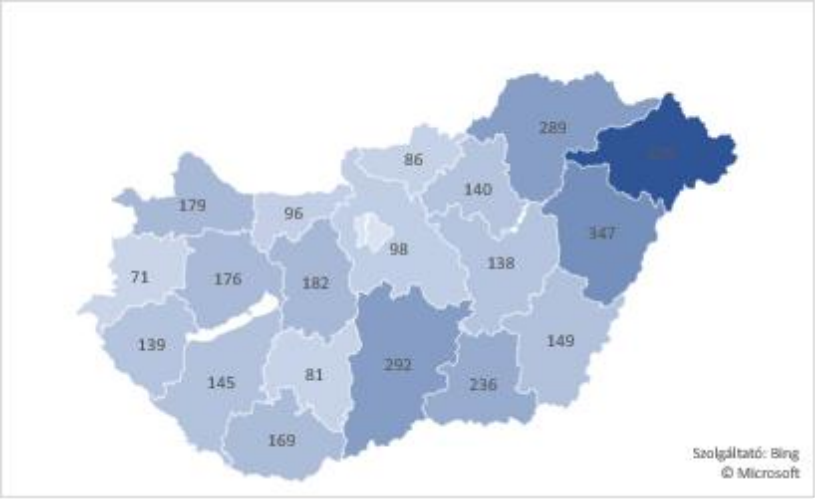
8. Figure: Support for becoming an entrepreneur

source: teir.hu

Grants for young people

The other scheme (or rather 2 different manifestations of it) is for grants targeted at start-up entrepreneurs under 35 years old. Of the two schemes, the one that addressed all types of entrepreneurial ideas was called the Youth Entrepreneurship Grant. This programme consisted of two parts. In the first part, the umbrella organisation (FIVOSZ) received funding to organise programmes to train young people who wanted to become entrepreneurs. The young people who attended these courses then prepared a business plan and used this business plan to apply for start-up grants. The business plans were judged by experts. The grants received were non-repayable and amounted to HUF 3 million each.

The regional distribution of the grants is shown in the following graph:



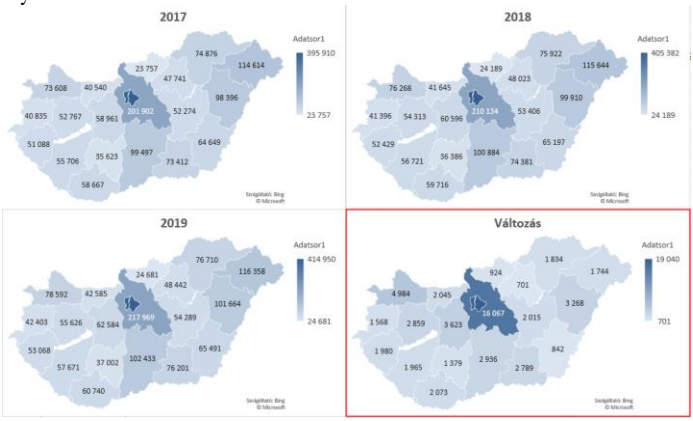
9. Figure: Support young people becoming entrepreneurs

source: teir.hu

The other project for young people was called Young Farmer. Young people from small villages were eligible to apply, but this was not preceded by any training, which had to be provided by the winners themselves. The aim was to help young people with a mainly agricultural tradition to find a footing. The grant awarded under the project was also non-repayable, amounting to €40,000.

Changes in the number of entrepreneurs

After learning about the support provided to would-be entrepreneurs, we examined whether it had a measurable impact on the businesses that were created and survived. The following maps show the spatial distribution of the number of enterprises and, on the last slide, the extent of change in the periods when the aid described above should have led to significant growth. It can be seen, however, that the largest increases in the number of enterprises were not in the eastern counties, where the aid would have been most likely to have been granted, but in the more developed regions (Budapest, Pest county, Győr region). These regions are the most developed in terms of GDP per capita in the country.



10. Figure: Number of enterprises in the counties 2017-2019

source: CSO

Summary

In conclusion, there is no significant relationship between the different types of aid granted and the number of enterprises surviving. When examined separately, this is most true for aid that was primarily aimed at reducing unemployment, where many of the assisted enterprises have closed down and then reapplied.

It can also be seen that enterprises that were supported with both planning and training are more likely to survive.

That is why our proposal for the next period of support is that there should also be a qualitative requirement, not just a quantitative and administrative one.

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BOGLÁRKA KONKA:
ELECTRIC CAR MARKET ANALYSIS IN HUNGARY[57]

[1] Department of International Economics, University of Pannonia, Veszprém, e-mail: konka.boglarka@gtk.uni-pannon.hu

Abstract: The study examines the development path of electric cars in Hungary between 2006 and 2020 based on the database of KSH and ACEA. Similar to the European Union indicators, the Hungarian data also indicate a dynamic growth in data. The possible reasons for this tendency could be the subsidies provided by the Hungarian government in the purchase of electric cars.
Nevertheless, the share of electric cars in the country's vehicle fleet is still low. Therefore numerical factors (like income, population) were analyzed that may have influenced the spread of electric cars in Hungary.
This research could continue with a questionnaire that monitors the attitude and the motivations of the Hungarian car owners to buy an electric car. That survey also could help the policies and actions linking to electric cars.

Keywords: electric cars, Hungary, green gas emission, climate change.

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1. Introduction

The automotive sector has significant importance because it is the main exporter, contributor to the GDP, and job creator in many countries. However, it faces more challenges, like COVID-19, the evolution of connected and autonomous vehicles, modifications in the supply chain, alteration of business models, stricter environmental rules, or increasing demand for electric cars. The latter topic is covered in the study.

The economic players pay more and more attention to the development trajectory of electric cars. One of the reasons for the heavy interest is climate change because electric cars could decrease CO_2 emissions locally. Therefore various government supports the production and the purchase of that vehicle type. Highlighting the European Union, the road transportation sector caused one fifth-part of the greenhouse gas emission in 2018 and it followed an increasing tendency since 2014 (European Environment Agency 2018). Most member states introduced tax benefits or purchase incentives for electric vehicles and it caused the increasing demand on the electric car market.

In the case of Norway, the decision-makers support the spread of electric cars from the 1990s. The electric car owners and producers also enjoy various benefits in 2020, like strict pollution limits for manufacturers, heavily taxed diesel or patrol cars, tax exemption of green cars (for example no weight tax, CO_2 tax, VAT), and lower parking fee (Norsk elbilforening 2021). These provisions caused that 54% of new car sales were purely electric in contrast with 8% of petrol-only and 9% of diesel-only in 2020 (Klesty 2021).

The car manufacturers are also motivated to invest in the production of electric cars and develop more and more new models with lower prices and longer range. For example, Volkswagen Group aim is to introduce 70 new purely electric models on the market until 2030, and more traditional carmakers (like General Motors and Volvo) announced that they stop the

production of the cars with internal combustion engines after a given date (Stubnya 2021).
In the Hungarian academic literature also appeared the research linking to electric cars. For instance, the PWC made two reports about it to show the main tendencies (PWC 20124, PWC 2012).

2. Material and Methods

Generally, the databases consist of two categories of electric cars. The first type is the plug-in hybrid electric vehicle (PHEV), which has internal combustion and electric engine too. That means PHEV could use only its battery power. Its main advantage is that those kinds of cars are comfortable for the customers because they do not have to change their daily routine so much (for example if a buyer goes on a longer trip he does not have to calculate with the spread of the charging point and its time).
The second type is the battery electric vehicle (BEV) that does not contain internal combustion, fuel tank, or exhaust pipe. Therefore its operation could be locally neutral to the environment (Milev et al. 2021, Federal Ministry for the Environment, Nature Conservation and Nuclear Safety 2019, Gopal et al. 2018). In 2020 the electric cars could not solve the problem of the high greenhouse gas emissions, because their charging and their production also were harmful to the environment, but their continuous development could contribute to becoming environmentally friendly in the future (Nanaki 2021, Hussain, et al. 2020, Kasti 2017). This could result in spillover to other sectors, like in the production of laptops or mobile phones (Mester 2019).
The study analyses the spread of electric cars in Hungary between 2006 and 2020 based on the Hungarian Central Statistical Office (KSH) database. It includes the Hungarian passenger car fleet by fuel type and county distributions. The KSH did not define the electric car concept, but based on the Eurostat database (Eurostat 2021) the KSH also calculated only with the numbers of the BEV.

More analysis techniques could help to describe the main tendencies and numerical factors of a given dataset. To demonstrate the spread of electric cars in Hungary descriptive statistics and concentration ratios were used. Finally, linear regression was run to mark the numerical factors that could influence the number of electric cars in Hungary.

3. Results and Discussion

To analyse the main tendencies at first we have to see clearly the main milestones of the development path of electric cars in Hungary. Figure 1 shows the two time period of the BEV spread in Hungary.

The first interval is between 2006 and 2016 when their shares within the fleet were closed to zero. There were some incentives by the government, like the exemption from fees (like parking fee), discounts or reduction on electricity bills. However, those actions were not followed by the higher demand for electric cars.

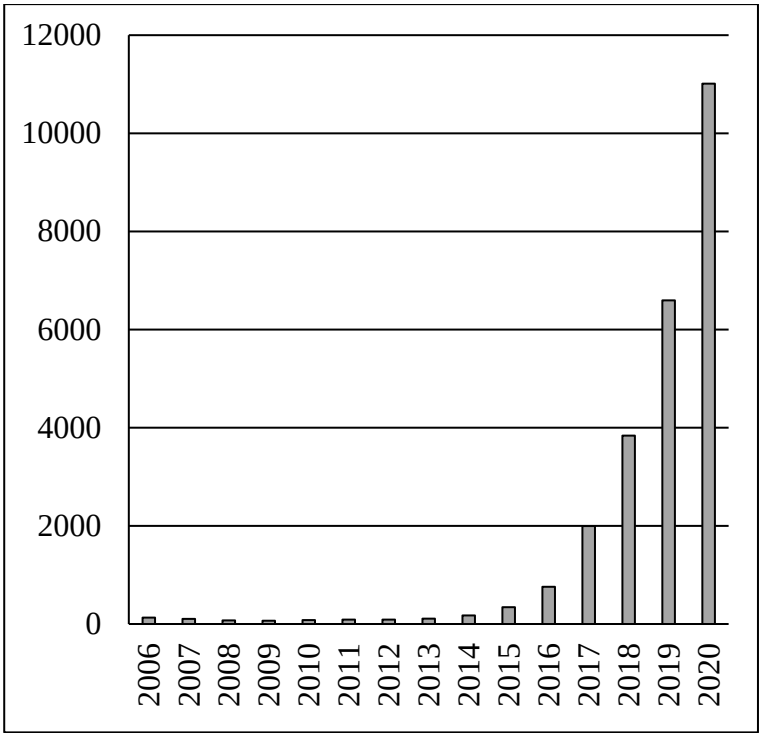


Figure 1: Number of electric cars (at the end of the given year) in Hungary between 2006 and 2020
Source: Self-edited figure based on KSH databases (KSH, 2021a)

The first significant change was the acceptance of the 'Jedlik Ányos Cselekvési Terv'. The 487/2015. (VII. 21.) Government Resolution supported the spread of electromobility highlighting the infrastructure of the charging points, and the development of a system for measuring and accounting for electricity used to charge vehicles.
In 2016 Mihály Varga (Minister for National Economy) announced that the government would provide non-refundable support for

the purchase of purely electric vehicles. The first tender included 2 billion forints in 2016 and 3 billion forints in 2017. The amount of the approval was 21% of the gross sales price valid at the time of purchase but may not exceed 1.5 million forints (Nemzetgazdasági Minisztérium 2016). During the spring of 2018, the interest was so high, the government increased the budget available by 300 million forints. In conclusion, 1600 electric cars were supported by the program. The application phase of the first tender ended in August 2018 (Villanyautósok 2021).

The second program officially was between October 2018 and 1. May 2020. Practically it closed in February 2020 because the target amount (3 billion forints) has been used. The project supported only the purchase of fully electric cars. The European Electric Vehicle Factbook 2019/2020 announced that the most popular electric model was the Nissan Leaf and the Volkswagen e-Golf in Hungary in 2019 (Hall et al. 2020). One of its reason was that the second program determined a higher gross price than the previous project (15 million forints). In this case, the gross price of the supported electric cars was a maximum of 20 million forints. The amount of aid was 21% of the price, but with a maximum of 1.5 million forints per car (Villanyautósok 2021).

The third program started on 20. May 2020. It also included electric scooters and taxis. One of the main aims of the tender was to reduce the price of electric cars. Therefore the purchased price was maximized in 15 million forints and below the gross purchase price of 11 million forints, the subsidy was 2.5 million forint instead of the previous 1.5 million forints. The program was popular. The available budget was exhausted in one and half days and the applicants ask support for the purchase of more than 2000 electric cars (Innovációs és Technológiai Minisztérium 2020; Villanyautósok 2021).

Based on the dataset, the number of electric cars followed a dynamically increasing trend between 2016 and 2020. However,

the rate of growth is declining. Its value was 263.32% in 2017 compared to the previous year, but in 2020 the growth rate decreased to 166.97%.

Another unfavourable feature is that the proportion of the BEV in the new car registration was 2.38% in Hungary therefore it is much smaller than the EU average (5.43%). After the main fuel type, petrol (Hungary: 48.64%, EU: 47.47%), the second-biggest category was the HEV[58] (24.82%) in Hungary, then in the EU diesel was the favourite (27.99%) after the petrol. The high proportion of the HEV in Hungary could demonstrate the domestic customers would be willing to buy and use a BEV. However, they choose an HEV. The BEV could be uncomfortable in 2020 because of its high price, long charging time, the weak infrastructure of the charging points, and limited range.

Based on the KSH database, the BEV distribution among the counties also was analysed (KSH, 2021a). The dataset showed an increasing concentration between 2008 and 2015. The proportion of the BEV in the capital city (Budapest) and Pest County was the highest. Its peak was in 2015 when the concentration ratio[59] (CR_2) of these two areas was 74 %. It also means that at the beginning the outstanding rural counties like Békés, Csongrád-Csanád, Bács-Kiskun and Komárom-Esztergom County's proportion declined. Between 2016 and 2020, the CR_2 that includes Pest County and Budapest fluctuated but it remained above 64 %.

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[58] Hybrid Electric Vehicle is an electrified automobile. The internal combustion engine and the regenerative braking generate the energy to replenish the battery.

59 In this case, the concentration ratio (CR_2) means that the electric car number in a given county was compared to the total amount based on the KSH dataset and the two biggest proportion was added. So for example Pest County and Budapest owned 74 % of the electric cars based on the KSH dataset in 2015.

There may be several reasons behind Pest County and the capital city are outstanding in comparison. For example, this could be a higher income or the fact that in the short-run (for daily commuting within the city) the right choice may already be the electric cars. On the other hand, Budapest and its areas also are outstanding zones in the number of charging points (Gerse 2020). The previous datasets of this study highlighted the significant role of financial aid in the case of electric car purchases. Presumably, there could be a connection between the number of electric cars and the incomes. On the other hand, the population number also could affect the number of electric cars. To describe the connection a linear regression model was made. Its independent variables were the population (POP) on 1. of January in the given year (KSH 2021c) and the average monthly gross earnings of full-time employees (INCOME) in Hungary (KSH 2021b). The dependent variable was the number of electric cars (EV) in Hungary (KSH 2021a).
The equation of the linear regression was the following:

(1) EV = -189 788.47+0.06*INCOME+0.02*POP

The equation means that if only the INCOME change by 1 forint, then the number of electric cars could increase by 0.06 units. If only the population increases by 1 capita then the number of electric cars increase by 0.02 unit.
The model could not be described by heteroskedasticity based on the BPG-test and the condition index did not show multicollinearity. F test can be used to determine the model fits well. The adjusted R^2 showed that the two independent variables explained 96.96% of the electric car variation. Therefore the model could describe how the number of electric cars was influenced by the population and their average gross earnings in Hungary.

One of the model disadvantages was the spread of electric cars has recently begun. Therefore a small dataset was available, it included only 14 years (between 2006 and 2019).
Naturally, other numerical and non-numerical factors could also influence the purchase decisions of the customers. The next step of the research could be also the examination of the behaviour and attitude of the drivers in Hungary. Why do or do not they buy an electric car? One solution could be the individual contribution. Because humans often could feel that alone they could not reduce the emissions, but the electric car could give a chance to do that individually. On the other hand, knowing the motivations of car owners could support the spread of electric cars.
More studies analysed the behaviour of the drivers with questionnaire studies. The attitude of the drivers might be influenced by the climate and electric vehicle policy of the given government, norms in the society, the opinions of the friends, neighbours about the electric cars, and how the driver think about the electric cars (Rezvani 2015).
Research from the United Kingdom showed that the most important factors for the buyers were the cost of the vehicle, the reliability, safety, and comfort. The main restraining factors included the charging points, the limited range, the cost, and the lack of knowledge (Department for Transport 2016).
An American study, that asked 502 inhabitants, also highlighted the lack of knowledge. Its results showed that the car owners did not have enough information about the infrastructure of the charging points, technical details of the electric cars, the maintenance costs, availability of mechanics and services, or amortisation. It presented that if the buyers had any experiments with the electric car then he/she buy it with a bigger chance (MacInnis 2020).
The sources mentioned above were a good example of how much data can be collected based on a questionnaire survey. The

information of that research could be used to support the spread of electric cars and the effectiveness of the policies and actions that link to the demand for electric cars.

4. Conclusion

The study was the first step of research that deals with the spread of electric cars. If the main aim is to decrease the global greenhouse gas emission of transportation, then more development and innovations are needed within the sector.

The Hungarian data and tendencies presented that probably the customers buy and use the electric cars but at first the reduction of the price and charging time, over and above the growth of the range are necessary. On the other hand, not just financial aid is crucial to make a faster spread of electric cars, the availability of the charging points and giving information also are essential.

The study could be continued with a questionnaire that analyses not just the numerical influencing factors of the electric car spread but also the attitudes and motivations of the Hungarian drivers with the electric cars.

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PETRA PÉTERFI:
POSSIBLE REASONS FOR THE DISCREPANCY BETWEEN THE NUMBER OF CHILDREN PLANNED AND THE NUMBER OF CHILDREN ACTUALLY BORN IN HUNGARY

Faculty of Humanities and Social Sciences, Doctoral School of Demography and Sociology, University of Pécs[60] e-mail: petra.peterfi@gmail.com

Abstract:
When examining fertility, one might wonder why there is often a significant difference between the number of children planned and the number of children actually born. To answer this question, I used the results of a demographic panel study. Using the Hungarian longitudinal database of Turning Points of Life Course, I was able to select a sub- sample of respondents who planned to have children in the next three years. Using the results of the next data collection (whether they eventually had children), I was able to draw conclusions. My investigation focused on the proportion of planned childbearing that was achieved and, where it was not, the reasons for not having a child. The research showed that the strength of the intention to have a child had a significant impact on the success rate, with those who definitely planned to have a child having a success rate of 50% and those who were only very likely to have a child having a success rate of 25%. In addition to intention, I looked at what else might have influenced childbearing. I therefore analysed, among other things, respondents' self-assessed financial situation, existing fertility problems and other ideas about having children.

[60] The research was supported by the Cooperative Doctoral Programme, the Ministry of Innovation and Technology and the National Research, Development and Innovation Fund.

Keywords: demography, fertility, population, fertility intention, childbearing,

1. INTRODUCTION

Based on the results of a study in Hungary, I present my conclusions on the possible causes of the discrepancy between the number of children planned and the number of children actually born. It is important to underscore that the target group is the part of the population in the study where children are planned in the short term (within three years).

For my research, I used data from the Turning Points of Life Course representative panel survey and available literature on fertility. In the Turning Points of Life Course survey, selected individuals were asked, among other things, whether they planned to have children in the near or distant future. The survey was repeated with the same individuals every three to four years. The survey gave me the opportunity to examine the proportion of planned childbearing that had taken place and to explore possible reasons for not having children.

My hypothesis is that the intention to have children is influenced by complex factors.

2. MATERIAL AND METHODS

Introduction to the Turning Points of Life Course panel study

Turning Points of Life Course is a socio-demographic panel survey. It is one of the most important research programmes of the Hungarian Demographic Research Institute and currently the largest questionnaire survey in Hungary that collects data on the social and demographic situation in Hungary, its transformation and the reasons for this transformation (Kapitány 2016).

It was launched in 2001 and has been repeated every 3-4 years since

then. The data from the 5th wave are still being processed and cleaned, so I was able to analyse the data from the first 4 waves.
The questionnaire asks about family events, health, entry into work, employment, retirement and living conditions, but also asks people about their well-being and concerns. Re-contacting previous respondents several times allows for an analysis of when and how major life turning points such as starting a family, having children, family breakdown, unemployment, retirement and many other events occur (or do not occur) and how they change their daily lives (Kapitány 2016).
The research is part of a series of international studies, the Generations and Gender Programme (GGP). This allows data collected through similar questionnaires to be used to analyse and compare the living conditions and life trajectories of people in different countries (Murinkó 2016).

Theoretical background to the analysis

In my study I described a specific study. I have taken the longitudinal database of Waves 2-4 of Turning Points of Life Course and filtered it according to different criteria. The first was the age at fertility. For women it was those born after 1959, for men it was those whose partner was born after 1959 and single men born after 1949. As the third wave of the survey took place in 2008, these birth dates were the population covered by the definition of the total fertility rate (TFA). For women, we can speak of a fertile age between 15-49 years (Őri-Spéder 2020), for men there is no such biological limit, so where possible I included the age of the partner (woman), and where not, I included men up to 59 years of age. I then carried out another screening and only included in the sample those who had answered in the third wave that they wanted to have a child within 3 years. This narrowed the sample to 1303.

3. RESULTS AND DISCUSSION

Of the 1303 sample, 987 persons remained in the sample in wave 4. There were various reasons for drop-outs, such as the respondent moving to an unknown location, becoming unavailable, passing away or refusing to respond.

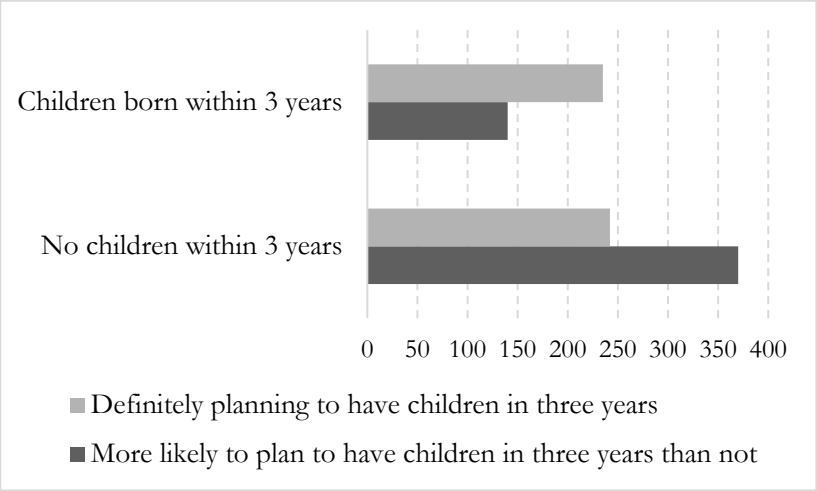


Figure 1: Percentage of the sample achieving productivity intentions (n=987)
Source: Hungarian Demographic Research Institute, "The Turning Points of Life Course" socio-demographic data survey based on data from waves 1-4, own ed.

It is necessary to distinguish between the two types of yes answers to fertility intention, the "yes definitely" and the "rather yes" answer options. This allows the strength of the intention to have children to be assessed, which also influences the likelihood of it being achieved. Of those who at the time of wave 3 definitely wanted to have a child in the next 3 years, roughly 50% had a child, those who answered 'rather yes' were 25% more likely to have a child in the next 3 years, according to the wave 4 data (see *Fig. 1).*

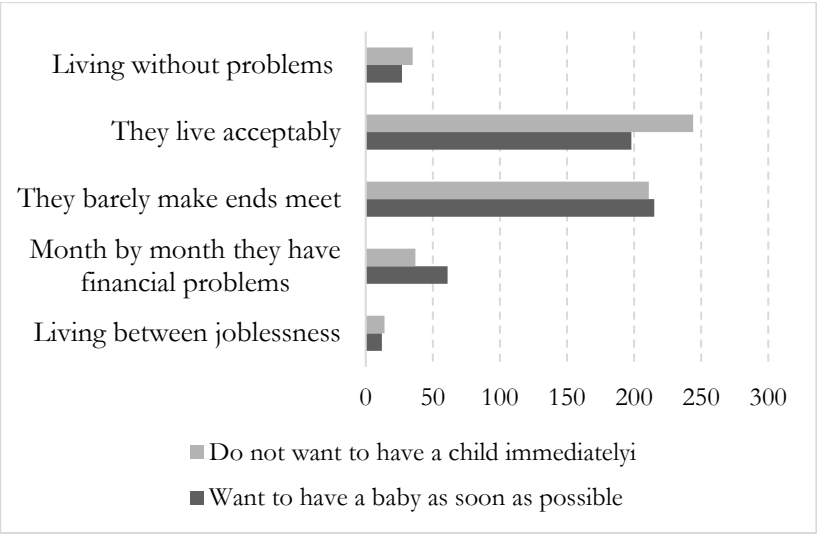


Figure 2: Correlation between subjective financial situation and immediate intention to have children in the sample (n=1054) Source: Hungarian Demographic Research Institute, "The Turning Points of Life Course" socio-demographic data survey based on data from waves 1-4, own ed.

In Figure 2, I have compared respondents' subjective financial situation with when they plan to have children: as soon as possible or within three years, but not immediately. A higher proportion of those who have no or an acceptable standard of living would postpone having children. This may be because they want to improve their circumstances or to enjoy some time before the (next) child arrives. Those who are just making ends meet or living month-to-month would not wait to have a child, but would try to have one immediately. This may be because they do not expect their financial situation to improve and they would be able to provide better conditions for their unborn children in the future. On the other hand, women may have a desire for a rise in status, because motherhood is a socially much more favourable status than unemployment. For those living in deprivation, the

propensity to have children is very low (only 2.5% of the sub-sample of respondents are living in deprivation), but those who would like to have a child within three years, roughly half and half said they would like to have a child immediately or that they would wait.
Overall, those living in the best circumstances are less likely to want to have children immediately, while those living in the worst circumstances are more likely to want to have (more) children immediately.
Social perceptions also influence the decision to have children. Only 3% of respondents said that their perception of their environment would be worse if they had children. In contrast, 25% think that their image in society would improve. The remaining respondents do not think that having children would change their social image. In terms of personal happiness and satisfaction, 3% would be unhappier if they had a child, while 59% would feel happier if they had a child. 18% of survey respondents thought that having a child would have a negative impact on their job prospects, while 25% thought it would have a positive impact on their relationship.

Men and women are perceived to be ready to start a family at different ages. For the sub-sample under study, I compared men's and women's views on having children of their own and the opposite sex.

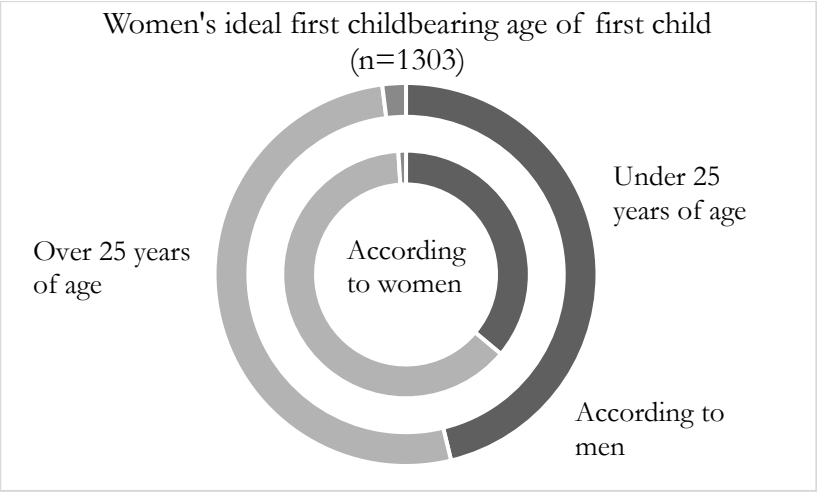


Figure 3: Women's ideal age at first childbearing according to the sample of respondents to the LFS survey (n=1303)
Source: Hungarian Demographic Research Institute, "The Turning Points of Life Course" socio-demographic data survey based on data from waves 1-4, own ed.

Figure 3 shows the ideal age at first childbearing for women, according to respondents. This is in fact the age at which respondents think it is ideal for a woman to have her first child. The inner circle shows women's views, the outer circle men's views. The lighter colour shows the proportion of people who think the ideal age to become a mother is over 25, while the darker colour shows the proportion who think the ideal age to become a mother is under 25. The majority of both men (52%) and women (63%) think that over 25 is the ideal age for a woman to have her first child. However, in relative terms, almost two-thirds of women think so, compared to just over half of men.

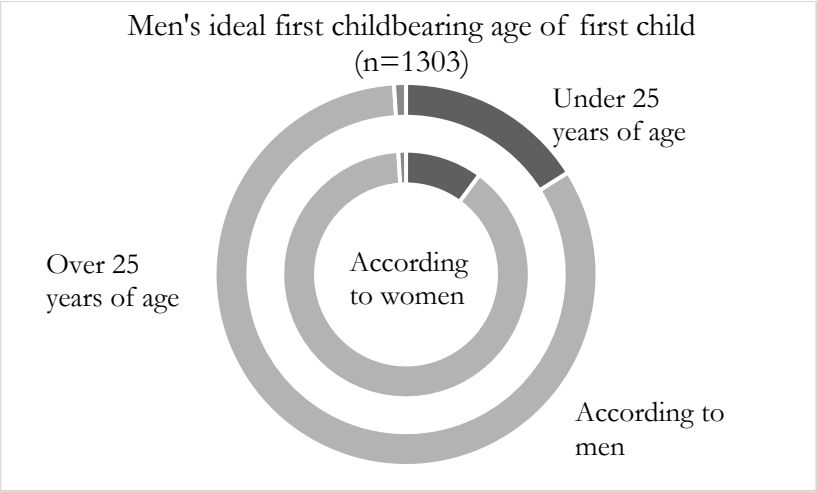


Figure 4: Ideal age at first childbearing for men in the sample (n=1303) Source: Hungarian Demographic Research Institute, "The Turning Points of Life Course" socio-demographic data survey based on data from waves 1-4, own ed.

Figure 4 is similar to the previous figure, but shows the ideal age at first childbearing for men. The outer circle shows the opinions of men and the inner circle the opinions of women. Those who think that it is ideal to become a father before 25 are shown in dark colours, while those who think that it is more appropriate for a man to have his first child after 25 are shown in light colours. Both sexes think it is more ideal for men to become fathers after the age of 25. 83% of men and 89% of women thought so. Overall, for both sexes, having a first child over the age of 25 is considered ideal by the majority of respondents. However, for women, there is less agreement that having a first child under or over the age of 25 is ideal than for men, where the majority of respondents agree that becoming a father after the age of 25 is ideal.
In Table 1, we are talking about fecundity, also known as fertility problems. Here again, the responses of the subsample of members are shown.

Table 1: Presence of a fertility problem in the sample (n=1238)

In reply to	From partners	For both parties	Total
91	39	13	117 pairs
7.4%	3.2%	1.1%	9.5%

Source: Hungarian Demographic Research Institute, "The Turning Points of Life Course" socio-demographic data survey based on data from waves 1-4, own ed.

Many studies have shown that fertility starts to decline in the late twenties. As shown in Figures 3 and 4, it is socially perfectly acceptable, even desirable, to have (first) children over the age of 25.

But biological processes cannot be influenced by the cultural attitudes of society. Although medical technology is improving, artificial insemination is not the solution for everyone. Here, we looked at known fertility problems among respondents. 7.4% of respondents have problems with the respondent and 3.2% with their partner. Filtering out those where both partners have a problem (1.1%), 9.5% of respondents overall have at least one partner with a fertility problem.

4. CONCLUSION

Overall, the respondents' intentions to have children correlated with the strength of their intention. That is, a higher rate of implementation was found for stronger intentions (50% for stronger and 25% for weaker intentions). Other factors influenced both the intention itself and the occurrence. In terms of living conditions, those with higher living standards delayed having children, which reduced the chances of realisation. Those in poorer circumstances, on the other hand, planned to have children immediately, which they believed would also increase their social position. Social expectations of childbearing are shifting towards

later childbearing. This is also driven by the two-earner family model, which is the average in Hungary, and by women's increasing educational attainment. Later entry into the labour market and the need for work experience have made this a natural process in most parts of the world. However, there are also disadvantages to having children later in life. Biological research shows that after the age of 25, female fertility rates start to decline. Generally speaking, between the ages of 35 and 39, childbearing plans are still quite feasible, but after40 the gap between planned and actual childbearing is greater (Kapitány 2010). Many women in their 30s or early 40s may find that they are no longer fertile, in which case so-called ART (=in vitro fertilisation) treatment may be an option (Sobotka-Beaujouan 2018).

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Data source: Hungarian Demographic Research Institute, "Turning Points of Life Course" socio-demographic data survey, waves 1-4.

SECTION G 3: Regional disparities and territorial problems

MOLNÁRNÉ BARNA KATALIN – MOLNÁR TAMÁS – KOZMA DOROTTY EDINA: DEVELOPMENT OF POPULATION EXPENDITURES DURING MULTI-DAY DOMESTIC TRIPS IN TOURIST REGIONS, WITH SPECIAL REGARD TO THE CORONAVIRUS EPIDEMIC

[1-3] Department of Accountancy and Controlling, Institute of Business, University of Pannonia, Veszprém, e-mail: kozma.dorottya.edina@gtk.uni-pannon.hu; barna.katalin@gtk.uni-pannon.hu
[2] Department of B Economics, Institute of Business, University of Pannonia, Veszprém, e-mail: molnar.tamas@gtk.uni-pannon.hu

Abstract: The Balaton Region is one of the most popular tourist destinations in Hungary. The number of foreign and Hungarian guests in the region is growing year by year, which presupposes an increase in the amount of tourism spending. In the present study, the authors also examined the volume of expenditures and their structural distribution at national and Balaton Region level. The decrease in the number of guests at national level has affected the Region to a lesser extent, however, 30% of the total domestic expenditure was generated in this region. The coronavirus epidemic broke this dynamism, however, the popularity of the Lake Balaton Region remained prominent and the loss of a huge volume of revenue was able to be compensated to some extent above the national average.

Key words: Balaton Region, multi-day travel abroad, expenditure of the population

1. INTRODUCTION

Balaton Region is the most popular resort area in Hungary which is true for both domestic and foreign visitors. In addition to lakeside holidays, historical monuments are also important, and visitors are looking for special natural values as well as opportunities for active recreation. Despite the fact that the area of Lake Balaton is considered to be agricultural with an average quality, from the 19th century the tourism development of Lake Balaton and its surroundings came to the fore (BUDAY-SÁNTHA 2008).

We can also draw conclusions about the popularity of the Balaton Region through the data of Google Trends over the last few years. Analysing the time series of the last five years it can be said the outstanding data occur in June and July. The same trend is typical for the years before 2005. In June and July the degree of interest is very high which indicates that the popularity of Balaton Region can be demonstrated at global level.

2. LITERATURE REVIEW

The performance of Hungarian tourism as an economic sector in 2019 is characterized by the fact that the upward trend of previous years continued so the sector expanded in 2019 as well. However, the growth rate and thus the expectations for 2020 have been overwritten by the pandemic situation. The effects of the coronavirus pandemic were already noted in March because from the 2nd week of the month the number of visitors dropped drastically to almost a half in one week (MTU.GOV.HU 2020). During the coronavirus epidemic 65% of the tourism companies completely stopped for at least a month. Accomodation services are hit hardest (81%) by the outage (MKIK GVI 2020).

At the beginning of May, experts expressed optimism that domestic bookings are on the rise and a survey by the Hungarian Tourism Agency shows an upward trend in the value of domestic destinations. The most popular
The most popular destination was clearly Lake Balaton (turizmus.com 2020). The optimism was based on professionalism, as the summer was characterised by an explosion in the number of accommodation bookings. In June 2020, bookings were almost two-thirds of the previous year's level, but in July they were 5% higher than in the same period last year and in August they were 13% higher (Figure 1).

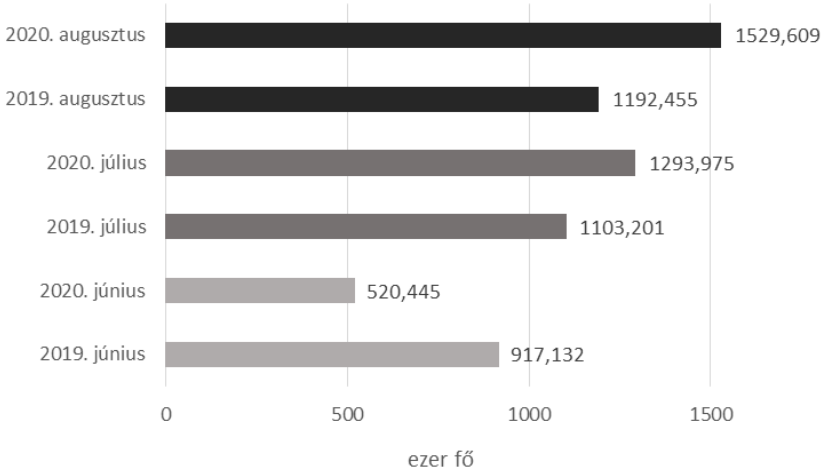


Figure 1: Trends in the number of domestic visitors in the summer months of 2019 and 2020

Source: Hungarian Tourism Agency 2020/a, edited by the authors

40% of tourists travelled to Lake Balaton despite hotel room rates being on average 40% higher than in 2019 (hvg.hu 2020b). This

summer, Siófok, Balatonlelle and Balatonfüred were the most popular destinations for around 3.3 million Hungarian tourists (hvg.hu 2020a). Data on the level of spending by domestic tourists during the first wave of COVID-19 are not yet available, but estimates can be found in the literature. It is reasonable to ask whether the increase in domestic tourism has been able to make up for the loss of spending by foreign visitors. According to Raffay (2020), tourists' consumption habits will change, including a reduction in spending. On the one hand, travelling to domestic destinations costs less because of the shorter distances involved, and on the other hand, using cheaper accommodation is a cost-cutting factor. In addition, the duration of journeys is becoming shorter. It is likely that tourists will reduce their spending by more than 50%, similar to the consumption patterns that emerged during the 2008 economic crisis. However, such changes also depend on the state of the sector, especially in the case of tourism, which is an important sector of the national economy and contributes significantly to economic growth and job creation. The sector has been growing since 2010 and 2019 is forecast to be the best year for tourism in a long time (Magyar Turizmus Zrt, 2020/b).). Although the data series are only available up to 2017 in some cases, we now know that the upward trend was also present for the next two years. In 2019, the accommodation fee revenue of commercial accommodation establishments was 9.2 percent higher than the previous year, and total accommodation revenue exceeded HUF 550 billion, an increase of 8.8 percent compared to 2018 (hirbalaton.hu, 2020). It is estimated that in 2018 the sector will again be characterised by a higher (109%) value added. Compared to 2004, the tourism sector has more than 2.5 times the value added. The biggest change was in 2014, when value added increased by 12% compared to the previous year. Compared to 2004, the value added of the tourism sectors increased by an

average of 7.4% per year over the whole period. Several factors contributed to this growth:

- Changing travel habits: shorter trips of several days are becoming more common, which has contributed to an increase in visits to rural destinations.
- More people can afford to travel long distances, leading to an increase in international travel.
- Domestic tourism has been boosted by more favourable income trends.
- Tourism supply has expanded in our country.
- Favourable price/value ratio trends for domestic restaurants and hotels are outstanding among EU countries (novekedes.hu, 2019).

3. MATERIALS AND METHODS

In addition to Google Trends data, the authors analysed the tourism demand indicators of the sectoral economic statistics data series published in the information database of the Hungarian Central Statistical Office (hereinafter KSH) for 2009-2020. The method of deterministic time series analysis was used to explore the regularities in the time series. This method was used to identify the inherent regularities and trends in the time series by means of function fitting. The best-fitting significant function was selected based on the relative fitting error (VSe), which shows the average percentage of the points of the function (estimated data) that are different from the original points of the data series (Molnár, 2015). This method is used, among other things, to measure the evolution of the number of domestic trips of several days. In addition to the time series analysis, the authors expressed the average rate of change for the time series as a geometric mean. Further analytical tools were hypothesis testing and analysis of variance, which the authors used to conduct significance tests on the level of spending

on multi-day trips and on possible differences in spending levels between destinations (Molnár, 2015).

4. RESULTS AND DISCUSSION

According to Google Trends data, July has always seen the highest number of searches over the past five years, with the number of searches for Lake Balaton increasing by an average of 3.5% per year between 2015 and 2020. As a first step, the number of domestic multi-day trips was analysed, which is an indicator for the number of travellers regardless of the number of people travelling together (KSH, 2019). Based on the best-fitting significance (VSe = 6.02%; p=0.001) exponential trend function parameter β1, this decrease represents an average annual decrease of 3%. The significance level of the functions fitted to the Balaton Region data series exceeded 40% and are therefore not meaningful. However, it can be cautiously concluded that the number of domestic multi-day trips has also decreased for the Balaton Region, but this decrease is smaller than at the national level (1% per year on average). At national level, the increase in 2011 and the larger decrease in 2013 are striking. The year 2011 was the peak of the period under review, when the number of overnight trips made by the Hungarian population reached nearly 18.8 million. This level was not reached again until 2018, with the figures for the last year 24% lower than in 2011. By 2013 (compared to 2012), the number of domestic multi-day trips had fallen by 16%, with the most common reasons being: financial problems, health problems, work-related constraints (Magyar Turizmus ZRt, 2014). In terms of total tourism expenditure, on average 60% of it was spent by foreigners at home between 2004 and 2017 (Figure 2).

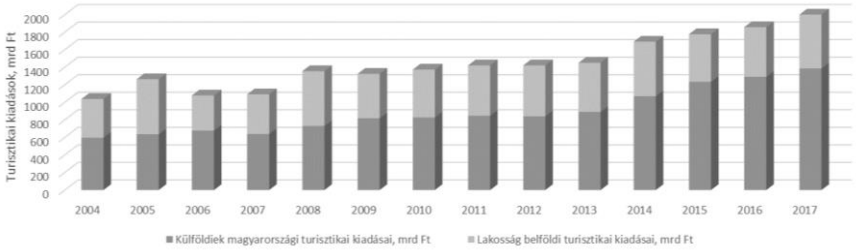


Figure 2: Tourism expenditure in Hungary between 2004 and 2017

Source: KSH, Information database, 2020. edited by authors

If we look at the annual average change in tourism expenditure, we can see that tourism consumption in Hungary increased by 5% over the same period. This growth was more driven by the domestic consumption of foreigners, with an average increase of 7%, while the increase in domestic tourism expenditure of the domestic population was more modest (3%). It is also worth examining how many days of tourism expenditure by Hungarian residents are characterised by trips. In our country, trips of 2-4 days are the most common, with trips of more than 2-4 days accounting for 29-41% of all trips of 2-4 days between 2008 and 2019. Naturally, tourists' spending is higher for trips of 5 days or more, but when spending per day of a traveller, it can be said that until 2013, with the exception of 1 year (2012), tourists' spending was higher than for trips of 2-4 days.

From 2015 onwards, however, there has been a decrease, reaching 12% in 2019. Nevertheless, the pace of tourist spending has increased at an average annual rate of 5% between 2008 and 2019. This raises the question of whether there is a real difference in the spending levels of tourists in terms of the length of their trips. To answer this question, the authors used the two-sample t-test method. The results of the statistical testing suggest that although

the average spending level is higher during shorter trips, this observed difference is not a real difference. This means that there is no statistical evidence that tourists tend to spend more per day during shorter trips. Spending propensity should also be examined according to the destination of the trip. The available data show that between 2009 and 2018, domestic tourists clearly spent the most (30% on average) in the Balaton Region (Figure 3).

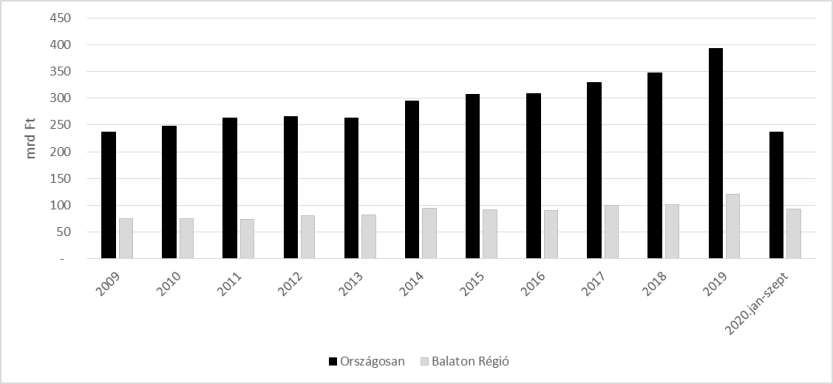


Figure 3: Spending level of domestic travellers (HUF bn) in the Balaton Region, 2009-2019

Source: KSH, Information database, 2020. edited by authors

Despite the fact that the expenditure level is the highest in the Balaton Region, its growth rate is below the national average (5.2%) (4.8%). Although the spread of the coronavirus epidemic resulted in a much lower breeding level in 2020, the decline in breeding levels in the Balaton Region was not as large as the decline at the national level. As a result, 39% of the total breeding occurred in this RegionNationally, tourism spending increased by a factor of 1.7 between 2009 and 2019. But it is not just the scale of spending

that has changed, but also its structure. In 2009, 69% of spending was on accommodation plus meals; fuel; food purchases and meals in restaurants, bars and cafés. Tourists spent the least - 1.27% - on health care and local transport.For 2019, the structure of spending has changed and 74% of it is accounted for by accommodation with meals; cultural services; meals in restaurants, bars, cafes and food purchases. In 2009, fuel purchases accounted for 17% of expenditure, but this share has fallen to 1.33% by 2019. Local transport represents a similarly small share (0.18%). The ranking of forms of expenditure has changed only slightly, with the biggest negative change being in the case of travel packages. In contrast, the demand for entertainment services has increased significantly, moving up 4 places in the spending ranking between 2008 and 2018. On average, 69% of spending in the Balaton Region in 2019 was spent on accommodation plus meals; cultural services; and meals in restaurants, bars, cafés; and food, in line with the national trend. The least spent by tourists - 0.14% - was on local transport. This shows a slight change compared to 2009, as cultural services accounted for 0.64% of total tourism expenditure, while expenditure on fuel was much higher (13.89%). As a result of all these changes, the overall level of spending in the Balaton Region increased by 60% from 2009 to 2019. The decreasing average rates of change show that there is a large overlap between national characteristics and the Balaton region. For other goods and local transport the average rate of change was lower only at the national level, while for health the average rate of change was lower only in the Balaton region. The ranking of expenditure forms was similar to the national data, with the largest negative change (7 places) for travel packages. Within the ranking of expenditure types, the largest positive shifts were seen in the indicators for cultural services (11 rankings) and non-classified expenditure (6 rankings). Google trends data also show an increase in interest in the Lake Balaton region. The impact of online interest was also reflected in

the number of tourists, with 607,000 foreign and 901,000 domestic visitors arriving in the Region in August 2020.

5. CONCLUSION

The results show that the Balaton Region is consistently one of the most important tourist destinations for domestic tourism, which is also confirmed by the frequency of online searches. Nevertheless, in line with the national trend, this region is also experiencing a decrease in the number of domestic trips of several days, although this decrease is smaller than the national average. Obviously, it is still difficult to estimate the change in the structure of expenditure for the tourism year 2020, but cautious forecasts can be made on the basis of previously published professional opinions and the KSH database:

- Tourism spending is likely to fall by 50% as a result of the crown virus (Raffay 2020)
- Based on the trends of previous years, it is possible to estimate the level of spending in 2020 that Hungary would have experienced in the absence of a pandemic situation. The results showed that foreign spending accounts for 60% of total spending on average and its growth rate is faster (107%) than the growth rate of domestic tourist spending (103%).
- In the first five months of 2020, the number of foreign guests fell by 99% and the number of Hungarian guests by 87% compared to the same period last year (Management Forum 2020).
- In the first seven months of 2020, 4.1 million people stayed in hotels, 65% of them Hungarians (infostart.hu 2020).
- In August 2020, 607,000 foreign guests arrived in Hungary, while the number of Hungarian guests was 916,000 (KSH 2020).

This means that, based on the trends of recent years, a statistical estimate of 6,412,403 foreign visitors and 7,062,506 visitors can be forecast for 2020. Due to the impact of the coronavirus epidemic, the actual number of tourists in the first eight months of 2020 was 32% of the estimated number of foreign visitors and 51% of the number of domestic visitors. Assuming that tourism spending has been cut back by 50% by tourists, a drastic drop in tourism spending as a share of visitor numbers is projected for the first eight months of 2020, as shown in Figure 4.

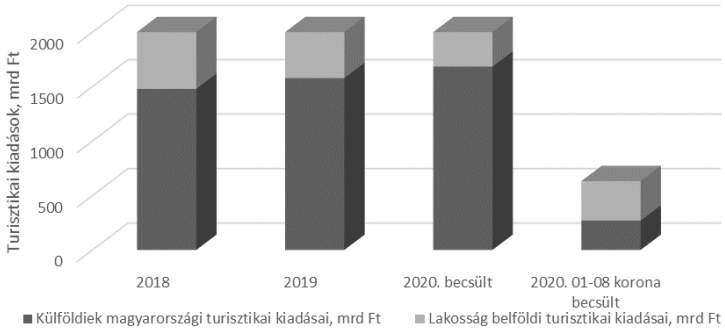


Figure 4: Estimates of tourism expenditure in Hungary between 1 January 2018 and 31 August 2020

Source: KSH, Information database, 2020. edited by authors

Estimates show a significant shortfall in tourism spending, with foreign spending down to 17% and domestic spending down to 38%. Narrowing the database down to the Balaton Region, the decline in spending levels was not as large as at national level. At national level, there was an average drop of 43% between January and August 2020, while the same rate in the Balaton Region was 27% (Figure 5).

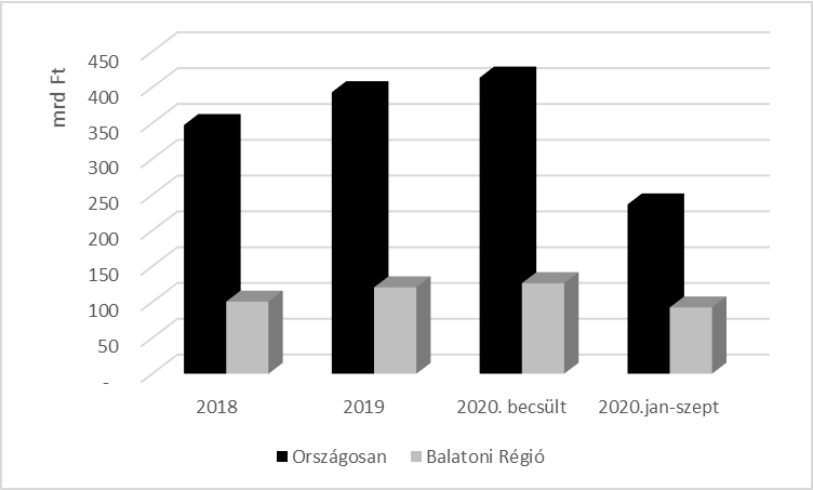


Figure 4: Tourism expenditure estimates for the Balaton Region between 1 January 2018 and 31 August 2020

Source: KSH, Information database, 2020. edited by authors

Both the number of guests and the volume of tourism expenditure show that, from a tourism point of view, the Balaton Region will be a popular and long term destination for both domestic and foreign visitors. Although the pandemic situation has interrupted the steady growth and tourism spending has dropped significantly, the Region boasted a high number of visitors in the summer of 2020, which compensated, albeit to a small extent, for the loss of revenue. Last but not least, this small bounce-back provided a lift for economic operators out of the "depressed mood" that had set in during the spring of 2020.

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BENCZI MELINDA: ACHIEVEMENT (UN)LOCKED: HOW DID THE COVID-19 GLOBAL PANDEMIC CHANGE THE NARRATIVE OF CROSS-BORDER COOPERATION?

[1] Alexandre Lamfalussy Faculty of Economics, University of Sopron, e-mail: Benczi.Melinda@phd.uni-sopron.hu

Abstract
In the shadow of the COVID-19 global pandemic, serious and potentially detrimental changes are happening affecting the European Union's cohesion. Ironically, the 30 year anniversary celebration of Interreg – the second pillar of the Cohesion policy responsible for "encouraging regions and countries to tackle challenges they can solve only by working together" – collided with an almost race of countries closing their internal borders and stopping historically significant cooperation practices. This paper assesses whether the previously achieved developments are being dismantled or just halted at this very moment. It detects the most important attributes of how this specific global challenge has been tackled on a local level by discussing the main immediate socio-economic effects of the border closures during the first wave, the types of new initiatives that had been launched as well as the change in the narrative about the importance of cross-border cooperation due to certain individuals' statements.

Key words: COVID-19, globalization, cross-border cooperation, narrative change

1. INTRODUCTION

One of the many intriguing features of state borders is that while they exist, they seem eternal and unchangeable but in fact their exact location, their permeability, their functions and assigned

regulations continuously change. What O'Dowd (2010) calls "epochal thinking" is disfiguring the perspective and narrative of the borders and often tricks thinkers and analysts to project the present state of the borders back to past times and ahead of future times.

This is the case with the internal borders of the European Union too, more precisely with those borders that are within the Schengen area. Before the Schengen Agreement was signed in 1985 travel between – the then European Communities – member states had been subjected to border controls and visa requirements based on the numerous bilateral agreements between the different countries and regimes. Consequently, the intra-European border crossing conditions widely differed from each other; for instance while the citizens of the United Kingdom and Ireland could travel to each other's territory without a passport as early as from 1923[61] (Ryan 2001), citizens of Hungary had to wait until 2007 to be able to travel without a passport or being stopped at the border to other Schengen area member states. This has been very much measurable in the number of border crossings as in the 1950s border traffic were insignificant (few hundred thousand), then from the 1960s onwards, post-revolutionary consolidation resulted in an increase in border traffic. The development of the automobile industry, as well as the alleviation of the Cold War atmosphere, also had an effect on the Hungarian border crossings, steadily increasing the number of border crossings to over 1 million by the 1970s (Grónás and Sallai, 2005). With the fall of the Iron Curtain the number of border crossings naturally grew in a significant manner, further fuelled by entering the Schengen area, only to be halted in 2020 for the first time.

[61] The United Kingdom and Ireland operated the Common Travel Area since 1923.

This small example already illustrates how the borders as lines of inclusion and exclusion are based on a set of complex and ever-changing concepts such as convention, power politics, culture and even physical geographical arguments (Tunander et al., 1997). According to Hassner (1997, 48 p.) even the borders of how he calls it "newest" Europe is "bound to remain ambiguous (…), these borders are bound to remain moving and contradictory" (Paasi 2001, 9 p.). This is further underlined by Ohmae (1994) who observed that ideas, goods, people, and capital move across borders more easily than ever before which made him arrive to the idea of the "borderless world" where "state borders and the state itself have become meaningless, having withdrawn to make room for a world dominated by marketplaces". Even if this borderless world has not quite arrived yet the European Union has come quite close to it when it achieved the free movement of people, goods and services within its territory (Delanty and Rumford 2005, 120 p.).

Or at least so it appeared until the year 2020 which was meant to revolve around the celebration of the 25th anniversary of the Schengen Agreement and the 30th anniversary of Interreg, the second pillar of the Cohesion policy, responsible for "encouraging regions and countries to tackle challenges they can solve only by working together". Instead of the expected celebrations and gestures of working towards an even fuller cross-border cooperation culture, what last year bought was a sudden, uncoordinated but universal closure of the borders of nation states within the EU. The COVID-19 pandemic provoked a closure of borders since in the face of a global health challenge which posed very real local questions the immediate answer was shutting down cross-border movement. While the decision of closing the EU's external borders was at first made during an online meeting on the 17th of March 2020 where the leaders of the 27 member states were present, the decision of individual countries closing their borders

was taken in an uncoordinated way. These decisions directly and immediately affected the majority – and not only – of those nearly two million commuters who cross national borders on a daily basis to work causing significant setbacks to their lives (Medeiros et al. 2020, 1). This new reality and its circumstances raise several questions that already mobilised the researcher community. One of these aspects, however, has not been accorded satisfactory attention so far and that is the way the COVID-19 pandemic changed the narrative itself on cross-border cooperation (CBC).
In this study, after the introduction, the research question is posed and its relevance explained, which is followed by the brief presentation of the used methods and materials as well as the acknowledgment of the study's limitations. In the discussion chapter the immediate socio-economic effects of the border closure and the types of newly launched relevant initiatives are collected and analysed to shed light on the change in the narrative which is explored by analysing the EU's and Hungary's narrative on borders before the pandemic and during the first wave of the pandemic. In the conclusion chapter the results are summarized.

2. MATERIALS AND METHODS

The study's central question is based on the observation of a potentially deep-cutting change in the European Union's narrative regarding its internal borders and cross-border cooperation culture. Consequently, the main questions are how, in what ways, did the COVID-19 global pandemic change the narrative of cross-border cooperation? Did it dismantle entirely the achievements of the past decades in this field or do the current tendencies constitute only a momentarily halt which will be entirely overrun as soon as the pandemic is over?
This question is highly relevant because so far the majority of the research carried out on the field was rightfully preoccupied by

primarily assessing and understanding the ever-changing and quickly unfolding events, giving guidance and advise on how to proceed with anti-pandemic measures while also protecting the rights and livelihoods of people living in cross-border areas. The present study will also build on this practice by highlighting the immediate socio-economic effects of the border closures around certain sections of Hungarian borders in the spring of 2020. However, it takes a step forward by also collecting and analysing the newly launched initiatives stemming precisely from this unexpected situation. Based on these analyses and a separate section dedicated to the assessment of different directions and their popularity in the EU's discourse on cross-border cooperation and border closures the main narrative shifts map out.

The study is built on three main methods and subsequent sources of information. Firstly, for assessing the direct consequences of the border closures, the available statistical data is primarily used as well as the results of those research materials and surveys which have been already published. One of the main such source is the Committee of Region's platform, called #EuropeansAgainstCovid19[62], a site dedicated "to assist, inform, engage and represent regions and cities by sharing news and information by publishing stories, solutions and responses from Members, local and regional bodies, and partners".

Secondly, a source rich in adequate information were those interviews that had been prepared with major stakeholders (mayors, EGTC directors, cross-border public service providers etc.) along several Hungarian borders during the first wave of the pandemic. The interviews later had been used for an empirical report by the Mission Opérationnel Transfrontalière (European Commission 2021). These interviews had been revisited again and methodically analysed in order to shed light on the immediate

[62] See: https://cor.europa.eu/EN/engage/Pages/covid19-stories.aspx?#

socio-economic impact of the border closures on the lives of people living in the border areas.

Thirdly, the study relies heavily on discourse analysis as this method composed of multiple heterogeneous, mostly qualitative, approaches has one of the best abilities to understand the relationship between language-in-use and the social world (N. P. Johnson and McLean 2020). Since language is a manifestation of a type of social practice it indirectly and directly influences the social world and vice versa, consequently detecting any potential narrative change is vital in understanding and shaping the processes of cross-border cooperation. The researcher community started to realize the importance of such studies (for example the study of Spuches et al. published in 2020 and called "Risk narrations and perceptions in the COVID-19 time. A discourse analysis through the Italian press"), however, none have focused so far specifically on how the COVID-19 pandemic changed the narrative of cross-border cooperation and the status of the borders. The main source of the discourse analysis method was the European Council's dedicated webpage[63] for recording the "Timeline of Council actions on COVID-19", the underlying assumption being that since this timeline gives an overview on the latest actions of the Council in relation to the COVID-19 coronavirus outbreak, what is included here is rightfully regarded as important and trend-setting. However, the database assembled for discourse analysis also contain speeches collected from other EU-level and national platforms.

Nevertheless, the study has its limitations. From a methodological point of view, the analysis does not undertake to compile a representative set of experiences nor to create an exhaustive dataset of all the utterances relating the COVID-19 pandemic to cross-border cooperation. However, the collected and presented

[63] See: https://www.consilium.europa.eu/en/policies/coronavirus/timeline/

information is robust enough to be able to indicate certain tendencies. Another limitation is that the study mostly focuses on empirical cases from certain Hungarian borders while comparing and contrasting the narrative simultaneously on the European Union's level and on national level. Consequently, it is possible that the results show divergences with other EU member states' experiences. Finally, there is also a temporal limitation since the primary focus of the study is on the first wave (between 16th March and 15th June)[64] of the pandemic. Even though this decision is justified up to a certain point since it was during the first wave when the issue of closed borders were so unexpected that the effects crystalised the most being unblurred by the later worked out bilateral agreements, yet under no circumstances can the narrative be regarded as closed as the debate is still evolving and thus further research should be carried out to assess the question during the second or third wave as well.

3. RESULTS AND DISCUSSION

3.1. Immediate socio-economic effects of the border closures

The sudden and universal closure of the EU's internal borders was unprecedented in the history of the Schengen area. Not

[64] Whereas there's no scientific consensus regarding the exact period for the first wave, usually the Spring of 2020 is considered as such. Here the 16th of March is indicated as the beginning because it was the day when the President of the European Council called for restricting non-essential travel and the 15th of June as the end date because the EU interior ministers confirmed on 5th June that most member states will have lifted the controls at their internal borders and the related travel restrictions by the 15th of June.

surprisingly this drastic event had a series of serious consequences on the societies of Europe as a whole, but especially on the communities living in border areas. Based on the interviews and the testimonies on the CoR platform, around the Hungarian borders three types of societal effects were experienced the most during the first wave of the COVID-19 pandemic.

Firstly, emergency health care initiatives took place along several sections of the Hungarian borders. The most typical type of act of solidarity was to share protecting equipment such as masks or hand sanitizers. This type of activity was perceivable on different levels starting from citizens organising themselves and sewing masks to share with their neighbouring country's citizens such as it was the case on the Slovenian-Hungarian border. Similar acts were recorded also on the regional level, for instance Bánát Triplex Confinium EGTC seated in Hungary donated a consignment of protective equipment to each member authority in Romania to help ensure they could continue to operate safely; but the same solidarity was noticeable on the national level as well when the Hungarian government sent equipment to the hospital of Murska Sobota for the fight of the disease.

However, the societal impact of the pandemic and the border closures not only manifested through acts of solidarity, but also through challenges related to provision of health care services. Immediately after the closure of the borders, Austria for instance urged for a quick resolution of the situation as their hospitals and other health care facilities are highly dependent on cross-border commuter employees who at the very beginning could not cross the border. At a time when the health care system of every member state was under heavy pressure it could have been easily catastrophic if the two member states would not have reached a resolution that allowed the medical staff to cross the border despite the restrictions. The unsuspended GYSEV trains travelling

between Austria and Hungary played a huge part in upkeeping the flow of cross-border medical workers during these times.
Secondly, a similarly immediate effect of the border closures were the numerous families who got separated. This was a significant problem not only for the commuting workers who might have been stuck for weeks at a time on the other side of the border as their families, but also for those elderly people whose relatives moved to a relatively close settlement which happened to be on the other side of the border. These families created their routine in a way that comfortably incorporated caring for their elderly relatives as crossing the border (especially in the case of internal EU borders) was an almost unnoticeable exercise before the pandemic. However, after the borders were closed, they were suddenly not allowed to go and shop, clean, cook and keep company for their family members who were often prone to isolation and unable to care for themselves. Several interviewees reported on cases where people went through lengthy and stressful procedures to obtain some kind of permission to be able to cross the border to care for their relatives.
Another specific case of immediate societal effect typical for the Hungarian-Slovakian border was that unresolved citizenship and residency permissions came very drastically to light. During the past decade, partly thanks to the highly permeable borders, many Slovak citizens, while working in Slovakia, purchased houses and moved to settlements on the Hungarian side of the border without officially registering in the respective municipality. After the initial shock of the lockdown was resolved and commuting workers were granted permission to cross the border, however, these people were very excluded as they could not prove that they had to cross the border to go to Hungary where they live after a workday spent in Slovakia. With time, these issues of course were resolved, nevertheless they highlighted yet another societal aspect of a suddenly closing border.

Thirdly, a very specific – albeit not unique – societal aspect perceivable along the Hungarian borders were issues around identity and a sense of belonging. Due to historical reasons, in the countries neighbouring Hungary a significant Hungarian minority lives in the border regions. Several of the representatives of these minorities reported that they perceived that for these minority communities the suddenly closed border brought up difficult memories and raised issues connected to their identity and sense of belonging. The sentimental value of open borders became more evident as people started to appreciate the open borders even more when they again faced restrictions. Also, local minority TV and radio channels found it difficult to create content as due to the reduced mobility they could not go to the other side of the border to make interviews, reports etc. This already links to the more general cultural effects of the pandemic and closed borders, which falls outside of the scope of this study.

Measuring the economic effects of the COVID-19 pandemic is a highly difficult and far-reaching endeavour that still needs to be carried out by economists and statisticians. However, the immediate economic effects of the closed border especially on the people living in the border areas have already started to take shape during the first wave.

Even though in the EU-27 the local minimum of GDP (-11.4 points) has been only reached at the end of the second quarter of 2020, already in the first quarter a significant drop (-3.3 points) was measured indicating a substantial economic downturn. With closed shops, cancelled cultural events and restricted recreational travels, it is no wonder that the final consumption expenditure of private households has also decreased in the EU-27 by -12.0 points. The economic sentiment indicator designed to assess the economic climate in the European Union experienced its sharpest decline in its history since 1985 falling by almost 31 points to 63.8 points (Destatis 2020).

Labour market indicators were slower to detect the effects of the first wave of COVID-19 pandemic as employers in general aspired to keep their workforce even if they had to introduce reduced hours or unpaid leave. Despite of this, unemployment rates still mirrored the economic consequences of the pandemic: in April 2020 for the first time in more than seven years the EU-wide monthly unemployment rate slightly rose from 6.5 to 6.9 points.

These indicators show similar trends in Hungary as well. For instance, at the national level, the paying capacity of the population deteriorated by more than 22 points, which is an unprecedented decrease (Intrum 2020). However, the magnitude of the negative economic consequences is not homogenous across the county. The paying capacities in the three Hungarian counties bordering Austria decreased the most (by -46%), followed by the western counties bordering Slovakia (-41%). While noting that the underlying reasons can be complex and made of several factors, it is very likely that the more pronounced dropped is attributable to the fact that the cross-border cooperation and mobility is the highest in these counties and thus the border closure hit these regions harder both from the point of view of Hungarian workers employed in Austria and Hungarian services tailored for the needs of visiting, Austrian or Slovakian customers.

Undoubtedly, tourism was the industry that took the very first and quite possibly the deepest hit after the borders had been closed during the first wave of the COVID-19 pandemic. Several interviewees mentioned that a huge share of Hungarian workers employed in Slovenia in the tourism sector had been fired as soon as the sector had to stop. But it is not only the workers employed abroad who was disadvantaged, but also those service providers in close proximity of the borders whose business model was built on cross-border mobility.

To make things worse, in Hungary, 87% of the hotels and 97% of the boarding houses shut down in March and April. Indirectly, in

the sector, which accounts for 13.2 percent of GDP, the livelihoods of more than 400,000 workers have been jeopardized overnight. The downturn caused by the virus has caused severe damage felt immediately (Oeconomus 2020) across the country and the European Union. The director of one of the cross-border transportation companies mentioned during the interview that at the very beginning of the pandemic when the hotels could be still open, the usage of their hotel – operated mostly for those customers who are crossing the Austrian-Hungarian border for business trips – fell to only 10% generating a big loss for the company.

From the point of view of cross-border mobility and the economic impact of the COVID-19 pandemic two aspects are of distinct interest: the case of the commuting workers and the case of the seasonal workers. In the case of the commuting workers, resolution for treating them as exceptions from the border closures had been put in place in a bilateral manner relatively quickly in order to avoid major disturbances in supply chains and services. Regarding the intra-Schengen borders of Hungary the most usual solution was that cross-border commuters living and working within a maximum of 30 kilometres from the border were required to show at the border an employment certificate and a residence card. The Slovak government eased the limitations for commuters from 28 April 2020. This was done in response to an online petition signed by more than 11,000 persons, to counteract an earlier provision obliging a negative COVID-19 test not older than 30 days, paid by the commuter, which had affected several tens of thousands of persons commuting across the Hungarian, Austrian and Czech borders every day. The easing resulted in allowing their crossing without test and without a threat of a compulsory quarantine." (Medeiros et al. 2020, 9 p.) However, the first wave have been characterised by changing rules, uncertainties and often prolonged travelling time for cross-border commuting workers.

The case of seasonal workers had been treated separately during the first wave as they could not satisfy the requirement of crossing the border only up to 24 hours at a time as usually their employment was for one to three months at a time. After unsettling news arrived both on the Schengen area Slovenia-Hungary border where primarily the winemakers and viticulturists were affected and from the non-Schengen area Romania-Hungary border where agricultural seasonal workers were primarily affected, bilateral agreements had been reached in order to allow them to cross the border and thus mitigate the negative economic effects of the COVID-19 pandemic and the subsequent restrictions.

3.2. Types of newly launched initiatives

The COVID-19 pandemic and the subsequent unprecedented closure of the borders clearly caused a series of difficult challenges and created unfavourable circumstances and impacts for border regions and people living there. At the same time, it inspired local and territorial actors to mobilize their agency and launch new initiatives, some of which can be regarded as a mere adaptation of their regular work, but some are truly innovative in their nature.
On the one hand, several territorial stakeholders such as EGTCs assumed leadership in data collection in the early days of the pandemic. For example, the Euroregion Nouvelle Aquitaine-EuskadiNavarre (NAEN) has conducted a survey about the impact of the pandemic on cross-border activities and received some 2,500 responses within a few days (Medeiros et al. 2020, 2 p.). Similar example can be also cited from the Hungarian-Romanian border where the Gate to Europe EGTC conducted a survey in May 2020 among the mayors of member municipalities to assess the direct and indirect effects of COVID-19. Another similar example is that of Pamina Eurodistrict EGTC which offered daily information to institutions, citizens and anyone interested in the

situation at the French-German border or the Meuse-Rhine Euroregion

On the other hand, there is also a new initiative stemming from the changes affecting the borders and cross-border territories which surpasses the pandemic itself and strives to support the cause of these territories and their habitants in a more comprehensive way. That is the European Cross-Border Citizens' Alliance65, first created by the Association of European Border Regions (AEBR), the Mission Opérationnelle Transfrontalière (MOT) and the Central European Service for Cross-border Initiatives (CESCI) and later joined by the European Committee of the Regions. The Alliance is still open to all interested citizens living in border regions or otherwise interested in the topic, as well as all cross-border structures, such as the European Groupings of Territorial Cooperation, the Euroregions, as well as local and regional authorities, NGOs and businesses.

The ultimate aim of this initiative is to overcome all the remaining or newly experienced legal, administrative, linguistical, physical or other obstacles in cross-border cooperation in order to mobilise the opportunities that open borders offer to citizens and businesses. For this, among others, it calls for putting back the cross-border regions in the central political and legislative focus of the European Union; for active inclusion of border regions and cross-border groupings in the Conference on the Future of Europe; for assigning appropriate powers, resources and procedure for border authorities; for establishing cross-border observatories aimed at monitoring cross border integration, identifying and removing border obstacles; and for guaranteeing a minimum level of cross-border cooperation in the case of global, European or regional crises.

[65] See: https://cor.europa.eu/en/engage/Pages/cross-border-alliance.aspx

3.3. Change in the narrative

3.3.1. EU's narrative on borders and cross-border cooperation before the COVID-19 pandemic

Predominantly the main narrative of the EU on borders and cross-border cooperation before the COVID-19 pandemic has been that the Schengen Agreement and the subsequent Schengen area is vital for the free movement of people, goods and services. According to the Standard Eurobarometer carried out in 2019 the "free movement of people, goods and services within the EU" is seen by Europeans as the most positive result of the EU which was ranked as even more important than peace among the Member States of the EU (European Commission 2019, 35 p.). The same survey also showed that more than eight EU citizens in ten support the free movement between EU member states (Ibid).

In harmony with the EU citizens' view, much of the discourse among the leaders of the European Union and Member States had been focused on the harmonisation and enlargement of the Schengen area and the deconstruction of the internal borders. Some of the words in the word cloud below represents exactly this standpoint; terms such as "flow", "persons", "Schengen", "sharing" and "rules" indicate how the discourse has been largely determined by this spirit.

It is very interesting to see that this approach has not been challenged by previous health crises either. The European Union's consensus was in line with the doctrine of the World Health Organization whose focus was on "vigilance, not bans" (Nuttall 2014), since it was viewed that the closure of the borders was "liable to generate negative effects on the wider health response without halting the epidemic" (Nuzzo 2014 in Opiłowska 2017). This is also shown by the world cloud as words which would

indicate a debate or dominant narrative centred around health issues or pandemics are entirely missing from the dataset.



Figure 1: Word cloud representing the EU's narrative on borders and CBC before the COVID-19 pandemic.
Source: own edition through https://wordart.com/

However, there has been one topic that challenged the narrative on borders and cross-border cooperation in the history of EU , which was the migrant crisis in 2015. Apart from sporadic and temporary reintroduction of internal border controls (such as in case of a papal visit, NATO summit or outstanding sport event) the migrant crisis was a case where several Schengen area countries decided to live with the possibility arising from Article 25 and reintroduce border checks between their Schengen neighbours too. This instance – which is still ongoing to a certain extent as some countries still uphold the special status due to the migrant crisis – has profoundly shaken the narrative on borders, which is reflected in the world cloud too. "Controls", "sovereign", "influx", "protects", "asylum", "solidarity" and "controversial" are the words that most often had been used during these debates which

deeply separated the pro-migration and anti-migration countries. What is striking in this debate is that the line between the EU's external and internal borders had been quite significantly blurred and the initial discourse on *strong external borders and non-existent internal borders* had been almost completely dismantled by simplifying the question to whether open or close *the borders* without specifying which type it is talked about. This reduction might have greatly prepared the ground for the unilateral closing of borders observed in 2020 during the COVID-19 pandemic.

3.3.2. Hungary's narrative on borders and cross-border cooperation before the COVID-19 pandemic

Hungary's standpoint around the time of joining the Schengen area had been very clearly stated. As the government's spokesman claimed in 2006 "Schengen actually means for Hungarian citizens that the control of passenger traffic at the internal borders will be abolished, but at the same time, at the external borders, Hungary must be provided with border control in accordance with the uniform principles of the EU". Thus, while the official, national narrative acknowledged and embraced the positive side of lifting the internal border controls, it also greatly emphasized the need for protection at the external borders.

When the migration crisis happened, Hungary appeared in the international news several times as the government's measures were judged to be highly controversial. Especially when Hungary started to install a barbed-wire fence on the internal Schengen border with Slovenia at the end of September 2016. The incident was quickly resolved with the construction works stopped under a bilateral agreement with Slovenia. Nevertheless, since July 2015 Hungary has managed to build the fence on the external Schengen border with Serbia and Schengen accession country Croatia. While there were plans and discussions about extending the fence to the Romanian border section, to date this did not come to finalization.

During these past years (before the COVID-19 pandemic), however, the issue of borders, cross-border cooperation and border permeability has been a widely discussed topic in the Hungarian politics and media. As the world cloud also aptly summarizes, these talks were rarely positive. The narrative that outlines it is that the country needs to "independently" "defend" the "Hungarians" "against" "Brussels" and "migration", for which "effort" is being done to "fight" and "protect" the "sovereignty". Or in other words, as the prime minister stated in one of his public speeches "I can inform you that today the Hungarian nation possesses the political and economic capabilities – and soon the physical capabilities also – to defend itself and to remain independent. We've regained our sovereignty, the IMF has gone home, we've successfully fought against Brussels and we've defended our borders against migration."



Figure 2: Word cloud representing Hungary's narrative on borders and CBC before the COVID-19 pandemic
Source: own edition through https://wordart.com/

With regard to the Hungarian narrative, however, it needs to be added that it tended to be more nuanced in the fact that the internal and external Schengen borders were separated more clearly and the control and potential closures were mostly meant to be put in place in the case of the external borders.

3.3.3. EU's narrative on borders and cross-border cooperation during the first wave of COVID-19 pandemic

At the beginning of March 2020 Member States of the European Union were racing each other in closing their borders, even within the Schengen area. Italy, Slovenia and Austria were the first countries to suspend free movement within the Schengen Area, followed by countries in central Europe, in particular the Czech Republic and Slovakia, the two countries – as Delmas and Goeury point out – which had been one until 1992, closed their common border for the first time ever (Delmas and Goeury 2020, 18 p.).
While the tone of the official EU's narrative remained reserved during the first wave, the Commission did present guidelines for border measures in which they were underlining the importance of upkeeping functional borders. Statements such as "Member States should preserve the free circulation of all goods. In particular, they should guarantee the supply chain of essential products such as medicines, medical equipment, essential and perishable food products and livestock"; or "Member States should facilitate the crossing of frontier workers, in particular but not only those working in the health care and food sector, and other essential services (e.g. child care, elderly care, critical staff for utilities)." and "Member States, and in particular neighbouring Member States, should closely cooperate and coordinate at EU level to ensure effectiveness and proportionality of the measures taken."
However, this moderation was not general among the discourse and actions of the Member States on the EU level. As Klatt

observed, by closing the borders, the state "has returned as a single actor, replacing practices of cross-border multilevel governance" (Klatt 2020, 46 p.), which rightfully can be regarded as a step backwards from the institutionalisation and development of cross-border cooperation. But as Delmas and Goeury pointed out the governments found themselves in a very difficult situation where they experienced the prisoner's dilemma as "in the face of anxious public opinion, any head of government ran the risk of being considered lax or irresponsible in keeping border open when other countries were closing theirs (Delmas and Goeury 2020, 14 p.). So even if closing the borders "was not always motivated by exceptional infection rates on the other side of the border" (Unfried 2020, 88 p.) it was narrated in a way that it had to be done in the absence of other available answers.



Figure 3: Word cloud representing the EU's narrative on borders and CBC during the first wave of the COVID-19 pandemic
Source: own edition through https://wordart.com/

It is very interesting to see that in the official EU statements of mostly the Commission and the Council, however, the emphasis is definitely put on "togetherness", "solidarity", "interaction", "reopen" and "coordination". While undoubtedly, there are also voices calling for "isolation", "limits", "rules" and "control", they are usually put into a temporal perspective emphasizing that this closure is only temporary, such as "It was widely acknowledged that the current situation calls for continued solidarity and strong cooperation among Member States, and that all actions at national level should be inspired by these principles (European Commission 2020)" or as President of the European Commission said "A big topic today was, of course, the internal borders, and consequently the blockages there. And here it is absolutely crucial that we unblock the situation."

On numerous occasions it was mentioned that the pandemic knows no borders and thus "Combatting this pandemic calls for a transparent, robust, coordinated, large-scale and science-based global response in the spirit of solidarity. We are strongly committed to presenting a united front against this common threat" (G20 Summit 2020). The Chair of Parliament's Civil Liberties, Justice and Home Affairs committee declared that "while I fully share the need for public policy measures restricting social interaction to slow down the spread of the Coronavirus, I urge member states to take their measures in full respect of the principles of proportionality and, above all, solidarity among EU Member States, non-discrimination and the applicable Schengen rules. It is key that when taking measures no discrimination is made between EU citizens. It is only through a coordinated approach, rather than actions taken by individual Member States, that we will be successful in addressing the challenge we are all facing (European Parliament 2020). Consequently, it can be said that all in all, the EU's discourse was more aligned towards not

reintroducing the internal Schengen borders or at least not beyond what is absolutely necessary.

3.3.4 Hungary's narrative on borders and cross-border cooperation during the first wave of COVID-19 pandemic

Hungary notified the Commission – in line with the Schengen Agreement's rule – on the reintroduction of controls at its land borders with Austria and Slovenia from 12 March 2020 and on its land border with Slovakia on 22 March 2020. In the early days of the first wave pandemic, in fact already on the 16 March the Operational Staff Responsible for Coronavirus Epidemic Control claimed that "it is justified to close the borders of Hungary, where a foreigner cannot enter by plane, road or water" (Népszava 2020). In the top-level governmental narrative in Hungary the pandemic and the subsequent border closures had been pasted into the already existing narrative emphasizing the dangers of (illegal) migration. The prime minister said that "there was a clear link between illegal migration and the coronavirus outbreak" arguing that a number of migrants who arrived in Europe either came from Iran or passed through it. Therefore, he argued that it is important that Hungary has therefore strengthened the protection of its borders and temporarily sealed its transit zones (Daily news Hungary 2020).
This intertwining between migration and the pandemic seems to be empathetic throughout the first wave which is also illustrated by the word cloud made from the analysis of the speeches. Among the words, the coronavirus or the pandemic barely appears, however, "foreigners", "victim", "illegal", and "migration" comes up several times showing that there is a clear link in the narrative between the government's agenda on illegal migration and the pandemic.



Figure 4: Word cloud representing Hungary's narrative on borders and CBC during the first wave of the COVID-19 pandemic
Source: own edition through https://wordart.com/

The high-level members of the government in their speeches often linked the migration and the pandemic even to justify their actions and decisions. For instance, the Minister of the Prime Minister's Office said that "after the epidemic, Europe must avoid falling victim to mass immigration again. He believes that Europe can counter this if it makes it clear that it supports all its Member States in external border protection" adding that more and more soldiers had been sent to the Hungarian borders to protect them in case of a larger number of illegal immigrants would arrive (the official Corona-info page of the Hungarian government 2020). Similarly, the Minister of Foreign Affairs and Trade justified donating hundreds of thousands of masks to northern Macedonia, Slovenia, Croatia and Serbia by claiming that "if these countries are weakened, both literally and figuratively, their defence capacity will also be fall, and if there is a great deal of illegal migration pressure

– which unfortunately possible – these countries would not be able to resist" (Index 2020).
Consequently, it can be said that during the first wave of the pandemic the Hungarian official discourse on COVID-19 pandemic and the borders and cross-border cooperation was to a high degree influenced by the mitigation of a – possible – migration crisis.

4. CONCLUSION

Even though at the time of the writing of this study, the world is already experiencing the third wave of the COVID-19 pandemic, there are still many open-ended questions even with regard to the first wave and how it was handled. However, what seems to be certain is that the spread of COVID-19 pandemic has not been stopped by the systematic closure of the national administrative borders, but as Chinazzi et al. says "they have at best slowed the spread of the pandemic" (Chinazzi et al 2020). Nevertheless, even internal Schengen borders did get closed which might have initiated a potentially deep-cutting change in the European Union's narrative regarding its internal borders and cross-border cooperation culture.
After analysing the available statistical data, carrying out stakeholder interviews, reviewing citizens' testimonials and conducting a discourse analysis based on official EU statements, speeches and press releases, it was found that indeed there is a slight shift from unilaterally praising the free movement of people, goods and services to seeing the border closure as a visible measure that might be able to – if not tackling the spread of the virus – create the illusion of control. In the analysed case study country, Hungary, not so much of the change in the narrative was perceivable but rather a competition of the already existing discourse focusing on the illegal migration now with a health

aspect. As Alden says it can be argued that these top-down decisions on how to tackle the events "are fueling the narrative that foreign people and foreign goods are a source of danger and vulnerability" (Alden 2020). These shifts might seriously undermine all the achievements of cross-border cooperation.
However, the stakeholder interviews as well as the citizens' testimonials painted a somewhat different image. It seems that people actually living in border areas still regard their neighbours as allies and not as a potential source of danger, they still feel a sense of belonging and a wish to cooperate which is also shown by the numerous new initiatives presented in this study that came to life exactly for showing solidarity and continuing the started work. As Opiłowska (2021, 5 p.) said "territorial borders as well as the boundaries socially constructed at the national level by public authorities have clashed with the collective experience and perception of border region residents, for whom people from the other side of the border are close neighbours and not foreigners". Consequently, while Delmas and Goeury warn that "what was suspended in a few days will require many years to re-establish" (2020, 19 p.) might be true, since the people of cross-border areas showed willingness to not dismantle what has been achieved, it is likely that once the pandemic is over, the already institutionalised and established cross-border cooperation routes will be opened again along with the internal Schengen borders.

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DOBOS EMESE:
THE PROMISE OF THE PANDEMIC? NEW PERSPECTIVES FOR THE FASHION PRODUCTION COMPANIES OF HUNGARY AND ROMANIA IN THE GLOBAL SUPPLY CHAIN DUE TO THE RELOCATION TENDENCIES

[1] Doctoral School of International Relations and Political Science, Corvinus University of Budapest, email: emese.dobos-nagy@stud.uni-corvinus.hu

Abstract: The geography of the global supply chain of fashion has been previously shaped mainly by companies searching for lower labor costs. But now, speed beats marginal labor costs regarding the economics of scale in terms of marginal advantages. The COVID-19 pandemic emphasized the importance of a shorter supply chain as a tool for resilience and can give a boost for relocation tendencies that had started before the crisis. The region's garment manufacturing companies have started to develop contract work connections for Western-European fashion companies for decades and the ongoing crisis can lead to a strengthened (Eastern-)European fashion industry. In the center of my research are the questions: what are the challenges of Hungarian and Romanian fashion companies due to relation tendencies? In my paper, I examine the opportunities of fashion production companies in the post-pandemic supply chains. The methodology of the research is qualitative (literature review and interviews).

Keywords: global supply chain, COVID-19, relocation, garment industry, sustainability, Central-Eastern Europe

1. INTRODUCTION

What drives fashion? The demand side of the customers who are signalling, what they are willing to buy and for how much or the fashion brands' supply that dictate trends? But not the examination of fashion consumption is at the center of my paper, it offers a frame for it as a mentioning as at the two ends of the fashion industry's supply chain – the workers, who are actually making the garments and the end users, customers will are actually wear those clothes – are invisibly connected, weaved together. Consumption and especially sustainable consumption enjoys an increased scientific interest with the growing incentives (and need) for the fashion industry towards a more sustainable and ethical operation. The focus of this paper is the production background of the fashion industry. That part, what the customers actually do not see: the production background of well-known, mainly Western-European fashion brands, even in the luxury categories: Hungarian and Romanian fashion production companies who are longstanding partners of those fashion brands. The COVID-19 pandemic has brought an unprecedented situation for the fashion industry's whole and as the industry operates globally, no one, so Hungarian and Romanian companies could not have stayed unaffected. The pandemic – after the first shocks – has also turned a light on the need for shorter supply chains that promises resilience and serves sustainability as well. There are ongoing discussions around relocation tendencies (back from Asia) and the COVID-19 can give a possible boost for it. In this paper, I examine the opportunities of Hungarian and Romanian fashion production companies in the post-pandemic supply chains and its challenges in terms of economic and social sustainability that would possibly affect relocation tendencies.

The term fashion industry covers several segments: textile, garment, leather and fur products in numerous market segments

from cheap, mass-produced products to the top of luxury. Fashion is considered to be one of the most globalized industries (Bonacich, Appelbaum 2000) at all: its supply chain is highly fragmented across continents and countries. Even if the fashion industry is globalized, the relations of production remain hidden and there are strong inequalities and hierarchy that also came to the surface by the pandemic. The fashion companies of the Central-Eastern European countries, like the examined cases of Hungary and Romania, working in manufacturing, remain at the invisible background of the production networks. I focus on garment production, because of its labor-intensive nature and regarding the significant number of garment production companies within the Hungarian and Romanian fashion industry as well.

While other industrial sectors (like automobiles and electronics) were building strategic partnerships and have their own factories and subsidiaries, working together with independent suppliers who are producing for several brands parallelly is the admitted practice in the fashion industry. The fashion production companies are often working for several clients at the same time, often through intermediaries (individual agents and agencies) that increase their dependency on other actors and as more actors in the supply chain, the income of each supplier is reduced as well.

Several factors and motives are shaping the production background of the fashion industry: international trade relations, regulations and agreements, institutional framework and conventions, the structure and business model of the certain fashion brands, (new) technology and human resources, especially (low) labor cost. Lately, social media and visibility, customer perceptions and expectations, like sustainability concerns that affect the fashion brands' image are also among the shaping factors of the fashion industry. These factors are in constant, turbulent change, and COVID-19 has brought new circumstances as well

when survival and resilience, trust and partnerships are also additionally concerned by fashion brands.

2. THE POSITION OF HUNGARIAN AND ROMANIAN FASHION MANUFACTURING AT THE GLOBAL SUPPLY CHAIN OF THE FASHION INDUSTRY

The 6600 companies of the Hungarian textile and garment industry employ more than 30 thousand people, according to the Hungarian Central Statistical Office. Companies employ around 10-25 people and mainly work for export for foreign – mostly German, Italian, French and Austrian - fashion brands. They can produce big series (1500-2500 pieces in an order) and produce for high category fashion brands like just to mention a few: Stella McCartney, Nina Ricci, Saint Laurent, Dolce & Gabbana, Valentino and Carven. Furthermore, they are able to create haute couture garments with a high level of craftsmanship as well. The leather industry (shoes, bags, belts) 'enjoys' the highest rate of export, then textile industry and the export rate of the garment industry (undergarments like lingerie, bath suits and outerwear like coats, trousers, dresses, etc.) is around 80 percent (Dobos-Nagy 2021a). Even if the Hungarian fashion industry is relatively smaller in size, compared to neighboring Romania, it is still 'in the midfield got' in Central-Eastern-Europe's fashion industry. The labor-intensive garment industry is a significant employer in rural areas and underprivileged (women, ethnic minorities, migrants and people with disabilities) as well (Molnár 2017).

Romania is the largest garment producer in Europe: fashion workers in Romania are making clothes for some of Europe's biggest retailers. Garment production is one of the major export segments of the country. According to the latest country profile of the Clean Clothes Campaign, there are 9000 garment and shoes

factories (both formal and informal) employing around 400 000 people. The 90 percent of them are women who are usually only breadwinners in their family (Clean Clothes Campaign 2019).
The fashion products are status symbols, and the fashion brands carry a particular prestige: customers associate the brands' name and logo with a certain quality, expertise and working condition, where these are made. But that association does not cover where and how the products are made: with the intensified outsourcing of the fashion industry, we have to make a difference between the country, where the brand's 'headquarter' is and where production has actually taken place. Several cases, according to low-cost production of luxury brands in Central-Eastern Europe have reached the world press during the past few years: the Duchess of Sussex, Meghan Markle has worn a coat by British brand Stella McCartney that was made in Hungary, Berettyóújfalu at the factory of Beriv Ltd., by workers who are earning just £2.60 an hour so they could barely afford food and heating (Pilditch 2019). French luxury brand, Louis Vuitton also caused international scandal when a French documentary revealed that their 'Made in Italy' shoes were actually made in Transylvania, Cisnadie at the Somarest factory before 'finished' in Italy and France (Lembke 2017).
Outsourcing production to lower cost countries where Central-Eastern European countries operate at the semi-periphery is a feature of the neoliberal world economy (Wallerstein 1974). Subcontracting, along with delocation is an intensifying feature of the fashion industry. The delocation – the removal from the local, native location and the outsourcing of certain processes – of the garment industry started in the 1950s. East and Central European countries have been operating as invisible 'tailor shops' for Western fashion brands for decades. By Porter's 'location paradox' (Porter 1990), fashion brands – independently from the closeness of their market destination – outsourced production to independent suppliers and subcontractors, rather than their own

factories – where production is the cheapest. Working together with independent factories and low labor cost allowed them to flexibly move (towards) production and assured competitiveness: against evolving own locations that leads to profitability on the long-term, with the ceasing of fully-, or partly owned production facilities, with outsourcing and short-term contracts, fashion brands can react fast to economic changes.

Outsourcing production to certain (specialized) companies and working together with them with short-term contracts serve perfectly the nature of fashion production that is characterized by a fast pace, turbulent change in supply and short life cycle of products. Since a single fashion collection can take up to more than 100 'looks': one look consists for example a trouser, a blouse, a blazer, a coat and accessories (shoes, bags, hats, gloves) additionally, every single item category (like outerwear, leather goods) needs special technology, skills and expertise from its maker. On the other hand, from the point of view from the producer companies, their uncertainty and dependency are higher with the intensification of these characteristics.

Extensionally, geographical inequality can be also described by the so-called pyramid model of the fashion industry: on the top of the pyramid there are luxury brands and their small quantity collection is while ('officially') made by expert makers in Western-Europe (especially Italy and France has a long-standing heritage in the luxury sector), the production of the ready-to-wear segment (with bigger orders) are placed the middle part of the pyramid in Spain, Turkey and at former socialist countries and mass production (the wider part of the pyramid) are made in China and Southeast-Asian countries (Thomas 2008). From the 1990s, the basis of the collaboration between Western and Eastern European countries' fashion industry was the so-called outward processing trade (OPT) practice: the contractors transported semi-processed products, like fabrics, cuttings or semi-finished products to low wage

subcontractors in Eastern Europe for assembly and intermediate work processes (Hanzl, Pavlik 2003). It resulted that semi-periphery countries acted as 'sewing workshops' for Western fashion brands and that practice also remained after the regime change and the joining of the European Union as well. After the collapse of the Soviet Union and the ceasing of the COMECON, former socialist states – like Hungary and Romania – have lost their stable market for their fashion industry that was formerly directed and supported by industrial policy. In Hungary, the textile and clothing industry lost its traditional markets faster than any other sector and mainly small businesses replaced the former state companies that were big employers (Kokas-Palicska 2011). Due to the privatization of the companies, the sector has lost a huge amount of capital in terms of production and human resources as well. In this way, even assembly and cut-make-trim activities mean a low-value added process; the previously existed, Western contract work connections meant a lifebuoy for companies. Additionally, the region is attractive for Western companies because of its geographical and cultural proximity, the existing production capacities, qualified workforce and low-level respect and inadequate adherence to national labor rights regulation (Musiolek 2004). As contract work 'does not pay well', formerly state-owned, after the regime change privatized companies are suffering from a lack of capital and upgrading is challenging as they mostly rely on revenues from Western fashion brands. Upgrading means stepping out from a dependent position is possible through taking strategic functions and building own supply chains (Schmitz 2006). In the fashion industry, we can distinguish CMT (cut-make-trim), OEM (Original Equipment Manufacturing: manufacturing with the addition of sourcing equipments and raw materials), ODM (Original Design Manufacturing – manufacturing with the addition of design) and OBM (Own Brand Manufacturing) as steps of development.

3. THE COVID-19 PANDEMIC AND THE FASHION INDUSTRY

The COVID-19 caused an outbreak at China first at the end of 2019 than 'stepped' into Europe at the beginning of 2020 as well. Ceased orders, closed stores: the pandemic most visibly disrupted the global supply chains of the fashion industry. As China is the biggest exporter of textiles (World Trade Organization 2020), it raised the concerns in terms of dependency. When the pandemic had an outbreak in China, the raw material flow was cut from the fashion producer countries' companies as the pandemic has spread – and affected variably – the different continents and countries. The fashion industry (including production, retail and consumption as well) was facing several disruption as when the pandemic hit the Western(-European) consumer markets: the stores were getting closed and fashion brands cancelled orders from mainly Southeast-Asian and Central-Eastern European (CEE) companies, or were stuck with unsold collections (Teodoro, Rodriguez 2020). Experts also warned that the cancellation of orders worth billion can also cause humanitarian crisis with thousand of workers were left behind and unpaid and garment workers are rely on their low wages.

Many brands – without any exception of market segments like mass production or higher categories or geographic location -- have cancelled orders when first the pandemic 'hit' with lockdowns. They were refused to pay for billions for goods that have been already done and shipped (Anner-Nova 2020). They can do it 'legally' but unethically, referring to a force majeure/vis major clause as the pandemic as an unforeseeable circumstance. With an exception of 26 joint Bangladesh suppliers of the Sears brand, subcontractors hardly challenged fashion brands for not paying as going to court also threatens the relationship between the parties. The clause has sparked a legal debate among experts and scholars,

few of them argue cancelling orders violates international human rights norms, particularly due diligence obligations under responsible business practices and turned the light on the asymmetric power relations towards accepting contracts and conditions (Cline 2021).

The result was devastating for the countries and millions of workers through Southeast Asia and the region as well. After a year, the fashion companies slashed prices to stay competitive and orders for the current season were down 30 percent compared to last year, manufacturers even accepted orders below cost (Deeley 2021). This cut cost is not clear that it is initiated by brands or offered from manufacturers. From the perspective of economic and social sustainability, the pandemic is having a devastating effect on the most dependent end of the supply chain as brands can keep back payment to avoid liquidity and financial problems, but workers cannot. International non-governmental labor right organizations jointly with trade associations and unions are trying to put pressure on fashion brands through social media to pay up and raise awareness towards labor right violation among customers (Deeley 2021).

Due to the shockwaves of the COVID-19, shockwaves have spread across the sourcing and production operation in the fashion industry that has started to change its out-of-date sourcing model that is characterized by long lead times, maximizing order sizes, and relatively low flexibility. The need for a transformation was clear before the crisis, particularly in making sourcing more demand-driven and more sustainable on both social and environmental dimensions (Berg et al. 2020). The coronavirus pandemic and the following crisis turned the light on the importance of shorter supply chains and the need to reform the existing production practices – for everyone's interest. Despite some progress that the global fashion industry wants to escape from the co-dependent relationship with China, the country

remains the powerhouse of manufacturing infrastructure and a primary source of raw materials and other equipment, like trims and zippers (Hall 2020). Because of the labor-intensive nature as well as its geographical footprint, it makes the garment value chain one of the most exposed to supply chain shocks, but the interconnectedness and the economic case for making large-scale changes in physical location also has limits as making long-term investments or accepting higher cost of goods (Lund Krishnan 2020). According to the European Apparel and Textile Confederation's (EURATEX) survey, companies expect a 50 percent drop in sales and production and 80 percent of them are already laying off workers. Finally, the confederation prognosed the ceasing of every fourth European fashion company (EURATEX 2020).

4. THE PANDEMIC'S EFFECT ON HUNGARIAN AND ROMANIAN GARMENT PRODUCERS

Cancellation of orders affected CEE suppliers of fashion brands as well: the case of Angelica Manole went viral. She was working at the Tanex garment factory and she was fired after she posted the paycheck of her monthly salary on social media that was cut in half without explanation. With this reduced paycheck of €140, Manole and her co-workers were only receiving about 10-15 percent of the legal living wage in Romania (Sanders 2020). The COVID-19 not caused, but escalated human and labor rights violations within the end of fashion's supply chain: intimidation and harassment of workers, non-payment of mandatory social insurance contributions, and not paying overtime unfortunately does not mean a single case. Major non-governmental organizations, focusing on the labor rights of fashion workers – Human Rights Watch, Clean Clothes Campaign, Fashion Revolution, Labour Behind the Label, etc. - constantly turn the light on the production background backwards from time to time.

Romanian garment factories were getting 20 percent of their usual orders due to the coronavirus and 40 percent of the workers were laid off. They face a 30-50 days or more delay in terms of payment from brands and they are afraid that brands will cease orders as because of the short supply of raw materials, they can not complete orders in time (Imbrea 2020). The situation is very similar in Hungary: a joint survey among Hungarian fashion companies done in March 2020 by the Hungarian Society of Textile Technology and Science (TMTE) and the Association of Hungarian Light Industry (MKSZ) reported that three quarters of the companies are preparing for a more than 50 percent loss in their yearly production in 2020 and 60 percent had to lay off half of their employees (TMTE - MKSZ 2020).

5. COVID-19: A PROMISE FOR SHORTER SUPPLY CHAINS?

While we can say that the geography of the global supply chain of fashion has been previously shaped (mainly) by low labor costs, but now, the fashion industry has reached a crossroad where speed beats marginal labor costs regarding the economics of scale in terms of marginal advantages. Traditional supply chain of fashion is facing challenges as convergent labor cost.Not just simply cost-efficiency lies in the background of relocation: the recognition of the importance of local supply and production, changing customer needs, cost reduction and optimization of the supply chain, besides speed and flexibility are also factors behind the tendencies. But in terms of global production, the gap is growing slowly, but getting too close as differences between wages become smaller as wages are growing in the peripheral (Asian) countries as well. Furthermore, fashion brands can benefit from the closeness of production to their markets as well (BOF, McKinsey & Company 2019) as the system of 'dropping' fashion collection has changed: brands are offering more frequently, but smaller collections and follow a more 'on-demand' practice – because of the easily

changing nature of fashion trends, time is a crucial factor. Transportation is also significant: sea transport is the most common, but it takes time: it takes around 30 days for a parcel to reach Western-European markets from Asia and air transport is considered to be too expensive (Andersson et al. 2018), and the 'slowness' of transport are more likely not able to serve the current speed of the fashion industry. Former advantages of delocation are also derogated by geopolitical tension, trade agreements and the insecurity, caused by fluctuation in exchange rates as well. Relocation as the action of moving to a new place primarily focuses on fashion is the moving away from Asian production and takes place in nearshoring as the practice of transferring a business operation to a nearby country, especially in preference to a more distant one. Backshoring or onshoring is the repatriation of production to the home country. As I have mentioned, the coronavirus pandemic also brought up in terms of production, like trust, resilience and flexibility – factors that are not supported by long, and notoriously opaque supply chains in the fashion industry. According to a report by the authors of McKinsey & Company, European companies have cancelled orders less often (compared to North-American fashion brands). A possible explanation is that European fashion brands have a more varied set of sourcing countries and significant nearshoring options. The report also predicts changes in the fashion supply chain due to coronavirus: cut lead times, smaller batch sizes, increased transparency and sustainability (commitment from brands), a more demand-driven attitude besides increased flexibility and speed. The prognosed changes also include the reduced dependency on international fabric imports, the implementation of nearshoring sourcing, forging stringer supplier partnerships and it is also highly capable that garment manufacturing clusters will emerge in Eastern-Europe (Berg at el. 2020).

The changing speed (higher turnover of collections), with a higher need for on-demand production, and shorter lead times that require fast transport also point to the direction of relocation. Even if we can consider delocation (and outsourced production) as a continuously ongoing tendency, operational challenges and increasing costs are having effect the management of the global supply chain, and resulted the rethinking and reorganization of the activities within their supply chain, like re-location of their production or switching to local supplier (Robinson, Hsieh 2016). The joint KÉZMŰ, ERFO and FŐKEFE nonprofit company is the biggest employer of workers with reduced work capacity and people with disabilities and a good example for a beneficial of relocation tendencies in fashion. On 140 manufacturing sites from their 10 thousand employees, 83 percent of them are workers with reduced work capacity. The company has clients who they are working with for 5-10 years, and now 20 percent of their partners are 'new' (started to work worth them during the past 1-2 years) and they experience a 'day-to-day' growth of new clients. According to their experience, those fashion brands who offer smaller series, were not likely to outsource their production to the Far-East. They also confirm the fashion brands' growing relocation of production from Asia, according to their numbers from the past 3 years, even from brands who offers bigger quantities want to find partners in the region. Primarily, from their experience, German, Austrian and Italian fashion brands relocate their production and offer confection, home textiles, bags and leather goods. „The process has also begun at the sourcing of raw materials. China offers favourable prices in total for the finished products, but the textiles are relatively expensive next to cheap production cost. Those (fashion brands) who want to run production closer, find better prices for textiles in the Near East' (Dobos-Nagy 2021b). According to them, flexibility is one of the most important now for fashion brands who are suffering from

the shrinking markets and that is challenging as they cannot give 'long-time prognose' but in return, they need very strict deadlines.[66]

6. COMMON CHALLENGES IN TERMS OF ECONOMIC AND SOCIAL SUSTAINABILITY

Sustainability relies on three pillars: environment, economic and social. It basically says that you protect the environment through economic growth and poverty-reduction. More evolved, the criterias of economic sustainability are growth, development, the knowledge and awareness that market allocation of resources are limited and that there is a 'trickle-down', suggesting that growth helps the poor. Social sustainability is usually considered as poverty allocation and equity, empowerment, accessibility, participation, sharing, cultural identity and institutional stability characterizes this dimension. Furthermore, environmental sustainability refers to ecosystem integrity, carrying capacity and biodiversity where natural resources are seen and handled as a source of economic inputs and a sink for the waste (Kahn 1995). Discussing the fashion production companies of Hungary and Romania, economic and social sustainability are examined. In parallel with the delocation tendencies of the fashion brands, European fashion production became a 'declining industry'. As the fashion industry operates on a global level, it is sensitive to any change, a constant development is challenging for both countries. In Romania, in the absence of over two decades of industrial policy thoroughly grounded, formalized and followed consistently, changes occurred as a result, mainly, of investments made by local entrepreneurs but especially

[66] This phrase was originally written at a book chapter by the author to the 'Environmental, social and economic sustainability in the light of the (geo)political challenges of our age' volume, published by the Pallas Athene Domus Meriti Foundation (PADME) and Corvinus University of Budapest (under progress).

trans-national and multinational foreign companies (Russu 2015). Fashion companies – who are often working with intermediaries – are dependent on changes as well. According to Arrighi and Drangel, revenue of the core countries are able to block the periphery's interests and they provide low income for them to stay in that position (Molnár 2017). This theory is valid to the region's fashion production background as companies do not earn enough from contract work to move towards significantly higher value-added processes or releasing own products to this day that would mean an upgraded activity – and growth in the sense of economic sustainability for them.

In terms of social sustainability, one of the most important challenges is the growing lack of workforce and the aging employing with no possible second generation of workers as jobs are attached to minimum wages. Working in fashion production is considered to be 'old-fashioned' and not attractive regarding the complex and precise nature of fashion production. Romania also has lost 17 percent of its population between 2007 and 2017 alone (Clean Clothes Campaign 2019): emigration of skilled labor means disappearing skills as well.

According to Bettina Musiolek, representative of Global East (post-socialist Europe and Turkey) at the Clean Clothes Campaign, violation of human and labor rights and not proper working circumstances are not just the characteristic of Asian sweatshops, we can witness them in Eastern-Europe as well. As 70 percent of Romania's garment factories are following the OPT scheme (that is called Lohn-system in Romania), the value addition of garment making is very low as the low wages are the only one that is counted. „Difference between the workers' actual salary and the cost of living is bigger in Europe than in Asia. That means that fashion workers in Europe are poorer than Asians if we consider their financial circumstances" (Kustán Magyari 2018). Because of the global nature of the fashion production, fashion brands'

conditions are determinative: they are able to generate conflict between countries who are forced to be rivals and bid better (cheaper) offers and a legal system that favours employers.
The sharply increasing minimum wages, the reduced orders and the lower labor cost of neighboring countries put extreme pressure for both Hungarian and Romanian garment manufacturers. The current situation are led to mass redundancies at Harghita county where garment factories are the biggest employers of the county. The region's ability for absorption labor is very low as there are no other employers who could give job to thousands of workers. According to Judit Gyöngyössy, director of Ikos-Conf, there is a tendency in whole Eastern-Europe that big employers, producing big quantities in garment manufacturing are closing as 70-90 percent of their total expenditure goes to wages. Minimum wages are rising, there is no exemption in tax burden and they are not able to negotiate higher prices from fashion brands (Szász 2020). It is in parallel with the opinion of Ildikó Medgyessy Dr., director of Elegant Design Private Limited Company. From her experience, one the biggest fashion company in Hungary (employs more than 100 people) is in a very hard situation as one of its biggest client, an Austrian company just closed operation and they didn't get enough orders for this season. According to her, the worst scenario is that the local industry will be shrinking and the bigger companies (employs around 50 people, there are only a few of them) will disappear, and small, atelier-look companies will work who can produce smaller quantities as well as China is not rival in higher market category garments. The Elegant Design operates as an upgraded company since they act as intermediaries and subcontract assembly activity to 12 local and 20 Romanian factories and specialized in product development and logistic as well. The director confirms the former observations due to the coronavirus situation among local companies. "We are getting enough (order), but the prices are lower, 10-20 or even 30 percent and the clients

pay later than the average." The director looks at contract work as a chance for survive as most of the Hungarian companies do not have time and capital (the financial return of own products is around 1 year, contract work pays after 4-6 months) for developing their own products (Dobos-Nagy 2021c).

What drives fashion, again? What customers want and what is important for them when it comes to shopping clothes? According to a survey, done by also McKinsey & Company, during the COVID-19, engagement in sustainability has deepened during the crisis, with European consumers wanting fashion players to act responsibly and consider the social and environmental impacts of their businesses, and consumers have already begun changing their behaviors accordingly. Of consumers surveyed, 57 percent of the surveyed customers told that they have made significant changes to their lifestyles and they also expect brands to take care of their employees. The survey also noted that as a result of the COVID-19 crisis, 65 percent of respondents are planning to purchase more durable fashion items, and 71 percent are planning to keep the items they already have for longer (Granskog et al. 2020). That sounds well but it is important to point out to the backwards of the survey methodology: an in-depth research, done by online retailer Zalando has turned the light on that shopping sustainably is more important than ever for customers, but also that there is still a gap between what people think and what they do: according to their results, many consumers struggle to turn their sustainability priorities into purchasing decisions. Moreover, as many as one in two fashion consumers is not even certain what sustainability means in a fashion context. The research also emphasized that according to customers, fashion brands have a responsibility to protect the environment and make a positive social impact (Heine, Schneider 2021). Another consumer survey, done by Fashion Revolution also concluded, that even from their first consumer survey (published in 2018), that concerns about social and

environmental issues in the fashion industry have grown among consumers. While consumers are calling on fashion brands and governments to ensure transparency and respect for human rights and the environment along supply chains, in the last 12 months, more consumers have tried to purchase clothes at a reduced price in the sale than those that have tried to purchase clothing made in an environmentally or socially responsible way. The survey's results also underline that although the majority of respondents say they want brands to be transparent, there still appears to be a disconnect when it comes to what factors are driving people's intentions when purchasing clothes (Fashion Revolution 2021).

7. CONCLUSION

The fashion industry at every level – production, retail and even consumption – has suffered significant financial loss due to the COVID-19 pandemic and its economic consequences. The situation is not even clearer (or better) as at this moment, it is impossible to see the end of the pandemic – and the following crisis. Actors of the fashion industry cannot be sure when they can go 'back to normal' – if it is possible. The pandemic has also brought changes to customer behaviour towards fashion products as well. The COVID-19 has also boosted relocation tendencies. Companies that are offering premium or high-end products are more likely to reshore their production: that tendency can be beneficial for Hungarian and Romanian fashion companies who are specialized in high quality contract work. Longstanding traditions are respected by Western European fashion brands and Hungarian fashion production companies meet the requirement of high quality, even luxury segments. Several factors that shape relocation decisions (geographical proximity, cost-effectiveness in transport, long-standing tradition in manufacturing, easy, effective and fast communication, the opportunity of collaboration from design processes to product development and final products, etc.)

is favourable for Hungarian and Romanian fashion production companies as well. As Hungarian and Romanian companies produce relatively small quantities (from a few ten to a few thousand pieces) with high quality (in line with the changing speed and the prognosed, consume 'more but better' behaviour, and they benefit from long standing traditions and heritage of fashion industry, satisfy the high demand of Western fashion brands – they could be win from the reform of supply chains within fashion. But because of the codependent relationship, future possibilities of garment companies depend on the survival of fashion brands, who they primarily work for as subcontractors. With the prognosedly intensifying relocation tendencies, the rivals of Romanian and Hungarian garment manufacturers are not Chinese and Asian, but rather their 'neighbours', Bulgarian, Bosnian, Ukrainian and Turkish garment companies and there is a price competition among factories of the Central-Eastern European countries.

Moving towards low value added, assembly activities and stepping into more advanced activities would be needed, but companies are facing economic and social challenges as well that makes it difficult. The lack of capital also makes it harder to develop plants and invest into new technologies and solutions for companies that would help their attractiveness among clients and would help them to increase productivity. A possible alternative to garment factories is the move towards other segments, like specializing and working with functional textiles (automotive carpets and home textiles) as garment production is decreasingly beneficial.

Rising minimum wages is a two-sided sword: while it is beneficial for workers as they are getting higher salary, detrimental for employers who have to pay more for workers and that is worsen their attractiveness in the eyes of price-sensitive fashion brands. Because of the seasonal rhythm of fashion, since the governments announce the actual rise at the end of the years (and are introduced from January, next year), the companies have agreed on with the

clients on the prices of the next year as the collections' pieces are started to produce more than half a year ago than it hits the retail segment. It is challenging for the companies as well as they operate with smaller and smaller margin with every year, and it is hard for them to economize an 8-10 percent higher salary for their workers. The price-competitiveness of Hungary and Romania are also diminished with rising wages are fashion brands are moving their production to cheaper countries, from Hungary to Romania, from Romania to Ukraine, Georgia, Bulgaria, etc. Furthermore, rising wages are even far from living wage.

Finally, even if relocation tendencies are prognosed to increase and fashion brands will be more likely to source from Eastern-Europe, the possibilities of Hungarian and Romanian fashion companies will depend on the following questions. Who will sew the clothes? Will they be able to establish and develop a training system for garment workers? Will it be attractive enough for attracting new labor forces and to stop the migration of the others, while fashion brands are looking for low labor cost? At the end of the day, the possibilities and the future of Hungarian and Romanian fashion companies will rely on their clients. It is impossible to predict the business environment now as the pandemic is still happening and it is hard to see the light at the end of the tunnel. As long as the pandemic is going, the liquidity and the operation is challenged at fashion brands – the main contractors of the region's fashion companies. With the ceasing of their partners, the ground is also cut from under the feet of the Hungarian and Romanian fashion companies. The survivors' future also depends on customers and the assumed change in their needs and attitude towards sustainability – that can pretty well go together with the consumption of less, but higher quality, more expensive clothes.

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KOZMA DOROTTY EDINA: ANALYSIS OF THE RELATIONSHIP BETWEEN SUSTAINABLE DEVELOPMENT AND HUMAN WELL-BEING IN THE PERIOD OF 2014-2018

[1] Department of Accountancy and Controlling, Institute of Business, University of Pannonia, Veszprém, e-mail: kozma.dorottya.edina@gtk.uni-pannon.hu

Abstract: In my study, I examine the statistical relationship between the factors summarising the sustainable development indicators created in a previous research and the Human Development Index (HDI). The "goodness" of the HDI index can be measured by capturing the three dimensions of well-being. In 2015 the UN adopted the new strategy for sustainable development entitled: *the 2030 Agenda for Sustainable Development*. Sustainable Development Goals (SDGs) are an integral part of this strategy. In my previous research, I conducted studies on whether the high number of indicators belonging to the strategy can be reduced by means of Factor Analysis. The aim of the study is to explore the relationships between the factors generated during the Factor Analysis and the HDI index using Correlation Analysis. The chosen method measures the closeness of the relationship among the variables which can be used to determine the degree of correlation between the HDI index and the factors. My hypothesis is that there is a statistically significant correlation between the factors created from the SDGs and HDI in the period of 2014 to 2018.

Key words: sustainable development, HDI, the 2030 Agenda, well-being

1. INTRODUCTION

Sustainable development is a vision for the immediate and longer-term integration of progress. Sustainable development transcends national borders and is based on the responsibilities of future generations in a global context. The approach includes medium and long-term goals, progress in integrating local and global activities, and economic, social, environmental issues (Oberer – Erkollar 2011). A number of international conventions (Stockholm - 1972, UN World Commission on Environment and Development - 1987, Rio de Janeiro - 1992, Johannesburg - 2002) were concluded which also sought to address the economic, social and environmental challenges to be addressed. We have been talking about the concept of sustainable development since 1987. Sustainability refers to the ability of a society, ecosystem or similar process/system to function in the indefinite future without depleting the system's resources or being forced to decline through overload (Chatziefstathiou et al. 2005). The definition is linked to the name of the Brundtland Commission (UN World Commission on Environment and Development). It has become a central element of further conferences and world meetings (Láng 2001). These meetings were largely aimed at encouraging environmental protection and changing thinking.

2. LITERATURE REVIEW

The elaboration of the Millennium Development Goals and the Sustainable Development Goals was necessary because few goals were achieved at the previous conferences, although a kind of change of attitude started towards sustainable development. At both global and European Union level, unsustainable processes are causing problems.

The Millennium Development Goals (MDGs) were developed at the turn of the millennium, at the Millennium Conference in New York also known as the world's greatest promise (Hulme 2009). After collecting the proposals, the United Nations, UNDP (United Nations Development Program), formulated the goals and related objectives (Tárki 2004). The declaration was adopted in September 2000, with the participation of 189 UN member states. Within the framework of the strategy 8 goals were set, these goals included 18 sub-goals. To measure the goals and subgoals 48 indicators were developed (Jancsovszka 2016). With the development of this strategy, the performance of the participating countries became measurable and comparable over time through the 8 objectives.
Its impact has not only made measurability and comparability possible but at the same time facilitated the development of global awareness and made it politically predictable and last but not least, making social feedback more traceable (Sachs 2012). The objectives provided an opportunity for developing countries, developed countries financing programs and international organizations to quantify development (Tárki 2004). The main emphasis was on the human aspects, the fight against poverty and disease, the desire to manage conflicts and their further aim to maintain security. The duration of the strategy is 15 years during which time the main challenge is to achieve the objectives (Jancsovszka 2016). Thanks to coordinated global, regional, national and local efforts, the Millennium Development Goals have saved the lives of millions of people and turned them right.
This was the first program in the history of sustainable development, also known as a framework strategy to present actions towards sustainability. This strategy named indicators for measurability and thus the regions and countries became comparable through a common definition and methodology. After the completion of the MDGs framework strategy, it was necessary to develop a new, long-term program package which will further

and at the same time renew the aspirations and goals of the MDGs (Figure 1).

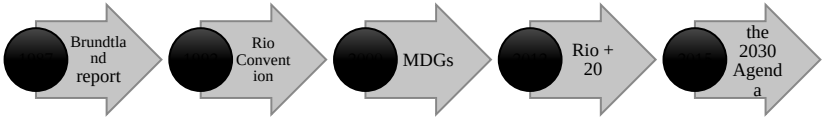


Figure 1: Way to the 2030 Agenda
Source: Own editing based on Eurostat (2018)

Before the presentation of the current strategy, the objectives of sustainable development have long been at the focus of European Union policies (Eurostat 2018). The 2030 Agenda for Sustainable Development was adopted in September 2015 by 193 UN member states (Eurostat 2016). Compared to the MDGs, there have been so many changes in the program that they have typically been "built" for purposes that have not been achieved or have been minimally achieved or have been expanded (United Nations 2015). The 2030 Agenda focuses on the Sustainable Development Goals which seek to develop an even more comprehensive approach to sustainable development and this has also given new impetus to global efforts to achieve sustainable development (Eurostat 2018). The framework is also similar to the MDGs in that it is also for 15 years. It also provides for how it is appropriate to distribute aid among poor countries, what role developed countries should play and the extent of their responsibility (Jancsovszka 2016). In March 2016, the UN Statistical Committee adopted indicators to be used to measure sustainable development, a system of indicators by which sustainability goals can best be measured (Griggs et al. 2014). In terms of the number of goals, 12 were initially set which were supplemented by another 7 goals.
The creators of the strategy have supplemented the 17 sustainable development goals with an additional 169 sub-goals (objectives) which are even better able to express what they want to achieve in

the program by 2030. They demonstrate the ambitious plans and scale of the new universal programs. They are taking all bold and transformative steps that would make it impossible for the world to become sustainable and resilient (United Nations 2015). In order to achieve the best and most efficient implementation, the objectives should not be achieved individually but should be linked and managed in an integrated way where possible. These strategies have affected all countries in the world without exception but the main focus is on developing countries. Of course, we cannot forget about the fact that certain goals contradict sustainability. This is not only a problem for the MDGs, but also for the 2030 Agenda.

3. MATERIALS AND METHODS

In my study, I examine the sustainable development indicators belonging to the 2030 Agenda strategy for the period from 2014 to 2018 at European Union level. This year assesses the final two years of the MDGs and the three years following the introduction of the 2030 Agenda. The aim of the research was to show the relationship between the factors created by the Factor Analysis from my previous research and the HDI index. In the factor analysis, I reduced the indicators used by the 2030 Agenda strategy for sustainable development. My choice of HDI is mainly motivated by the fact that it captures the three dimensions of well-being that distinguish it from other indicators of a similar nature.
So, in my research, I was looking for the answer to the question *"Is there a statistically significant relationship between the factors obtained in reducing the number of the 2030 Agenda (EU relevant) SDG indicators and the HDI index for human development?"* My related hypothesis is that *"For the most part, there is a statistically significant relationship between the factors created by the 2030 Agenda for Sustainable Development indicator system which include sustainability areas and targets and the HDI indicator."*

My research is based on the 2030 Agenda database provided by the European Union's statistical office, Eurostat and the HDI index which is provided by UNDP, the United Nations Development Program. The "goodness" of the HDI index can be measured by capturing the three dimensions of well-being which distinguishes it from other indicators of a similar nature. In the EUROSTAT system without exception, the indicators of sustainable development goals can be found for a sufficiently significant time interval of at least 5-10 years, from which I use the data of 2014-2018 in my research. I used the IBM SPSS statistical software package and Microsoft Excel for the analysis. In terms of the type of indicators, they are all metric, so they are suitable for performing correlation analysis, the five examined years represent 48,160 data points, while the total number of factors created from them is 296. I represent the examined data of all years with the year 2018.

4. RESULTS AND DISCUSSION

4.1. Reducing sustainable development goals through factor analysis

By choosing Factor Analysis (FA) as a statistical method, I wanted to reduce the size of the complex indicator system, the number of indicators. After the implementation of the method, we will get a clearer picture of the indicator system and thus we will be able to interpret more easily the implementation of the objectives of the European Union and within the member states. When applying the method, the main goal was to have a minimal loss of information but still have fewer indicators and to be able to draw the same conclusions from the developed factors as the original (Ketskeméty et al. 2011).

Table 1: Significant factor – HDI relationships in 2018

	Goal 1	Goal 2	Goal 3	Goal 4	Goal 5	Goal 6	Goal 7	Goal 8	Goal 9
KMO	0,579	0,604	0,725	0,684	0,647	0,563	0,680	0,720	0,604
Information content (%)	89,411	78,920	77,863	82,584	82,399	75,335	70,625	75,704	67,125
Significance level	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000
Nr. of factors	5	4	4	3	5	3	3	4	3
Nr. of initial/final indicators	24/12	18/6	31/15	21/6	24/13	16/4	21/7	26/12	22/4
	Goal 10	Goal 11	Goal 12	Goal 13	Goal 14	Goal 15	Goal 16	Goal 17	
KMO	0,736	0,641	0,650	0,624	0,531	0,638	0,709	0,707	
Information content (%)	86,785	75,900	74,956	77,017	88,242	80,481	84,869	80,369	
Significance level	0,000	0,000	0,000	0,000	0,000	0,000	0,000	0,000	
Nr. of factors	5	4	4	4	3	4	4	4	
Nr. of initial/final indicators	23/15	22/14	22/11	15/5	7/4	14/9	25/13	16/12	
	Total			347 initial indicators / 162 final indicators					

Source: Own editing

As a result, of the initial 347 sub-area-expanded indicators 162 remained at the end of the process in 2018 which best reflect the three aspects of sustainable development (Table 1). Examining the 17 sustainable development goals one by one, I came to the conclusion that after the implementation of the steps listed above, factor analysis can be used as a selected data reduction method for each goal. Analysing the initial and reduced indicators, I can conclude that we managed to reduce the number of variables and indicators by about 53.3% in 2018. Of course, I performed the factor analysis for each examined year which means that in 2014 it decreased by 52.5%, in 2015 by 60%, in 2016 by 63%, and in 2017 by 60.2% the number of indicators was reduced by.

4.2. Investigation of the relationship between sustainable development factors and the HDI index by correlation analysis

The Human Development Index (HDI), also known as the Human Welfare Index, was developed in 1990 to address GDP gaps (Kotosz 2013). In my study, due to the multitude of definitions, I intend to use the term Human Development Index as a concept. The United Nations Development Program (UNDP) has developed a methodology for the indicator and the Human Development Report, which has been published every year since then assesses the changes in the quality of life in countries and the state of society (Józan 2008). The Human Development Index has three dimensions and components: level of knowledge (literacy, participation in learning); length of human life (life expectancy at birth); weighted average standard of living (GDP per capita in purchasing power parity) (Anand – Sen 2000).

The value of the composite index is between 0 and 1 and it is calculated as a simple arithmetic average of the components belonging to the three dimensions. In the Human Development Report published annually by UNDP, the HDI indicator has been

continuously revised and directed for different purposes. The 2010 Report added new sub-indicators to Human Development, creating the Inequality-adjusted Human Development Index (IHDI), also known as the Inequality-Adjusted HDI (Jánossy 2015). Like the frameworks and strategies for sustainable development, the HDI index has undergone an evolutionary process as it has undergone several changes since its first appearance in 1990.

The research question of the study and the related hypothesis relate to the existence of the relationship between previously developed factors and the HDI index. *Is there a statistically significant relationship between the factors obtained in reducing the number of the 2030 Agenda (EU relevant) SDG indicators and the HDI index for human development?* This question needs to be answered in order to make it even more visible which indicators best describe the goals and objectives of the 2030 Agenda for sustainable development, as well as what indicator may be used to close the link with the factor and HDI.
The relationship of 2, 3, 4, 5 or 6 factors developed by goals and topics for the examined years with the HDI index is very diverse, a total of 66 factors have been developed for 2018. It was not always possible to show a statistically significant relationship between the factors and the HDI index. The relationship between factors and HDI can be divided into four categories: 1. positive, linearly weak, moderate, or close relationship; 2. negative, linearly weak, moderate or close relationship; 3. positive relationship with significance problem and 4. negative relationship with significance problem. The relationship between factors developed for sustainable development goals and HDI can thus be presented in a myriad of forms. In my research, I present cases with positive and negative correlation coefficients, those that reach at least a moderate coefficient. Aggregate data are shown in Table 2. Most of the factors characterized by a loose correlation coefficient are

excluded from the study because their significance level is higher than the allowed 5%. In the case of loose, medium, close relationships, indicators that best characterize HDI were included in the factors.

A negative relationship was found between the factors belonging to the first SDG and the HDI indicators in the significant cases. In terms of indicators, all without exception are of a social nature, showing the difficult situation or poor housing conditions of people living on social peripheries. Such indicators are those living in low-intensity households (01_40), those who are suffering from income poverty after social benefits (01_20) or people who do not have a bathroom, shower or washbasin (06_10). The negative correlation coefficient suggests that if the value of the HDI indicator starts to decrease, the value of the indicators covering the factors starts to increase, thus causing the opposite effect. This is the case for all factors.

For the goal of *"Zero hunger",* two factors have a positive and one has a negative correlation coefficient. "Positives" are typically related to GDP such as 02_20, which is the factor income in agriculture, an important factor in the productivity of the agricultural sector. The other indicator is the gross nutrient balance of agricultural land, which contributes to good productivity. There is a close relationship between HDI and GDP which may explain the strong, significant relationship between the variables. Monitoring is not easy for the European Union, as the aim is primarily to focus on the sustainability of agricultural production and adverse environmental effects. Agricultural R&D is also highly dependent on GDP, so its close relationship can be traced back to this.

Indicators that best characterize the target - life expectancy at birth (03_10), standard mortality rate (03_40), proportion of people with good or very good perceived health status (03_20); those who died

in a road accident (11_40), those who died as a result of an accident at work (08_60) - and the close relationship between the HDI indicator is clear. Life expectancy at birth is a component of HDI, showing how many years a newborn child is expected to live in his/her lifetime if exposed to the current probability of death.
The first factor of *Goal 4* can be characterized by a close negative correlation coefficient. Regardless of whether one of the sub-areas of HDI is education, however, underachievement in different subjects reverses this in the opposite direction. The moderate coefficient of the second factor, on the other hand, is clearly related to its relationship to education. The factor shows the proportion of participants in higher education by gender. Investing in higher education and thus in human capital is an essential part of the economy and the continuation of studies will result in GDP growth which is closely related to the HDI indicator.
The goal of *"Gender Equality"* includes three positive factors with a medium correlation coefficient that allows only cautious conclusions to be drawn. Typically, these include indicators that show gender equality, education, inactivity due to caring responsibilities which are predominantly female or the rate of physical and sexual violence. A report by the United Nations Development Program (UNDP) suggests that in addition to the HDI index, four other composite indicators are used to measure development. One of these is the GDI (Gender Development Index), which quantifies inequalities between women and men, similar to the methodology of the HDI index. In all likelihood, an even more significant correlation could be detected with this indicator.
The relationship between the two factors for the sixth objective and the HDI indicator is moderately negative due to their social nature. Similar to GDP, here too, the level of subsidies reduces the value of the indicator.

The indicators that best characterize the given factor are related to energy consumption, such as final energy consumption (07_11) and final energy consumption of households (07_20). The almost close correlation coefficient can be related to the ratio of the indicators to GDP in this case as well, as there is a long-term relationship between energy consumption and GDP which characterizes economic development. To support sustainable development, the EU has reduced its primary and final energy consumption in order to protect its environment.

Two of the factors under the goal of *"Decent Work and Economic Growth"* are characterized by a negative correlation coefficient and one by a positive correlation coefficient. The target is characterized by indicators such as long-term unemployment, young people neither in employment nor in education, the proportion of the population inactive due to caring responsibilities, resource productivity and real GDP per capita. In this case, too, the existence of relationships can be traced back to the relationship between GDP and the HDI indicator. The negative correlation coefficient can be explained by the fact that with the increase in unemployment, both the economy and output will decrease, so GDP will also decrease. This is also explained by Okun's law, which examines the unemployment rate with the growth rate of the economy. In the factor with a positive coefficient, indicators related to GDP are present, so their close relationship can be explained by this.

Factors with medium and close correlation coefficients are close to the topic of research and development. The indicators of the R&D sector are measured as a percentage of GDP, so their relationship with the HDI indicator through GDP is clear. The European Union is characterised by a high level of R&D personnel and an increase in the proportion of people working in the service sectors. The three factors in Goal 10 show a significant positive and negative relationship. With the HDI indicator, the strongest value

is shown by the second factor which includes GDP. The indicators of the first factor show the amount of EU funding provided to developing countries, as well as imports from developing countries. Among the components of GDP, imports are a significant factor in the case of an open economy, as some investment and domestic consumption come from imported goods. The third factor has a negative sign due to its social nature and includes indicators such as the proportion of people living in income poverty (01_20) and the income distribution of the bottom 40% of the population (10_50). This is because subsidies to households have a negative effect on the value of the indicators.

The goal of *"Sustainable Cities and Communities"* includes both positive and negative factors. Exposure to air pollution is a strong burden on society and the economy. Damage can occur in both the short and long term, depending on, for example, the diseases caused by air pollution, the amount of health care associated with it and as a result, the number of working hours left out of an employee's working time. The other negative sign factor shows the rate of overcrowding which also does not have a good effect on society. The positive case contributes to the development of sustainable transport, so the relationship is indirect in terms of sustainability and well-being.

In *Goal 12*, the relationship between the two factors and HDI is through GDP. The first includes resource productivity, energy productivity and the share of renewable energy sources in final energy consumption. Its strength is due to the 12_20 indicator, which is the ratio of resource productivity to GDP's domestic material consumption. Exploitation and sale of renewable energy sources generate revenue. The fourth factor is related to energy, the relationship of which to GDP and thus to HDI has already been demonstrated.

Tackling *Climate change*. Both factors are positive, but the relationship between them is loose and moderate and only cautious

conclusions should be drawn from them. The factor showing a stronger relationship is fully related to the growth of national economies (13_20 greenhouse gas emissions). In the post-World War II period, in order to increase their productivity, countries increasingly destroyed their environment, emitting more and more greenhouse gases.

The data available for the time series for the *"Life below water"* goal are somewhat limited, mostly showing a positive picture in the recent period. The relationship between the indicator that best describes the number of one factor and the HDI index is revealed by a moderate correlation coefficient. The only indicator in the factor is bathing areas with excellent water quality. In my opinion, the relationship between the indicator and HDI can only be handled very carefully. Model-based indicators for sustainability have improved in the North-East Atlantic, but little attention has been paid to data describing the state of other seas (eg the Black Sea) and EU waters (Eurostat, 2018).

Goal 16 of the Agenda 2030 for Sustainable Development is related to peace, justice and strong institutions. It includes the corruption index, the perceived independence of the justice system which are also components of the number of one factor. Examining the relationship between the variables separately, it became apparent that both cases are positively related to HDI, so as HDI increases, corruption begins to decrease. This is also supported by sustainability reports in recent years, in which SDG indicators show that the EU has become safer. The data of the second factor is negative for the social dimension, as the standardized mortality rate shows homicide (16_10).

The two factors of *Goal 17* have a positive, moderate correlation coefficient. The impact of the first indicators has already been presented for Goal 10, so I will not detail them. The second covers official development assistance (ODA) and income from environmental taxes. The stronger relationship is due to the fact

that ODA is expressed as a percentage of GNI and GNI as a percentage of GDP.

5. CONCLUSION

Sustainable development is becoming increasingly important for the European Union through the problem of climate change and the related protection of our environment. Commitment to sustainable development also poses important challenges for economic actors in research, development and innovation. As a result of the processes, the extent to which the European Union has succeeded in integrating the Sustainable Development Goals (EU SDGs) and related indicators into the lives of its citizens cannot be ignored. Is it possible to combine too many variables into one factor and thus make it easier to interpret and monitor sustainable development goals?

From the data set of 2018, I was able to create 66 factors with the help of FA of which 37 showed a significant positive or negative relationship. Compared to the other examined years, in 2014 I established a linear positive or negative relationship at 36 of the 52 factors, in 2015 this ratio was 38/23. In 2016, 35 of the 55 factors have positive and negative significant cases, while data for 2017 show a ratio of 36/26. Based on these, it can be stated that every year there are several factors with an evaluable relationship - HDI pairs, so statistically significant results could be generated. In the case of a negative correlation coefficient, the relationship between the indicators of the factor and the HDI index becomes opposite, so if the value of the Human Development Index decreases, the value of the indicators of the factor increases. Factors characterized by a positive correlation coefficient are generally related to the HDI index for two reasons.

First, the sub-areas in the Human Development Index, such as life expectancy at birth or education. Second, the relationships can in many cases be traced back to the significant fact that the indicators

included in the factors depend in some way on the Gross Domestic Product, GDP. This relationship may arise from the fact that the indicator is expressed as a percentage of GDP or is simply an integral part of GDP in the sub-area, such as the value of imports in an open economy. My research question was answered, so there is a correlation between the factors developed from sustainable development indicators and the HDI index, but unfortunately this proved to be significant only in some cases. It became apparent that the relationship proved to be crucial only for some factors. Based on these, I formulated my thesis, according to which: *There is a statistically significant correlation (r = -0.9 – -0.38 and r = 0.39 – 0.87) between the HDI indicator showing human development and the factors developed from the 17 sustainable development goals. The relationship between the factors is mainly determined by the relationships among employment, social indicators, agricultural R&D, education and R&D investment factors.*

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SIPOSNÉ NÁNDORI ESZTER – ZSIDÓ KINGA EMESE:
REGIONAL DIFFERENCES IN THE LABOR MARKET EFFECTS OF COVID-19 PANDEMIC IN HUNGARY AND IN ROMANIA

[1] Institute of World and Regional Economics, Faculty of Economics, University of Miskolc, Miskolc, e-mail: stsne@uni-miskolc.hu
[2] Department of ED1 – Economy and Law, Faculty of Economics and Law, University of Medicine, Pharmacy, Science and Technology of Targu Mures, Targu Mures, e-mail: kinga.zsido@umfst.ro

Abstract: The COVID-19 pandemic and the related economic and social downturn has had a significant effect on the labor market. Employment has fallen, the number of registered job-seekers has increased compared to the pre-crisis level. Our research aims at revealing how regions at different development level have been affected by labor market problems. We use NUTS 3 level data and Pearson correlation to examine regional differences in Hungary and in Romania. We can conclude that in both examined countries, as a result of the pandemic, unemployment rate has increased to a greater extent in the counties where unemployment rate used to be lower. In the counties where unemployment rate used to be higher before the pandemic, the increase was not higher than on average.

Keywords: labor market disadvantages, unemployment, employment, crisis

1. INTRODUCTION

It is clear that the COVID-19 pandemic and the related economic and social downturn has had a significant effect on the labor market. Employment has fallen, the number of registered job-seekers has increased compared to the pre-crisis level. The regional differences in the effect of the pandemic, however, is not clear.
Examining the changes in the spatial structure of unemployment due to the COVID-19 pandemic is important because it provides useful information for the institutions and methods designed to help decrease unemployment.
To begin to understand the problem, a useful first step is to describe the labor market effects of the COVID-19 pandemic in Europe, with special regard to the case of the two examined countries. After stating the hypothesis and the methodology of the research, the main findings and the discussion is described.

2. LABOR MARKET EFFECTS OF COVID-19 IN EUROPE

The COVID-19 pandemic and the related economic and social downturn has had the labor market indicators worsen considerably throughout Europe. Except for Greece, the unemployment rate increased in all member states of the European Union from the end of 2019 to the third quarter of 2020. The increase was highest (more than 90%) in Estonia, and it was 10-30% in most of the countries. Hungary and Romania had an approximately similar pre-2020 unemployment rate and the increase was about 30% in both countries (refer to Figure 1).
The similar position of the two examined countries is highlighted in their employment rates as well (Figure 2). Even if their pre-2020 rates were slightly different (with the higher value belonging to Hungary), the crisis affected both countries to the same extent and

resulted in only a minimal change in the employment rate until the third quarter of 2020.

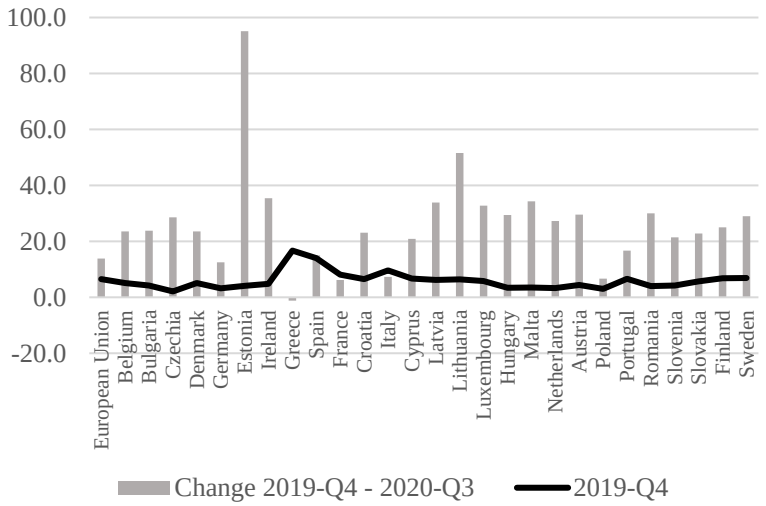


Figure 1: Unemployment rate and its change in the member states of the European Union, 2019 Q4 and 2020 Q3
Source: own compilation based on Eurostat data

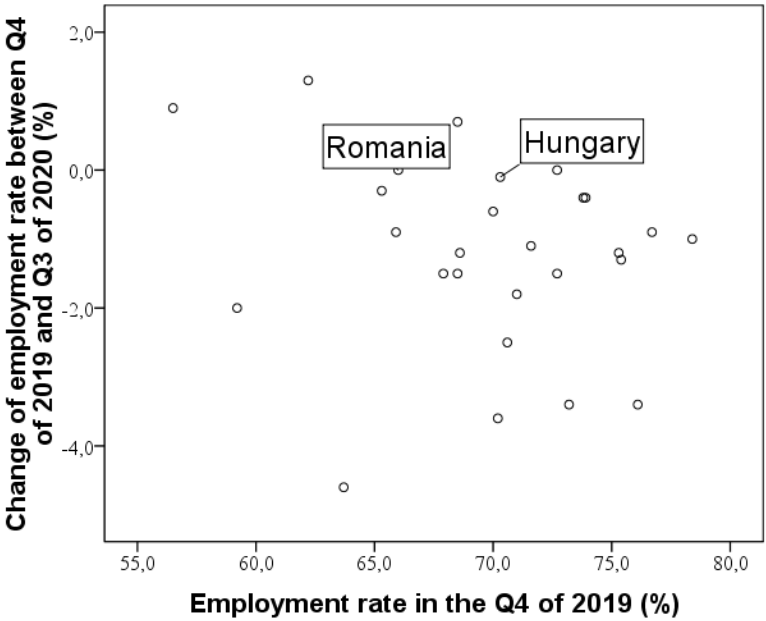


Figure 2: Pre-crisis employment rate and its change in Hungary and in Romania in the European context, 2019 Q4 – 2020 Q3
Source: own compilation

3. MEASURES TO CONTROL THE PANDEMIC IN HUNGARY AND IN ROMANIA

Governments try to assess the effects of the pandemic and make the best possible decision, but as elasticity of the already imperfect labor market is relatively limited, the workforce is not homogeneous and only partially transparent, and state intervention is inflexible, the government can only react to the changes with delay. (Dabasi Halász 2011)

The measures to control the pandemic in Hungary (like the stay at home order, restricted domestic and international mobility and

closing the schools and public institutions) had many effects on the supply side: many factories shut down and the production fell back, and there was interruption in providing services. The supply effects have been connected with demand effects like the shock in tourism, the increase of household consumption or the shock in investments. These demand effects have gone together with labor market impacts like actions of the employers to counterbalance the negative effects of the pandemic (like lay-offs or the decrease of the working hours), the fall in the number of the employed and the rise in the number of job-seekers, unemployed and inactive persons and an increased risk of poverty of the vulnerable groups (like long term unemployed, graduates, unskilled individuals or people living in backward areas) (Lajó 2020).

The Government of Romania has introduced a very effective, rapid and direct series of measures to support the employees most economically affected by the pandemic and to help employers by introducing the so-called technical unemployment (Emergency Regulation No 32/2020 and 120/2020). It provided an opportunity for employees of economic units (like restaurants, nightclubs or tourist units) closed due to austerity measures to receive technical unemployment assistance, the financing of which was provided by the state. At the same time, companies with significant revenue losses could also claim this unemployment benefit for their employees. As a result, businesses were relieved of the burden of paying wage costs by the state and the termination of employee contracts was also eliminated. The aim of the measures is clearly to avoid possible redundancies and to reduce business losses. Of course, this placed a heavy burden on the budget, resulting in a significant budget deficit (projections show a budget deficit of around 7.2 to 7.5% in 2021).

In Romania, in April 2020, more than one million employee received technical unemployment benefits (75% of gross basic salary, but not more than 75% of average gross earnings), which

decreased to about 100.000 people by July 2020 (Figure 3). The most affected economic activities are manufacturing, hospitality (hotels, restaurants) and trade, car repair.

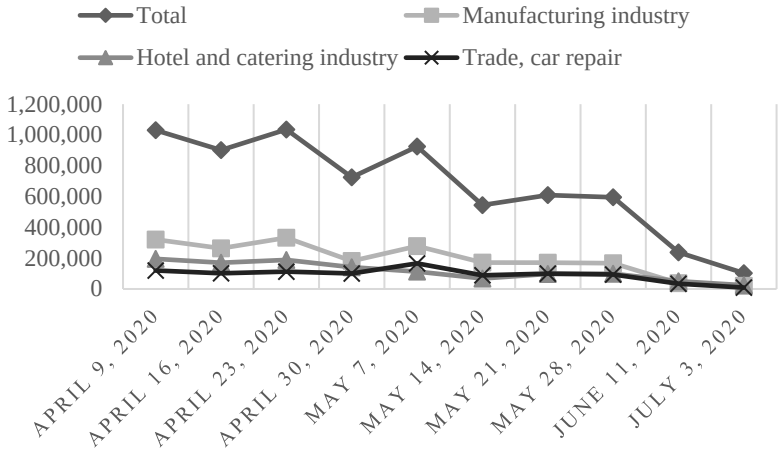


Figure 3: Number of employees receiving technical unemployment assistance in Romania in April-July 2020
Source: own compilation based on data from the Romanian Ministry of Labor (http://mmuncii.ro/j33/index.php/ro/)

The level of the large number of technical unemployment benefits registered during April 2020 (75% of the basic salary) had a negative effect on the level of average earnings: the national average earnings in March 2020 decreased by 2,854 lei to 2,774 lei in April 2020 (a decrease of about 3%), which showed an improvement (2,813 lei) in the following month (May). However, the number of terminated employment contracts increased from 205,318 (April 2020) to 429,585 (28 May 2020), according to data from the Ministry of Labor (http://mmuncii.ro/j33/index.php/ro /). Most of the terminated employment contracts were in the

manufacturing industry, trade, vehicle repair and construction sectors.

The central measure (technical unemployment benefit) described and presented above was welcomed both by employers and employees, but one has to take into consideration the fact that this measure could only help workers with a formal employment contract. It is also a well-known fact that in Romania a fairly large part of the population does not have an employment contract, nor is registered in the official register, so these persons did not receive any subsidies to offset the effects of the pandemic.

In addition to the general characteristics of worker turnover, the Romanian labor market has a number of specific characteristics due to the composition and level of development of the economy, at least two of which are worth analyzing in terms of measures to counteract the negative effects of COVID-19:

- A significant proportion of non-income-generating activities (domestic workers)
- The large number of workers without an employment contract who could not take advantage of the technical unemployment benefit (because they did not have a formal employment contract) (Chivu and Georgescu, 2020).

These two categories of the population (domestic workers and those without employment contracts) are the most vulnerable in society and the most affected by the effects of the pandemic.

Chivu and Georgescu (2020), comparing several studies and analyzing statistical data published by different institutions, concluded that in Romania in 2018 about 1,429,000 workers did not have a formal employment contract (22% of total workers), therefore these labor market participants could not take advantage of technical unemployment benefits and most likely did not receive any other income (this category includes the majority of people working at different families - cleaning, babysitting - who could not

even get to the "employer" due to the curfew; those working in seasonal activities - tourism, exhibitions, fairs, etc.).

4. HYPOTHESIS, MATERIAL AND METHODS

Due to the global economic crisis of 2008, unemployment increased to a greater extent in regions and counties where unemployment rate had been lower, while in regions where unemployment had been higher, the rate of increase did not exceed the average. (Központi Statisztikai Hivatal 2010) In the bulk of the disadvantaged areas, economic recession did not create a huge labor market shock (Molnár 2010).

Even if the current crisis is different from the one of 2008, we hypothesize that the negative labor market effects of the COVID-19 pandemic are more severe in the more developed countries where average income level was higher and unemployment rate was lower before the pandemic.

To test the hypothesis, we use county (NUTS3) level average income level and unemployment rate data about Hungary and Romania. The hypothesis is tested with Pearson correlation analysis using the SPSS program. Quarterly data from 2020 are compared to the respective 2019 data and the changes are calculated.

5. RESULTS AND DISCUSSION

Pearson correlations between the pre-pandemic unemployment rate and the change in the unemployment rate in the respective quarter highlight that except for the first quarter, pre-2020 unemployment rate was inversely related to the change in unemployment rate in both countries. In most of the cases the correlation is significant at the 1% level (Table 1). It implies that the unemployment rate increased to a higher extent in counties

where the pre-2020 unemployment rate was lower from April to December. This effect is probably caused by the pandemic which started in March 2020 in both countries.
The case is different for the change in the average income level as it does not have any significant correlation with the 2019 unemployment rate (refer to Table 1).

Table 1: Pearson correlation between average income level and changes in unemployment rate

			Change in the unemployment rate, 2019-2020	***Change in the average income level, 2019-2020***
Unemployment rate 2019	Q1	HU	-0,301 (0,197)	-0.148 (0.534)
		RO	-0,137 (0,387)	-0.068 (0.671)
	Q2	HU	-0,674** (0,001)	0.191 (0.420)
		RO	-0,331* (0,032)	0.046 (0.773)
	Q3	HU	-0,792** (0,00)	0.074 (0.756)
		RO	-0,551** (0,000)	0.021 (0.893)
	Q4	HU	-0,567** (0,009)	-
		RO	-0,609** (0,000)	-

* Correlation is significant at the 5% level.
** Correlation is significant at the 1% level.
- Data are not available for Q4 of 2020.
Source: own compilation

When correlation is examined between the pre-2020 average income level and the change of unemployment rate, there are differences between the two examined countries (Table 2).

Table 2: Pearson correlation between average income level and changes in unemployment rate

			Change in the unemployment rate, 2019-2020	***Change in the average income level, 2019-2020***	***Change in the unemployment rate, 2019-2020, excluded Budapest***
Average income level 120	Q1	HU	0.300 (0.199)	-0.039 (0.871)	-0.765** (0.000)
		RO	-0.105 (0.507)	0.253 (0.106)	n.a.
	Q2	HU	0.542* (0.014)	-0.32 (0.168)	-0.759** (0.000)
		RO	-0.037 (0.814)	0.045 (0.779)	n.a.
	Q3	HU	0.833** (0.000)	-0.173 (0.465)	-0.748** (0.000)
		RO	0.074 (0.640)	-0.070 (0.659)	n.a.
	Q4	HU	0.817** (0.000)	-	-0.735** (0.000)
		RO	0.142 (0.370)	-	n.a.

19-Q4					

* Correlation is significant at the 5% level.
** Correlation is significant at the 1% level.
- Data are not available for Q4 of 2020.
Source: own compilation

In Hungary, Pearson correlations show significant direct relationship from the second quarter of 2020. It implies that the unemployment rate increased to a significantly higher extent in counties with lower average income. No such significant differences were detected in Romania.
Correlations between the initial average income level and the change in the average income level were significant in neither of the examined countries.

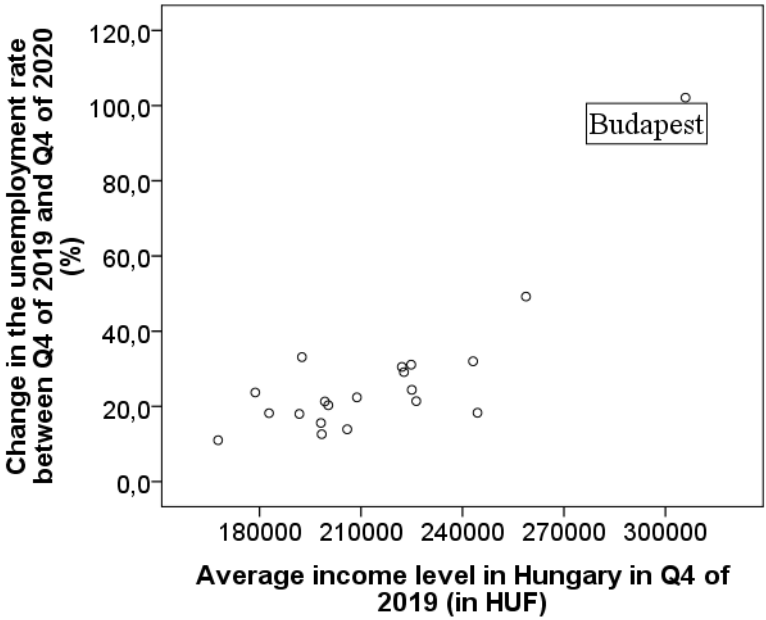


Figure 4: Relationship between the average income level in the Q4 of 2019 and the change in the

Source: own compilation based on data of the Hungarian Central Statistical Office

To find out the reason for the difference between the two examined countries in the relationship between initial development level and unemployment rate changes, we created the scatter diagram for Hungarian counties (Figure 4) which highlights the existence of an outlier (Budapest). The exclusion of Budapest modifies the correlation values considerably (refer to the last column of Table 2) resulting in a significant inverse relationship between average income level and the change of unemployment rate. Excluding Budapest, the trends are similar to the results in Table 1.

6. CONCLUSION

Due to the COVID-19 pandemic, unemployment rate increased to a greater extent in the counties where unemployment rate used to be lower in both examined countries. In the counties where unemployment rate used to be high before the pandemic, the increase was not higher than on average.
In Hungary, there is an inverse relationship between the change of unemployment rate and the initial average income level. Labor market problems became more serious in previously more developed regions. In more backward regions, however, the rate of unemployment increased to a smaller extent. In Romania, there is no significant relationship between the average income level and the unemployment rate.

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UWE RADTKE –DOREEN KAEM: RELATION BETWEEN DISTRICT HEATING SYSTEM OF KAPOSVÁR AND SUSTAINABILITY

[1] Doctoral school: Management Organizational Science, Hungarian University of Agriculture and Life Sciences (MATE) Kaposvár Campus, Uwe Radtke, e-mail: Radtke.uwe@phd.uni-mate.hu
[2] Doctoral school: Management Organizational Science, Kaposvár Campus, Hungarian University of Agriculture and Life Sciences (MATE), Doreen Kaempf, e-mail: kaempf.doreen@phd.uni-szie.hu

Abstract
Sustainability is a "wicked" subject – which most people automatically relate to energy. But it's more. Locally – here specially for the area of district heating – it has many relationships within several areas. The article will try to shed some light how the 17 SDGs are related to a local district heating company, the local sugar factory, public transportation and the local grid. To use wood chips for a district heating system seems very common but using a waste product such as methane gas (or something close to it) and converting it into better Compressed Natural Gas (CNG) instead of creating only energy out of it, is a local novum. Sustainable urbanization – mainly heating in this article - is a term – the wickedness comes with implementation. While agriculture and urbanization fight for the same resource as the woodchip powered heating source – the forestation.

Keywords
energy | district heating | sustainability | smart meter infrastructure | 17 SDGs

1. INTRODUCTION

Energy, especially renewable energy is often seen as a synonym for sustainability. When asking average people, if (renewable) energy is related to sustainability, most probably a high percentage would say "Yes" (Gill Owen and Judith Ward). To help and support cities which plan for sustainability, companies and organizations have created a wide variety of networks and benchmark systems that collect, measure and rank sustainability in order to help cities to develop and apply practical strategies, tools and methodologies or provide a venue to share best practices and lessons learned around sustainability. One of these are Smart Meters – but that is not the only relation between district heating and sustainability, but most probably the most obvious one. According to the 17 SDGs defined by the United Nations, the subject of sustainability shows more than the obvious relations. "It's a wicked subject" (Prof. Dr. Sándor Kerekes Febr. 2020). The smart meter enables energy savings and integration of renewable energy resources and is a component on its own. If we, as a society, decide and act, the smart meter can become a sustainable, circular product that can help to build an integral and sustainable solution for the end consumer and the utility.

In addition, however, local conditions and the requirements and support from the European Union play a role that should not be underestimated. In its Autumn 2019 forecast for the global economy, the International Monetary Fund maintains its approach of classifying Poland and Hungary as emerging markets. Following approval by the European Parliament, Hungary will receive around 20.5 billion euros from the EU's structural funds in the funding period 2014 to 2020 (IHK Aachen 2020). It is precisely these funds that have a considerable local impact, which in turn contributes to the issue of sustainability. This influence is described in the present essay and attempts to calculate or prove initial effects.

2. DEFINITIONS AND REFERENCES

2.1 Sustainability

A brief explanation of the original meaning and definition of sustainability can be found on the Wikipedia (Wikipedia 2020): "Sustainability is the ability to exist constantly. In the 21st century, it refers generally to the capacity for the biosphere and human civilization to coexist. It is also defined as the process of people maintaining change in a homeostasis balanced environment, in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations."

According to the United Nations Millennium Declaration sustainable development consists of three domains: economics, environment, and social sustainability. This definition is also used by the World Commission on Environment and Development reports on the eight Millennium Development Goals and later on the 17 Sustainable Development Goals (SDGs). More recently cultural sustainability was added to the Circles of Sustainability. James Paul specified culture as the fourth domain of sustainable development.

There are other definitions as well – Lucas Seghezzo (Seghezzo 2009) for example refers to five dimensions of sustainability: "Sustainability could be better understood in terms of 'Place', 'Permanence', and 'Persons'. Place contains the three dimensions of space, Permanence is the fourth dimension of time, and the Persons category represents a fifth, human dimension.

2.2 District Heating Systems – Urban Energy System of Kaposvár

Challenged by climate change and coupled with the need to secure sustainable economic growth and social cohesion, Europe must achieve a genuine energy revolution to reverse present-day unsustainable trends and live up to the ambitious policy expectations. Toward this direction, district heating (and cooling) systems need to be more efficient, intelligent and cheaper. "Contrary to electricity smart meter data analysis, little research regarding district heat (smart) meter data has been published" (Tureczek et al. 2019).
When it comes to the climate-neutral buildings in inner cities and highly densely populated conurbations, one inevitably ends up with the topic "green district heating." Heat pumps or other CO2-low individual heating solutions are already pushed to their limits. Heating networks, on the other hand, provide further possibilities, for example to use renewable heat and industrial collected waste heat from various sources and transport it to the consumer. But there are additional issues to be solved: Currently, the generation of district heating mainly consists of coal and gas. To integrate climate-friendly heat sources, the district heating network operators face a major challenge. This is because many of these "green sources" are at lower temperature levels and require a lowering of the network temperatures for an economic heat integration. This lowering cannot be done at will. It is limited by the needs of industrial consumers and the state of refurbishment of the building in the grid area. This means that the decarbonization of district heating is largely dependent on the local conditions - and each transformation path of an existing network is a very individual business.

3. RELATION TOWARDS THE 17 SDGS

As sustainability is very broadly defined, the relationship will be more specified towards the 17 Sustainable Development Goals

(SDGs). In September 2015, the General Assembly adopted the 2030 Agenda for Sustainable Development that includes 17 Sustainable Development Goals (SDGs). Building on the principle of "leaving no one behind", the new Agenda emphasizes a holistic approach to achieving sustainable development for all.
While some UN officials see the need "Global problems need global solutions" (UN News 2017), in detail still local problem solving is needed. Global challenges need local answers – which will hopefully be proven within the next chapters.

3.1 SDG 7: Affordable and Clean Energy

While the term "electricity" can be found eight times within the 2019 report "Special edition: progress towards the Sustainable Development Goals" (United Nations: Economic and Social Council 2019), the term "district heating" is not mentioned at all and pure "heating" on in relation with transportation of energy. The SDG 7 defines certain targets by 2030 (United Nations 2020a). Not even the Secretary-General of the United Nations refers to district heating systems as part of urban energy systems and several other authors (for example Bonjour et all 2010) refer to it only as "cooking and heating" – how could that be related? Luckily newer research performed on electricity also starts to include co-generation or even pure district heating systems (for example Pamela Jagger et all 2019). One finding is: "Most existing coal power plant infrastructure could transition at a relatively low cost to burning biomass pellets. Switching from coal to biomass pellets using existing infrastructure alleviates the financial burden of financing new infrastructure projects and has gained significant attention in the USA, Europe and China. Eastern European countries maintain large production and consumption shares of forest bioenergy for district heating and cogeneration. In particular, wood chips overtook natural gas in Lithuania as primary

district heating fuels in 2017" (Pamela Jagger, Robert Bailis, Ahmad Dermawan, Noah Kittner, Ryan McCord 2019)
The Kaposvár district heating company already started several years ago a new 10 MW wood chips-fired boiler. The planned and extrapolated simulation shows the following distribution of sources as soon as the wood chips-fired boiler starts operating:

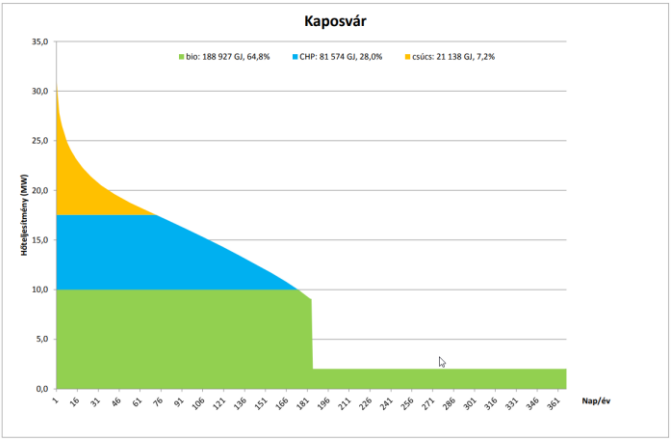


Figure 1: District heating system, Kaposvár
Source: Zoboki Péter 2015, p. 37

Within further planned detailed research, a data-driven approach shall be used to partition district heating users into separate clusters such that users in the same cluster possess similar consumption patterns. Because of the unavailability of high-resolution, hourly or sub-hourly meter data before the installation of smart meters, the literature on energy analytics in district heating is still in its infancy (Calikus et al. 2019).

3.2. SDG 9: Industry, Innovation and Infrastructure

“Build resilient infrastructure, promote inclusive and sustainable industrialization and foster innovation” (United Nations 2020b) – that’s the subtitle on the progress and info report for the Sustainable Development Goal number 9. Within the reports for 2018 and 2019, mainly manufacturing industry is the target and the reported indicator. Within the earlier reports, 2017 and 2016, the indicator 9.1 “Develop quality, reliable, sustainable and resilient infrastructure, including regional and transborder infrastructure, to support economic development and human well-being, with a focus on affordable and equitable access for all” (United Nations 2016) finds also reference. To get the relationship towards the initial research question regarding urban energy systems, some local conditions have to be illustrated.

The Kaposvár district heating company has a local partnership with the sugar factory: the "waste product” methane gas" of the sugar factory is converted into biogas, better Compressed Natural Gas (CNG), and made available to the local infrastructure. The buses of the transport company partly run with Biogas or rather natural CNG, which is provided by the district heating factory. The Biogas produced by the sugar company is mixed with the CNG and both are used combined to generate district heating and electricity - but is obtained from the "waste product" of the sugar factory. Local infrastructure is provided for the benefit of all and also to promote Objective 9 of the SDGs. In a broader sense - because there is a corresponding need due to the multiple use of the CNG, further funding was also provided by the European Union. Investment of HUF 5.627 billion under the project "Completion of 40 Compact Sites for CNG Buses with the Identification Number IKOP-3.2.0-15-2016-00002", co-financed by the European Union and co-financed by the European Regional Development Fund is realized. (“80 SZÁZALÉKOS KÉSZÜLTSÉGBEN A CSERI ÚTI BUSZTELEPHELY” 2020)

3.3. SDG 11: Sustainable Cities and Communities

In 2005, in Kaposvár, the integration of isolated and/or island networks into a single network was completed. A significant step forward was the extension of the network towards the city center, thus supplying heat to 5 public institutions through the district heating network. By 2019, the network was further expanded to include consumers in the southern part of the city, as well as stadium and school consumers connected to the former Gym Hall network. With that the foundation is provided to move into smart consumers and smart grids.
"District heating systems connect energy sources and energy users. District heating can provide affordable energy to consumers by using low-cost energy sources, such as surplus heat and waste." (Gebremedhin 2012) With the expansion of the network, more inhabitants will have access to a sustainable and cost-effective heat supply. This directly correlates with the SDG 11 as shown above.

3.4. SDG 12: Responsible Consumption and Production

Since sustainable consumption and production aims at "doing more and better with less," net welfare gains from economic activities can increase by reducing resource use, degradation and pollution along the whole life cycle, while increasing quality of life (United Nations 2020c). There also needs to be a significant focus on operating on the supply chain, involving everyone from producer to final consumer. This includes educating consumers on sustainable consumption and lifestyles, providing them with adequate information through standards and labels and engaging in sustainable public procurement. With respect to SDG 12, the International Chamber of Commerce argues that smart grids and meters, cloud computing, and reduced energy consumption of Information and communications technology (ICT) have a

positive impact on reducing consumption. (Antonio García Zaballos, Enrique Iglesias, Alejandro Adamowicz) Customers often seek simple, integrated solutions which do not require them to be experts. Companies who can provide simple solutions that truly focus on customer needs by effectively leveraging their expertise across the full energy value chain will have a strong competitive advantage. While the Kaposvár district heating company has already started to use smart meters within the households, research is still needed to get a better understanding of customers for district heating. It will allow the company to determine actual hourly consumption and use forecasts to adjust production according to expected demand. District heating, unlike electricity, does not react immediately, but with a delay of about two hours, so that the forecasting and forecasting tools have to be used differently here. The Termis software is currently being introduced with smart meters, which provides possibilities to lower or rather optimize the grid's temperature. The purpose of temperature optimization is to minimize the total production and distribution costs over a certain period of time in a district heating system by means of reducing the average temperature level in the system. This also allows to meet the demand at peak periods in a more economical way while also securing defined minimum supply temperatures.

4. REGIONAL DISPARITIES AND TERRITORIAL PROBLEMS – "A WICKED PROBLEM"

In chapter 3.1 the sustainable resource or method "Wood chips" for providing energy was mentioned. When analyzing the land use of a settlement regarding the limiting factors (Rosa et al. 1992; Niles, Lubell, and Brown 2015) some more thinking by policy makers will be required. Within the analysis the land use was evaluated between the three possible (main) usages: use as agricultural area, use as forested area or used for urbanization.

The Bivariate Moran's I statistic provides an indication of the degree of linear association between one variable, xx, and a different variable in neighboring regions $\sum_j y_j w_{ij}$ (but not in the same region). (Anselin 1995):

(1) $$I_t = \frac{R \sum_{i=1}^{R} \sum_{j=1}^{R} x_i y_j w_{ij}}{R_b \sum_{i=1}^{R} x_i^2}$$

Where R is the number of regions in the dataset, R_b is the sum of the weights which simplifies to R if the spatial weight matrix is row-standardized; x_i is the first variable and is measured as deviation from the mean; y_j is the second variable and is also measured as deviation from the mean. The location variable for the area's proximity is given by w_{ij}, which is the element from the corresponding spatial weight matrix. Within the following calculations the weight Queen contiguity is used with the value 1 (direct neighbors).

4.1. Relation between settlements with agricultural usage, urbanization, or forestation

The human-earth relationship is one of the most important aspects of geographic research, so the land use study should focus on the interactions caused by the human-earth relationship. The methodology of Moran's I and autocorrelation was used to demonstrate the problem, it proves a negative, moderately strong relationship between agricultural and forested areas:

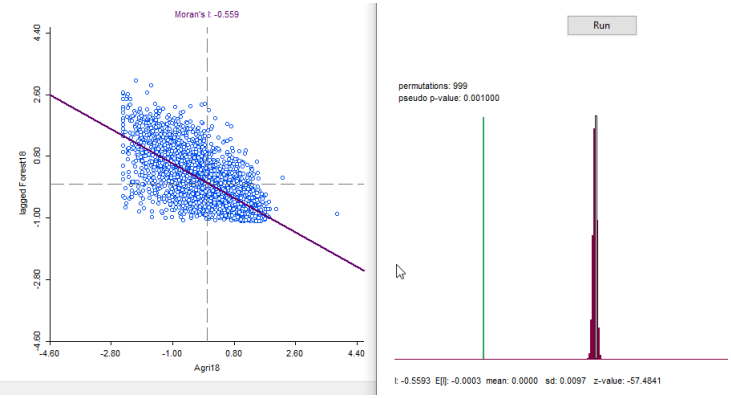


Figure 2: Relation between the agricultural areas and the forestation in 2018
Source: own representation from data of GeoDa software

With 999 permutations the analysis shows a statistical significance (p value is 0.001).
Some similar results are found for the relationship between urbanized and forested areas. It's a weak negative, relationship – but as before still statistically significant:

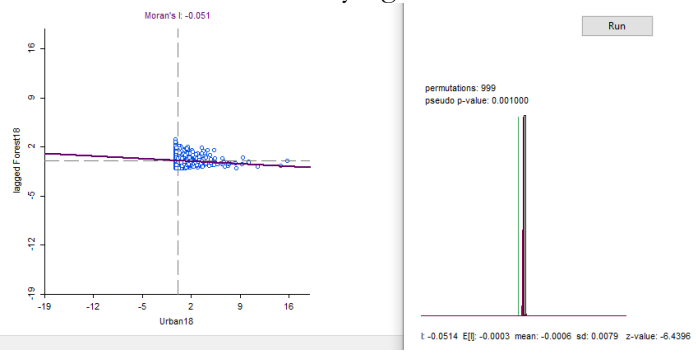


Figure 3: Relation between urbanization and forestation in 2018
Source: own representation from data of GeoDa software

The last correlation was analyzed and provided a very similar result as before with a value of -0.102 for Moran's I it's also observed - a

negative weak negative relation between the urbanized settlement and the settlement with agricultural usage. All three values were analyzed for the same year: 2018.

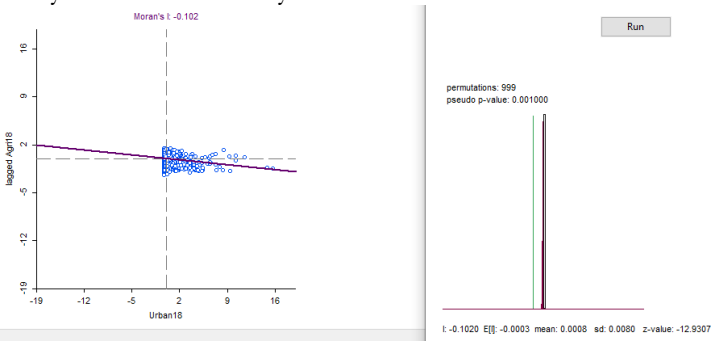


Figure 4: Relation between urbanization and agricultural usage in 2018
Source: own representation from data of GeoDa software

Although there is a negative relationship between urbanization and agricultural usage and urbanization and forestall usage, it's relatively weak. More important and significant is the negative relationship between agricultural usage and forestation. For policy makers the conclusion could be to approach different technologies for heating of an urbanized area if it's surrounded mainly by agricultural used settlements. Which sustainable technology has to be used or even recommended has to be part of a separate research.

4.2. Relation between settlements with agricultural usage and forestation of time

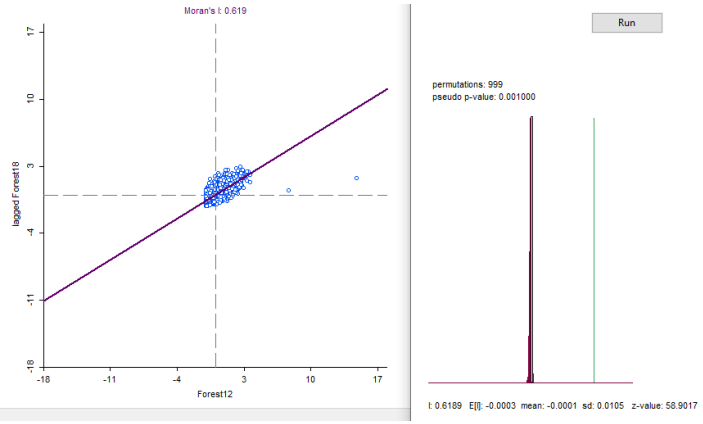


Figure 5: Relation between forestation in 2012 and 2018
Source: own representation from data of GeoDa software

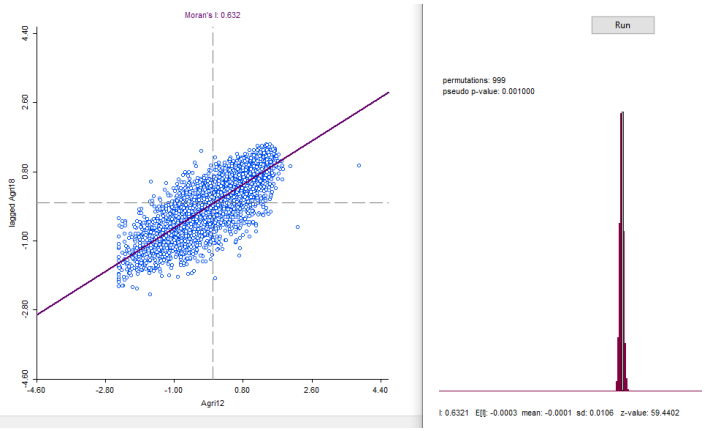


Figure 6: Relation between agricultural settlements in 2012 and 2018
Source: own representation from data of GeoDa software

Between the years 2012 and 2018 a strong relationship between the usages is given. It's a moderate strong positive relationship. If a region was neighbored in 2012 by a highly forestall usage, there is strong evidence the same usage is still present in 2018. That

also holds true for agricultural usage – although there are projects for renaturation (Environment 2021), that had almost no effect in Hungary in 2018.

4.3. LISA cluster map for visualization

The following LISA cluster map will be used for visualization purpose to provide visual feedback for any reader or policy maker regarding the correlation effect and land use.

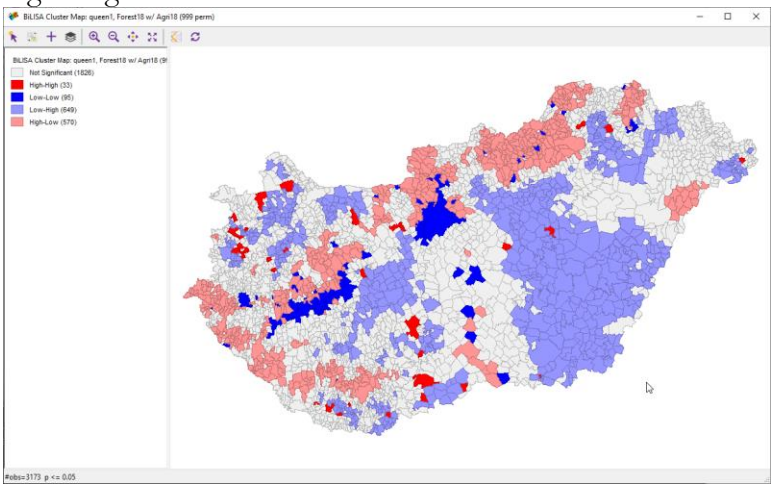


Figure 7: Lisa cluster map 2018 land use
Source: own representation from data of GeoDa software

Although there are a few spots demonstration a low usage of forested areas neighbored by an also low usage of agricultural usage, the more important and larger areas are found with the following relation:
High – Low = areas with a high forestation as neighbored by areas with low agricultural settlements
Low – High = areas with a low forestation are surrounded by settlements with high agricultural settlements

The very low number of High agricultural and High forestall usage is 33 total counts not very significant. The majority of the settlements are found with no significant relationship. But still the large areas for agricultural usage indicate the need for alternative technical solutions for heating and sustainable energy creation.

5. SUMMARY AND CONCLUSION

The use of fossil fuels has accelerated economic development. However, the consequences of this have led to serious environmental problems and calls to de-carbonize future energy use to mitigate climate change. The United Nations 17 Sustainable Development Goals set out targets for a range of targets to be achieved by 2030 to ensure peace and prosperity for people and the planet. Energy plays a critical role, the relation between energy and the 17 SDGs is broad.

To evaluate every aspect and every relation would go beyond the limitations of a single study. Therefore, some were picked and elaborated to show that even a rather minor and simple subject such as heating has a significant influence and impact of the 17 SDGs.

The aim to focus on local needs and take a scientific, methodological approach to local problem-solving was performed especially for the city of Kaposvár. With the used method of autocorrelation regarding the land use it demonstrated the technology of wood chips as valid and probably also future proof. While the dual strategy to work jointly together with the sugar factory ensures even better future proof thinking. The district heating system of Kaposvár could be explored and used as an example to perform an economic and (customer) service research for further sustainability goals and involvement of the population. With the analyses and the results, the heating plant has access to more information and could easier explore strategic suggestions.

This can indirectly contribute to the efficiency of district heating, the reduction of environmental load and higher consumer satisfaction.

LIST OF FIGURES

Figure 1: District heating system, Kaposvár
Figure 2: Relation between the agricultural areas and the forestation in 2018
Figure 3: Relation between urbanization and forestation in 2018
Figure 4: Relation between urbanization and agricultural usage in 2018
Figure 5: Relation between forestation in 2012 and 2018
Figure 6: Relation between agricultural settlements in 2012 and 2018
Figure 7: Lisa cluster map 2018 land use

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FIRAS ZEIDAN–RAMONA AL DANAF–BERKE SZILÁRD –SALMAN SHAYYA*: RESILIENT FAMILY BUSINESS PERFORMANCE THROUGH THE COVID-19 HEALTH CRISIS: A SHORT COMMUNICATION

[1]PhD student, Szent István University Campus Kaposvár, Doctoral School of Management and Organizational Sciences, Hungary, firasnzeidan@gmail.com, First author, aldanaf.ramona@gmail.com
[2]Associate Professor at Szent István University Campus Kaposvár, Management and Marketing Institute, Hungary, berke.szilard@szie.hu
[3]Instructor and postdoctoral researcher, Lebanese University Faculty of Sciences and American University of Science and Technology, Lebanon, salmanmshayya@gmail.co,
*Corresponding author

Abstract
Family businesses are inherently resilient. Whatever the challenges posed by economic transformations in the world, this kind of companies stays with people who are able to achieve commercial and economic success. The resilience is DNA – underpinned by inherited values and perseverance, long-term horizon, responsive decision-making, patient capital, and a profound assurance to the workforce and populations. In fact, Lebanon was experiencing political, economic and social crises prior to COVID-19. Tax measures being introduced in response to COVID-19 might be considered together with their effect on tax position and liquidity. Also, the ability to translate changes into initiatives or strategies is among the factors that evaluate the family business mode of action and response to crisis. In Lebanon, the phoenix, family businesses will nourish when the economic and health situations improve.

This will need strong unity of the family which in turn should build more trust and confidence especially with their employees and customers.

Key words: Family business; Resilience; Attributes; performance; COVID-19; Crisis

1. INTRODUCTION

Family members are great actors that play financial and non-financial roles adopted by family firms to achieve family business succession through generation and to have good reputation (Mckenny et al. 2012). Their businesses develop from one generation to another (Miroshnychenko et al. 2020). Performance, accounting and financial measures differ from one economy to another, from time to time and from one place to the other (Mckenny et al., 2012). This means they may also change through different generations (Mckenny et al., 2012). As for the simplicity of establishing a family business, these companies will not disappear or stop establishing new ones in different parts of the world (Duh 2012).

Whatever the challenges posed by economic transformations in the world, these kinds of companies stay with people who are able to achieve commercial and economic success attributed to them, and move to their children or grandchildren to inherit (Hashash 2011; Hakim 2014; Qasar 2017). Family businesses in Lebanon constitute 85% of the private sector (Fahed-Sreih 2006). They account for 1.05 million of 1.24 million jobs (Fahed-Sreih 2006). Following the civil war, the only intact institution which is able to sustain entrepreneurial activities in Lebanon is the family unit (Fahed-Sreih and Pistrui 2012). In crisis times, family businesses use their family history, convention and concern for their survival instead of focusing only on growth (De Massis and Rondi 2020).

Currently, we are living in a COVID-19 global pandemic with no modern-day precedent and its consequences are activating challenges at different levels especially at the economic one (De Massis and Rondi 2020). These consequences are possibly influencing any business and have a significant effect on family ones (De Massis and Rondi 2020). In Lebanon, more than 2,200 companies and establishments closed their doors during the year 2019, at the same time; the Ministry of Finance announced that 3,250 establishments and shops had submitted declarations that they would stop operating (Lebanon 24 2020; Al Akhbar News 2019). A report prepared by "Info-Pro" company and published by "Business News", indicated an increase in the number of companies that closed their doors by 20% in the past two months, 12% of all companies stopped working or suspended their operations (Lebanon24 2020). Thus, COVID 19 has led to a group of monetary, economical, commercial, and social crises (Lebanon 24 2020; Al Akhbar News 2019). In addition, Lebanon is currently suffering from the worst financial and economic crisis in its history which is threatening its stability, with a deficit of more than $85 billion (Anadolu Agency 2019). Most of the sectors most affected by the pandemic have suffered before from several economic crises which led to the attenuation of the economic wheel (Al Akhbar News 2019; Lebanon 24 2020). It is noteworthy to mention that family businesses look for continuity as priority rather than growth during the current pandemic (De Massis and Rondi 2020; Erdogan et al. 2020). Very well experienced and long-established family businesses are well prepared on how to behave and respond to the crisis through their concern on family values to arrange their activities (De Massis and Rondi 2020; Erdogan et al. 2020). So, they use their past experience to survive during the crisis (De Massis and Rondi 2020; Erdogan et al. 2020). Thus, they depend on such experience as a fundamental strength for the business (De Massis and Rondi 2020; Erdogan et al. 2020).

Family businesses stay with people who share and contribute their attributes, values and leadership practice for the sake of the family business performance and to the prosperity of the society and to be large entrepreneurship and perform an ideal story of success (Zeidan, 2017). Family business researchers have generally expected the succession of leadership as a planned transmission process from one generation to another (Cabrera-Suárez et al., 2001). During these difficult times we are in need for real leaders who help us to overcome the limitations of our own individual laziness, selfishness, weakness and fear and motivate us to do better and harder things than those that we can perform solely (Wallace 2021). Real leaders are resilient, thus they are able to maintain normal psychological and physiological functioning despite exposure to stress and adversity like those that results from the current pandemic. Scientific research focuses on epigenetic processes that translate environmental stimuli into changes in expression of established and novel candidate genes and play a crucial role in establishing long-lasting changes in brain function related to resilience (Lesch 2012). Thus, in terms of exposure to risks or level of vulnerability economic resilience implies a passive aspect as well as active capacity to react to shocks (Conde and Sanchez-Bella 2018). We aim to identify family attributes and specify how success could be measured based on strategies, traits, embeddedness, sustainability and reputation. We clarify the family business performance during COVID-19 and we also mentioned the taxes measures considered during the current pandemic. Also, the importance of leadership in overcoming the crisis was discussed. Most importantly we relate the leadership skill resilience to interactive gene-environment-time (GET) framework.

2. FAMILY ATTRIBUTES

Family attributes are structures, interactions, and events within a family (Galvin et al., 2012). It is important to analyse their effect on family business behaviors and outcomes (Galvin et al., 2012). COVID-19 restrictions on a social level have introduced new work behavior, driving family business leaders in an organization to guarantee work social distances and online interactions (Gómez-Mejía et al., 2007).

2.1 Family structure

Family structure represents a group of people who share values and interact with each other through traditions including the entire family and the extended one (Galvin et al. 2012). The interaction between family individuals affects the opportunity recognition, resource mobilization, and new start-up activities (Aldrich and Cliff, 2003). The traditional family structure is the most common one among the world and it is composed of most individuals aged 18 years old and younger who live with their parents (Blackwell, 2010). Since 2007, United States alternative family firms witnessed a new kind of family structure like single mother for example (Silverstein and Bengtson 1997; Vespa et al. 2013). This sheds light on the importance of understanding the relationships between family members (Silverstein and Bengtson 1997; Vespa et al. 2013). The more the family is bonded, the more it faces challenges like those of the current unprecedented global health crisis, and the more it becomes successful (Silverstein and Bengtson 1997; Vespa et al. 2013). However, the family instability leads to less investments of the next generation (Galbraith, 2003). Thus, the family business performance will deteriorate because of conflicts or divorce (Silverstein and Bengtson 1997; Vespa et al. 2013). Single parent is better to have a more flexible and more successful family firm especially when dealing with benefits and the costs

beyond (Silverstein and Bengtson 1997; Vespa et al. 2013). Lebanon is characterized by a unique family structure and culture (Zeidan and Berke, 2019). Lebanese culture is rich by its Christian and Islamic religions (World Facts, 2005). The latter has been affected by different cultures like Phoenicians, Greek, and Assyrians. family size plays an essential role in family firms' behavior (World Facts 2005). Lebanese economy focuses on paper, wood, and textile, tobacco, service, manufacturing, agriculture, wholesale and retail (World Facts 2005).

2.2 Family functions

In the 20th century families care was mainly for education, childcare or elders, employment (Klein 2010). Nowadays values have changed and people are becoming less careful of their elderly members and they just care for their status and employment as family firms which provide different family functions (Danes et al. 2008). To support the organizational resilience of a family run business, the core values remain intact by yielding both stability and direction during times of high uncertainty and volatility (Rahab 2020).

2.3 Family interactions

The type of interaction is very useful for family member relationships and for family business performance and outcomes (Davis 1983; Hollander and Elman 1988). Families has a system like regime, they interact with each other and with their environment (Danes et al. 2008). Healthy family interactions and behaviors is good for the business and its success through generations (Danes et al. 2008). High conversation, communications and conformity leads to higher self esteem inside a family and helps the family firm to be successful (Huang 1999). In contrast low conversation and low conformity leads to failures and conflicts (Danes et al. 2008). In addition, providing jobs

opportunities and employment gives the family firms a competitive advantage among others (Huang 1999). Moreover, adequate decision making and commitments are competitive advantages (Huang, 1999). In addition, the experience and education are very important for the family firms (Huang et al. 1999). Employees who have good educational background are good credits for the family firm especially in leading the business, performing well and achieving more income (Huang, 1999). The latter is a measuring tool for the interaction between family business members, taking into account feelings, association, consensus, function, norms, and geographic structure (Bengtson and Roberts 1991; Silverstein and Bengtson 1997).

3. MEASURING FAMILY FIRMS' SUCCESS

3.1 Traits, Strategies and Policies

The ability of the same family to master *leadership* over time and to manage the family business is an indicator of success of a firm (Colli, 2012). Also we have to consider the longevity which is the transmission of ownership and control through family firms structure and through generations (Colli, 2012). In addition, *survival* is in the transformation in the role of family members who became unable to perform well the family business (Colli, 2012). This successful transformation is a good measure of performance, so, this is linked to the selection of the qualified manager and leadership member of the same family (Colli, 2012). Moreover, *authority, experience, years in business,* and the *culture* of family can influence their business performance (Astrachan et al. 2002; Atrachan et al. 2005). Through these factors, we will guide how family members affect family business performance for future research and we can define the management practice behind this performance. Through *power,* we can notice the influence of the

responsibility held by a family member (Astrachan et al. 2002; Atrachan et al. 2005). This power is given by family *ownership* where family firms are owned, managed and supervised by one or more family members (Astrachan et al. 2002; Atrachan et al. 2005). Their management position especially in the board will affect the firm's performance through his/her active position inside the firm (Fahlenbrach, 2006; Villalonga, Amit, 2006), and through the successful transmission of the ownership between generations (Fahlenbrach, 2006). *Transparency* in distributing money, wages, and shares over family members will increase the level of firm performance (Fahlenbrach 2006; Villalonga and Amit, 2006). *Reducing the cost of debt* will increase performance in the long run (Fahlenbrach 2006; Villalonga and Amit, 2006). Dealing with *non-financial aspects* of firm ownership will reduce conflicts, and increase social performance (Fahlenbrach 2006; Villalonga and Amit 2006). *Commitment* to family issues will affect economic value, and the emotional value of family business owners (Westhead and Cowling 1997). This highlights the focus on financial performance through increasing profits, revenues, equity, etc... (Westhead and Cowling, 1997). Sharma's (2004), relates the development of financial performance to the family relationships performance of family management and supervision. *Experience* refers to the years in business that the family is in business and in which generation they are (Sharma, 2004). The *knowledge*, the experience inside family business members plays a great role in influencing their firm performance (Atrachan et al. 2005). Experience over generations allows owners to avoid conflicts between family members, while choosing the successor, and consequently to reduce failure risks (Atrachan et al. 2005). Carlock and Ward (2001) talk about the different level of commitments of the family members to family norms, values, and traditions. Steier (2001), see that trust is an important advantage of family relationships that can influence performance through a high level of commitment and cooperation.

3.2 Embeddedness

Embeddedness represents the local community that the family firm members belong to, live, get educated in and achieve their experience (Niehm et al. 2008). It is related to Corporate Social Performance (CSP) (Niehm et al. 2008). Family firms create values and benefits from the society where they live and work (Niehm et al. 2008). They also create a survival way for continuity of the business and for the family members to flourish in the community (Niehm et al. 2008). These are good measures for the survival and performance of the family leaders which inturn has an added value for the reputation of their company, of their own business in a way that the components of the corporate social responsibility (CSR) and corporate social performance (CSP) share a non financial performance, and social responsibility for the entrepreneurial families (Niehm et al. 2008). CSR contributes to the ethical, economic, environmental and legal issues of a society (Niehm et al. 2008). While CSP focuses on the set of the impacts, effects, and outcomes in the society (Niehm et al. 2008). Unity and cohesion play an important role in the supporting embeddedness (Niehm et al. 2008). As much as the family members are united as much as we have a positive impact on their company, local community and on workers who live and work with the owners of the family firm (Niehm et al. 2008).

3.3 Reputation

Embeddedness deals with the reputation in many ways (Niehm, Swinney, & Miller, 2008). It shows the relationship between family identity and performance and it deals with its profitability and growth (Niehm et al. 2008). Good reputation gives value for the family and for the business they perform (Niehm et al. 2008). Family leaders put their efforts to keep the reputation of their

family business (Niehm et al. 2008). This fact reflects an image of the quality of the family (Niehm et al. 2008). Reputation is a capital for the family firm (Niehm et al. 2008). So, it is a component of social capital (Niehm et al. 2008). It also preserves the survival of the family business and enhances the ability to access the market with a well known brand name for the family (Niehm et al. 2008). For example you as a buyer will buy a Toyota car or Ford because of its well reputed brand name (Niehm et al. 2008).

3.4 Sustainability

Sustainability is a measure of performance, it is a great challenge for family firms to maintain growth and sustain persistence of their control and ownership through promoting skilled internal people and at the same time recruiting from skilled external people to maintain professionalization (Niehm et al. 2008).

4 FAMILY BUSINESS PERFORMANCE THROUGH HISTORY AND DURING COVID-19

In the last century, family leaders started to rely on performance and its measures (Chandler 1990). First of all, they used financial measures of performance, to measure the relationship inside the family business in terms of ownership, governance and family business structures (Chandler 1990). Anybody who becomes familiar with the use and terms of financial statements can know the lack of data and its uncertainty which differs from one organization to another and also from period to another (Chandler 1990). This lack of primary data was impossible to indicate before the World War II (Chandler 1990). Concerning financial performance business historians still has no homogeneous evidence, it was dispersed and non-systematic (Chandler 1990). Until World War II, some family firms achieved profit, but there

were some problems due to the behavior of some family firms in maintaining a monopolistic position in the market which pushed the family firms to make low income (Chandler 1990). According to Alferd Chandler, measuring performance is more important than measuring profits, incomes and other financial indicators (Chandler 1990). He was concerned about companies which lived for a long run with a consistent growth and the adopting of right policies strategies, and organizational structure by the entrepreneurs (Chandler 1990).This period noticed the process of transmission of the Ownership of family firms between generations and showing the ability, the behaviors of skilled managers and family leader members (Chandler 1990). Good reputation and relationships with clients, and strong family relationships lead to workers' commitment and participation (Chandler 1990). Adequate leadership management helps family leader members to take imperative decisions which inturn influence the business performance and continuity (Oudah et al. 2018). To sustain survival, business success, and to overcome business problems and crisis, the family ought to clarify possession, management and organizational structures at the reasonable time (Lambrecht et al. 2008).

During the current COVID-19 pandemic, there is an increase in the family business challenges, with impressive suggestions on the leadership and management succession level that's more likely to suddenly happen (De Massis and Rondi 2020). Such disturbance may need family members in businesses to look for choices of development and succession such as outside markets (De Massis and Rondi 2020). Involving family members in the family company is expected to guarantee steady and a trusting relationship with outside members, inner ones and employees forming a particular social capital (Arregle et al. 2007). This relationship depends on family involvement and closeness to one another, and usual meetings and an environment of sharing where they can share

success, happiness, and knowledge (Gómez-Mejía et al. 2007). The family gathering is a very important issue to have serious interactions and communications regarding their business and life (Gómez-Mejía et al. 2007). The combination of values, social issues, and emotional bonds through generations is necessary to control the attitudes leading family businesses (Gómez-Mejía et al. 2007).

In addition, COVID-19 restrictions on a social level have introduced new work behavior, driving family business leaders in an organization to guarantee work social distances, online interactions (Gómez-Mejía et al. 2007). Even though working online permits the family businesses to operate during lockdown periods, this social distancing leads to fewer interactions, fewer feelings, and hence diminishing the sense of belonging to the family values and norms (Gómez-Mejía et al. 2007). As the health crisis continues, research studies have expected the non-economic goals of the family to be essential in leading the family business and important for the decision making (De Massis and Rondi 2020). The consequences and impacts of COVID-19 have put impressive suggestions on the physical and enthusiastic prosperity of family and non-family members, to bring pressures to the surface, arouse negative feelings such as sadness, disappointment, and fear, driving to the wavering between different feelings and this influence the decision making (Miroshnychenko et al. 2020).

In several companies, the impacts of the current crisis are driving a strong adaption for digitalization (Kraus et al. 2020). In addition, family businesses show certain characteristics in terms of their behavior and actions during the crisis (Kraus et al. 2020). It has appeared that increasing family proprietorship decreases the probabilities that companies will take after formal crisis management procedures and that the emotional attachment of the family will influence the family business's performance in times of crisis (Kraus et al. 2020). Family businesses sacrifice short-term

performance and shareholder value for long-term continuity to deal with crises (Kraus et al. 2020). Also, family businesses tend to be more responsible to their employees and the environment and align decisions closely with the firm's values and non-economic goals (Kraus et al. 2020).

On the other hand, withdrawal strategies are regularly attributed to a decrease in performance; this can be noticed by the increase in the layoff of employees (Kraus et al. 2020). However, Gregurec et al. (2021) mentioned that knowledge sharing associated with new ways of developing and delivering value through developing technologies has an essential role in progressing the performance of family companies; whether implemented through organizational stages for the sharing of information about the collaboration level of governance or operated through a particular technology. Several small- and medium-sized businesses (SMEs) had to go computerized, which implies they had to switch to virtual operations to enhance internal operations and processes, to maintain competitiveness, efficiency, and business performance (Gregurec et al. 2021).

5. TAX MEASURES IN RESPONSE TO COVID-19

In an aim to support their economies under the COVID-19 pandemic, countries around the world are implementing economic and fiscal policy stimuli, including tax measures to support and sustain their economies under the COVID-19 pandemic (ICC 2020). In addition, governments might consider as part of their immediate response the targeted and temporary tax policy and tax administration measures which have been developed by the Organization for Economic Cooperation and Development (OECD) together with the compilation of all tax measures they have already taken in response to this health crisis (ICC 2020). Mobilized activities are taken by the United Nations and other

international organizations to overcome the pandemic, and as a trusted business advisor the International Chamber of Commerce (ICC) is cooperating with many of these engaged stakeholders (ICC 2020). Moreover, policymakers should also motivate governments to avoid imposing unilateral taxes like digital service ones which adversely affect the cross-border business (ICC 2020). Moreover, tailored incentives could be considered to support virology, and diagnostic tools manufacturing and standardized inducements for companies in charge of health products contributions (ICC 2020). Flexibility and resilience in extending deadlines for tax filing payments, temporary tax reductions and expedited tax refunds could support the challenged SMEs during the unprecedented health, social and economic events of the pandemic (ICC 2020).

6. FAMILY BUSINESS LEADERSHIP THROUGH THE COVID 19 CRISIS

Leadership could be defined as the capacity of an individual to perceive major issues, to construct a vision, organize a mission by discerning necessary means, to make critical decisions, to influence the team or the followers and to complete the mission with success (Canyon 2020). Long-term success and legacy of a family business are based on a robust Leadership pipeline (Leggio 2019). Usually, first and second generation leaders establish the business whereas, leaders nearing retirement focus on setting the stage for younger leaders (Leggio 2019). To maintain the established operations, family businesses place aspiring leaders in newly formed business units and assign to them innovation roles (Leggio 2019). In general sense, the term crisis implies an unexpected and undesirable situation that causes or possesses latent harm for people, organizations and society (Canyon 2020). It is an unstable time for a family business or any other organization with a distinct

possibility for an undesirable outcome (Devlin, 2007). According to Fink (1986; 2002), "it is any prodromal situation that runs the risk of: first rising in intensity; second falling under close media surveillance or inspection; third interfering with the normal operations of business, fourth jeopardizing the positive public image presently enjoyed by a company or its officers; fifth destructing a company's bottom line in any way".

Extraordinary demands are placed on leaders of business and other sectors during the current coronavirus pandemic global crisis (D'Auria and De Semet 2020). The latter also involves coordination of stakeholders and necessitates a global solution (WHO 2020). In addition, this crisis requires local application of effective socio-economic and public health policies and solidarity (WHO 2020). During crisis a family business and any other organization need a leader more than a manager (Fener and Cevik 2015). Especially that the COVID-19 impacted the family business leaders' health, wellbeing, and financial consequences, led to the death of some of them and obliged the others to close the business to avoid more losses.

Management is usually concerned in imitating and achieving continuity of the present business, while leadership focuses on creativity, harmony and agility (Fener and Cevik 2015). Leaders unite people together, follow their messages and leave a trace behind for their team members to follow (Tutar 2004). Implementing a meta-leadership framework and practice method is considered important during the current unprecedented worldwide crisis (Ellis 2021). Meta-leadership was used in crafting high-performance work groups in several health systems, government agencies, businesses, and non-profit organizations (Ellis 2021). It helps in reframing adversity (Ellis 2021). Managing the COVID 19 crisis is a worldwide challenge. Boin et al. 2013 discussed 10 executive tasks of crisis management viz. early recognition, sense making, making critical decisions, orchestrating

vertical and horizontal coordination, coupling and decoupling, meaning making, communication, rendering accountability, learning and enhancing resilience.

7. RESILIENCE IS DNA UNDERPINNED

Resilient organizations perform effective crisis management through absorbing blows and recovering quickly (Boin et al. 2013). Resilience is a crucial characteristic of outstanding organization leaders (Kohlrieser et al. 2014). It is a human capability to meet adversity, setbacks and trauma and then recover from them (Kohlrieser et al. 2014). It helps leaders to sustain their energy, thrive under pressure, cope and adapt with acute stress and disruptive changes (Kohlrieser et al. 2014). A resilient person has been tested by adversity and remains able to demonstrate adaptive psychological and physiological stress responses, or psychobiological allostasis (Feder et al. 2009). Three forms of capacities viz. absorptive, adaptive and transformative can boost resilience (Conde and Sanchez-Bella 2018). The former capacity is known as the ability to adopt coping strategies to absorb a shock, through mitigation or prevention mechanisms and neutralizing its negative impact. The adaptive capacity refers to the mechanisms to respond to an adverse event (Conde and Sanchez-Bella 2018). The ability to change the system in a fundamental way in response to the choke is known as transformative capacity (Conde and Sanchez-Bella 2018). In addition, the interactive gene-environment-time GET is an emerging framework of developmental biology that associates the triadic interactions among genetic variation, environmental threats and supports, and developmental time in the early origins of physical and mental health consequences like resilience (Boyce et al. 2021). Feder et al. (2009) discusses the environmental, genetic, epigenetic and neural mechanisms that lie behind resilience, and it has mentioned that

resilience is mediated by adaptive variations in several neural circuits that involve numerous neurotransmitter and molecular pathways. The genetic factors that increase negative emotionality also cause a decrease in resilience (Navardy et al. 2018). Biological processes forms a gene-environment interplay by which environmental exposures adjust the timing and level of expression of specific sets of genes, causing differences in behavior or disease risk (Boyce et al. 2021). Moreover, the stress hormone system is activated when a person is exposed to an adverse event (Matosin et al. 2018). This leads to the release of glucocorticoids from the adrenal gland through systemic blood flow and reach all body organs including the brain (Matosin et al. 2018). GCs exert their effect through cytoplasmic receptors that translocate to nucleus upon activation and serve as transcription factors which in turn act on up regulating or downregulation of genes (Matosin et al. 2018). Concerning epigenetic regulatory process, there is an association between higher DNA methylation in CpG sites in the promoter of the brain- derived neurotrophic factor (BDNF) which plays an important role in modulating resilience and vulnerability to stress and post- traumatic stress disorder (PTSD) diagnosis in combat-exposed individuals (Kim et al. 2016). Epigenetic modifications affect the structure of the genome's chromatin packaging and have short- and long-term impacts on stress-responsive biological systems (Boyce et al. 2021).

8. CONCLUSION

These family businesses stay with people who share and contribute their attributes, values and leadership practice for the sake of the family business performance and to the prosperity of the society and to be large entrepreneurship and perform an ideal story of success. Measuring family business performance is more important than measuring profits, incomes and other financial indicators.

During the current global health crisis, resilience which is a major leadership skill is DNA underpinned. It is also known as the ability of households, communities and nations to absorb and recover from shocks. Moreover, it is also related to the positive adaptation and transformation of business structures and means for the sake of surviving long-term stresses, change and uncertainty. It is affected by epigenetic changes which are durable, have a propensity to spread, and can even be transmitted from one generation to the next through sexual reproduction and cell division. In Lebanon, the phoenix, family businesses need strong unity of the family and should build more trust and confidence especially with their employees and customers. This will nourish them when the economic and health situations improve.

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SECTION H: Tourism and urban services

HOÀNG THỊ PHƯƠNG THẢO: RESTORING AND PROMOTING DOMESTIC TOURISM IN VIETNAM AFTER THE COVID-19 PANDEMIC: ORIENTING THE DEVELOPMENT OF RURAL TOURISM THROUGH SYNTHESIZING LESSONS LEARNED FROM MANY COUNTRIES AROUND THE WORLD.

[1] Faculty of Business and Economics, University of Pécs, Hungary;
The tourism department, Yersin University of Dalat, Vietnam
email: hoangphuongthao16@gmail.com

Abstract

Purpose: This article is purposed to solve three main issues: (1) to find out the solutions on how to restore tourism activities to be safe and effective; (2) to determine whether rural tourism is suitable for the availability of the resources in Vietnam; (3) to synthesize the lessons that are adopted from other countries to develop rural tourism effectively and sustainably in Vietnam.
Methodology: This is a systematic literature review based on the keywords "rural tourism" from 1960 to 2020. The 142 articles with at least one citation are used to answer three main issues.
Findings: Rural tourism is a tool to revive domestic tourism and many other related sectors in Vietnam. To restore tourism, the most important issue is to create safe destinations, then to build confidence and safety for visitors.
Contribution: Confirming opportunities and solutions for rural tourism development in Vietnam for the period of 2021-2030
Keywords: Vietnam, Rural tourism, Tourism restoring in Covid-19 pandemic.

I. INTRODUCTION

Rural tourism is a pivotal part of the tourism sector, which plays a crucial role and contributes to benefit the community in the rural areas (Zátori et al., 2019). The most notable benefits of rural tourism are to eradicate poverty, to create a framework for sustainable livelihoods for communities (Fotiadis et al., n.d.), and to preserve agricultural traditions (Wilson et al., 2001b). Rural tourism replaces mass tourism – where the popular tourism hubs attract the most travelers amongst others and usually are in big cities that create pressure and typically seasonality (Ibanescu et al., 2018). Another positive view, rural tourism creates equitable development regions in a country; spreads the opportunities for tourism development to unspoiled areas but brings many values in history - architecture - culture - agriculture (An & Alarcón, 2020a). The history of rural tourism has started in developed countries in Europe, since the early years of the 19th century, when the mechanical industry began to thrive. However, until the early years of the 1980s, rural tourism was first initiated in European and American countries, the most popular being countries such as Canada (Chin et al., 2016), Hungary (Kóródi & Dénes Dávid, n.d.), and in Greece (Fotiadis et al., 2019). In Asia developing countries, rural tourism has developed since the 1960s and has grown steadily up to now (Hwang et al., 2012; Santana-Jiménez et al., 2015).

Vietnam's tourism industry in recent years has achieved impressive growth achievements. In 2019, direct income from tourism activities reached 10-11 billion USD and provided 3 million jobs. However, the Covid-19 epidemic quickly "freeze" the world tourism industry and Vietnam's tourism was not out of this aftermath. The losses from all fields are enormous, and the tourism economy directly affects many other economic sectors in the country. The gradual revitalization of inbound tourism is a top priority to lubricate other sectors. A view from the recent epidemic crisis in Vietnam shows that domestic tourism has saved the

domestic tourism industry from a significant decline of international tourists. That confirms the important role of domestic tourism in the tourism development strategy of Vietnam and many other countries. The tourism industry has been forecasted to be a slow recovery until the international tourist market is reopened and domestic tourism is listed to become the major market of Vietnam in 2021 and 2022. Based on a preliminary analysis of benefits and resources, rural tourism is an opportunity for tourism revitalization in the domestic tourism industry in Vietnam. This research has the ambition to answer the following questions: (1) How to restore tourism activities to be safe and effective? (2) Is rural tourism suitable for the resources of Vietnam? (3) What lessons can be inherited from other countries to develop rural tourism effectively and sustainably?

This is the first study on the systematic literature review of rural tourism for Vietnam, building a foundation for rural tourism development. Furthermore, the research results will combine the analysis of the rural tourism development potentials of Vietnam to provide directions and solutions. The rest of the paper is organized as follows. Section II presents the methodology; section III contains empirical results and their interpretation; section IV takes place for discussion about management implications and oriented solutions. Finally, section V offers a conclusion.

II. METHODOLOGY

The study's purpose is to find out the status of the rural tourism type that has its current exploitation status and development trends in the world, how the connection of the research results has been applied, research gaps, and lessons that can be applied to Vietnam. The systematic literature review method is considered appropriate and selective for this study.

Two rounds of data collection were done to select more relevant rural tourism articles in many areas. At the very first step, from the

web of Science, Scopus, Springer link, Willey, ScienceDirect, 280 pertinent articles were searched with the keyword "rural tourism" from 1960 to 2020. Conference papers, reviews, and reports were excluded. The second step is to find out the way to develop rural tourism in a country, all 280 abstracts were checked and 142 articles were chosen for analysis.

2.1 Eligibility and inclusive criteria

142 articles are in English with the content most closely related to the set research objectives, are selected to conduct research to clarify research questions. Research articles from the database were selected only from the social science subject and the review considered open-access articles. The criteria were chosen for collecting articles: publish year, citation, published journals, publisher, the country to have the best analysis.

2.2 Year-wise publications

The authors began from the year 1960 as from preliminary research, this was the era when rural tourism started appearing in the USA, Hungary, and China. Research in the rural tourism sector began to attract the attention of many scholars since 1990, with the results including a clear definition of rural tourism, development potential, perceived benefits, and perceived costs in all areas when exploiting rural tourism. Until after 2010, many valuable studies focused on factors that promote rural tourism development; such as assessment of community participation, tourism stakeholders, destination image, typical products, and sharing useful lessons from developed countries or countries with a long time in rural tourism development.

2.3 Most cited papers

The selected research articles all have at least one citation. The articles that have the most citations are Urban vs. Rural Destinations: Residents' Perceptions, Community Participation and Support for Tourism Development with 222 times, Urban vs. Rural Destinations: Residents' Perceptions, Community

Participation and Support for Tourism Development (Rasoolimanesh et al., 2017) with 210 times, Rural Tourism in Australia — Has the Gaze Altered?-Tracking Rural Images (Beeton, 2004) with 203 times. This confirms their reliability and a solid basis for their use in this research.

2.4 Country-wise publications

The countries that appear in the selected articles are mostly in Asia and Europe. There are empirical studies in 38 countries; countries that have attracted many studies included Italy, Hungary, Romania, Turkey in Europe, and Malaysia, China, Indonesia in Asia.

III. RESULTS AND INTERPRETATIONS

3.1 Definition of Rural tourism in International, Regional and National

The World Tourism Organisation (2019) defined rural tourism as "a type of tourism activity in which the visitor's experience is related to a wide range of products generally linked to nature-based activities, agriculture, rural lifestyle/culture, angling, and sightseeing".

Rural tourism is also recognized with many different diverse perspectives that relate to each country or area. Rural tourism is defined as recreational activities associated with rural products such as participating in folk games, fishing, harvesting, and enjoying traditional dishes (Lane & Kastenholz, 2015) or visiting farms, enjoying food, and staying in style homestays (Nair et al., n.d.). Rural tourism implies and includes a range of activities, services of rural tourism (Hall, Roberts, Mitchell, 2003), and other contents organized by the local population in family households to attract tourists and create added value to the tourist product (Popovic & Relja, 2015). Huge agricultural areas, festivals, unique folk cultural elements, many traditional craft villages will be strong points to develop this type of tourism (Đorđević et al., 2020). Rural tourism was originally formed from the attraction of villages with flower fields, valleys, and churches (Hall, 2004).

From the filtered definitions, it can be seen that with the rich natural resources, the long history of agriculture, cultural-traditional values, heritage, festivals, and the current status of tourism development, rural tourism is completely appropriate and has full opportunities for development in Vietnam.

3.2 Benefits of rural tourism

Rural tourism offers a wide range of economic and living benefits. Rural tourism is an important economic tool to restore the agricultural economy in particular (Ibanescu et al., 2018) and the economy of Serbia in general (Đorđević et al., 2020). Sustainable tourism development in rural areas will improve the local economy (Amir et al., 2015). Tourism is a key component in the formation of the destination image at the regional and international levels (Hadad, 2019; Ionela et al., 2015). Rural tourism, agritourism, and eco-tourism have become the new trend since 2010. They not only bring back health benefits but also higher income and quality of life (Sasu & Epuran, 2016). Rural tourism has driven regional development in Italy, especially in raising the popularity of the wine villages (Mititelu et al., 2010; Randelli et al., 2011). After World War II, from the agricultural economic recovery, rural tourism has created the prosperity of rural areas in the US and Canada, both creating economic benefits to restore the country (Gartner, 2004). Rural tourism becomes a good economic tool in Europe, creating an economic balance between regions (Skuras et al., 2006).

3.3 Cost of rural tourism

Besides the benefits, studies have found disadvantage factors namely the affected environment, the infrastructure is not qualified enough to serve or attract tourists, barriers from communities, and overcrowding of tourists.

The community's lack of timely adaptation to daily contact with tourists, affected the community's habit when sharing the living environment; resources are overexploited, air pollution and garbage (Egbali et al., 2011; Ionela et al., 2015b). In some rural

areas, the infrastructure is not sufficient to accommodate the mobility of tourists; causing traffic jams and air pollution in Spain (Villanueva-álvaro et al., 2017). In Croatia, this is the seasonal situation in tourism, causing an overload, pressure for the exploitation of resources (Petrić & Ph, 2003). In Iran, the results of analyzing data showed that a portion of community members have a disinclination to tourism effects. For instance, their disturbance related to environmental pollution, water pollution, as well as some social and cultural effects is significant (Eshliki & Kaboudi, 2012). There is an unbalanced distribution of economic benefits between areas, however recognizing a more dynamic social life (Digitais et al., 2021). In Turkey, the environmental dimension of rural tourism seems to be at risk if long-term plans aren't prepared, particularly for housing and road construction (Boz, 2017).

It is very important to be aware of the limited problems arising from rural tourism from the actual operation of other countries. Vietnam will have solutions to reduce risks as well as develop a set of criteria to ensure that this type of tourism promotes advantages and minimizes limitations.

3.4 Challenging issues in rural tourism

In the process of operating and developing rural tourism, many problems have appeared namely proper awareness of the community; seasonality, the attractiveness and competitiveness of destinations, capital investment in upgrading infrastructure, government support, intelligent information system, transportation system.

At the early stage of rural tourism development, it was difficult to understand the meaning of rural tourism, the context, the region, the potential of resources; how to improve community awareness, market acceptance (L. en Wang et al., 2013). Many problems to face were: lack of tourist skill in Malaysia (Velnisa Paimin et al., 2014), lack of funds and budget for tourism development in Kenya

(Okech et al., 2012), lack of cooperative business culture in Hungary (Kulcsár, 2009) and lack of a set of evaluation criteria for rural tourism projects to enhance their feasibility and effectiveness (Dai et al., 2017). Tourists have become bored with less creative and competitive products, and environmental degradation in China (L. en Wang et al., 2013).

The concept of rural tourism has appeared in Vietnam since 2010 and has been put into a long-term development strategy based on its potentials and benefits. One of the biggest challenges for the development of this type can be mentioned is the awareness of the government and the community (Long & Nguyen, 2018); there has been confusion between rural tourism with green tourism or cultural tourism (Xuan Hau & Anh Tuan, n.d.). Another significant difficulty is that the infrastructure (transport, accommodation, information system, health system) in rural areas is limited, simple, and inadequate to ensure tourism activities (Hoang Gia, n.d.). And the last is, the government has promoted a rural tourism development strategy but lacks training or education for the community in terms of nature, benefits, and step-by-step plans for sustainable exploitation and development (Tien, 2021).

3.5 Solutions for rural tourism development

The main issues that all the researches focus on are community participation attraction, solutions for rural product diversification, the key factor in rural tourism development in each country.

The key factor in rural tourism development - Residents

Countries that are rich in potential for rural tourism development, could consider rural tourism as a long-term economic tool, encourage community participation, improve living conditions in these areas, enhance education to raise awareness of residents, build the plan to diversify products in combination with media solutions (Souca, 2020). Sharing experiences in practice tourism and calling for investment to improve service quality should be done more (Fun et al., 2014; Rasoolimanesh et al., 2017). In the

process of tourist training, the government should clarify the benefits of tourism, attract community participation in rural tourism (M.-C. Lo et al., 2012), change the mindset of residents in creating the local products, and give an emphasis to quality instead of quantity (Dimitrovski et al., 2012).

How to develop rural tourism sustainably - Which causes rural tourism development?

Developing rural tourism always requires a scientific plan and strategy, which is related to what types of tourism should be a priority for developments, which meet market demands and the global trend (Carson & Harwood, 2007). The highlight of rural tourism is the creativity and authenticity in rural tourism. Therefore, building solutions to restore the image of rural areas, and maintaining the authenticity of the countryside were important (Sasu & Epuran, 2016). Other solutions which are synthetic from the research results are: investing in infrastructure, improving the quality of hospitality, building effective marketing, especially the websites that provide complete information about the journey (Studies, 2017).

A SWOT analysis is necessary to understand the strength, weaknesses, opportunities, and threats to expand investment attraction and to apply a variety of advertisement forms (Bălan & Burghelea, 2015; Like, 2012; Sesotyaningtyas & Manaf, 2015). The solutions to improve the attractiveness of rural tourism are to support finance for the family business, to help them diversify welcoming services, means of transport, and to increase the introduction of traditional cultural values (Dai et al., 2017).

The factors driving the success of rural tourism are the support of the government, the participation of residents, funds for tourist development, the coordination and cooperation between businessmen and local leadership, strategic planning, information and technical assistance for tourism development, and a package travel product (Wilson et al., 2001a). And how can rural tourism

be sustainable? That is to raise stakeholder's awareness in rural tourism, namely costs of this type, environmental sensitivity, and cultural values. Building an emotional, impressive, and true-to-true destination image is the key to success. It is necessary to pay attention to environmental issues, the capacity of the reception area, and the truthfulness of community cultural values (An & Alarcón, 2020b; Leković et al., 2020).

IV. DISCUSSING

4.1 Management implications

The aggregation of data shows that rural tourism had its origins in World War II, and was seen as a useful tool for economic recovery for remote areas, as well as a solution to help balance the economic economy between urban and rural areas. Rural tourism development is in line with the trend of sustainable tourism development in the world. In addition to the economic - cultural - social benefits as reported, it is also a tool to protect natural resources and the environment.

Rural tourism brings the developed opportunities for remote areas, narrowing the standard-living gap between rural and urban areas (Puška et al., 2021). The government should identify rural tourism as an economic tool and see it as an effective solution to combine tourism and the economy. On the other hand, during the global pandemic, countries closed the border, tourism suffered heavy losses. In this hard time, domestic tourists choose rural tourism because of its tranquility, freshness, restoring physical strength, and economic support for people in remote areas (Jaehnichen, 2020). Vietnam has many strengths in agriculture. It is considered a key economic sector, 70% of the population lives in rural areas, which can be seen as an advantage of shaping and developing rural tourism.

4.2 Oriented solutions

From the definitions, which go along with the natural and cultural resources, Vietnam can completely develop rural tourism.

First, is making the specific plan and strategy as soon as determining the development of this type. It must be a highly consensual and cooperative plan made by the involved-part in tourism (Samani et al., 2016; Singgalen et al., 2019). *Second,* it calls for comprehensive coordination between all stakeholders in tourism: authorities, businesses, communities, and tourists. Taking part in scientific conferences or trade fairs is an opportunity for the involved parties to exchange experiences, extend partners and investment opportunities. From there, *third*, the next step is to raise awareness of tourism practice as well as practical knowledge, to ensure that residents are confident enough to welcome guests with the best quality service. *Fourth*, from the lessons of China, Iran, Indonesia, the government should choose and focus on unique rural tourist destinations for the first stage. With potential marine resources, it can be applied to Romania lesson to combine fisheries and tourism. With the high mountains, dense national forest system, Vietnam should exploit the trekking routes into traditional villages to enjoy local specialties, and participate in traditional festivals as Hungary experiences. *Fifth*, it is necessary to inspect and maintain all infrastructure facilities and the capacity of the environment to ensure the exploitation of rural tourism sustainably (Naghiu et al., 2005; Nooripoor et al., 2020). *Sixth* is to build information systems on rural tourism destinations. Information is the key to expand the sightseeing area, increase tourist accommodation, and improve spending possibilities. Smart advertising, specifically integrated into cinema, is a great way to create a travel demand for all customers around the world. One of China's most impressive lessons is the combination of education and travel. Universities are committed to promoting local tourism, providing the community with advertising tools, and improving service in addition to providing up-to-date knowledge. *Seventh*,

Vietnam should increase or attract investment for rural tourism activities to support local communities with capital and resources (tourist skill, plan to work, product creation), which are also problems in many under-developing countries like in Africa, India even though they aware that rural tourism can make economic recovery and many other benefits. The last but not least, is ensuring a safe destination image, full protection for tourists which has become a crucial issue after the SARS-CoV-2 pandemic. In the future, reopening international tourism will be soon. The completion of safe but neat procedures, namely Immunity certificate, modern disease control system... is necessary to ensure the convenience of the destination as well as the reliability of visitors.

V. CONCLUSION

With the new strain of Covid-19 still emerging and developing complicatedly, human mobility and close contact will remain limited in the coming years. This is a hard time for the tourism economy in particular and the economy in general for all countries. But if looking at the positive side, it is also time for nations to look back on their potentials, to consolidate human capital, social capital; or to develop a new product to be implemented as soon as the epidemic is reversed. This article is a systematic literature review, which is based on the keywords of "Rural tourism" from 1960 to 2020. The 142 articles with at least one citation for the review are used to answer three main aims.

Vietnam needs to seriously study all the benefits and limitations from the lessons learned from other countries, to develop a set of criteria and solutions for the most appropriate and effective exploitation of this type. The most important issue is to improve residents' awareness about this type of tourism and to equip them with tourist practice. The second is to identify this type of service

for domestic tourists in the post-covid epidemic recovery period, as a tool to restore the agricultural economy as well as incomes for rural areas, create jobs (Mi, 2016), and maintain traditional values - heritage – festivals. Third, this type is not only towards sustainable development but also a way to diversify tourism products and services (Atun, 2019). The last is a solution to limit the migration to big cities, creating occupational pressure - pollution for urban areas; instead, the rural population is stable and the economic life is improved (Streimikiene, 2015).

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KÓRÓDI MÁRTA – POVENSZKY KAMILLA: PRODUCT SPECIFICATION FEATURES PROVIDED BY FOUR-STAR HOTELS IN HUNGARY

[1]Faculty of Economics and Business, University of Debrecen, Hungary, e-mail: korodi.marta@econ.unideb.hu
[2]Faculty of Economics and Business, University of Debrecen, Hungary, e-mail: kamcsy@gmail.com

Abstract**:** The product management, as a sub-process of hotel management affects several organizational units, influences the operation and the position in the competitive market. Its development has been differentiated from package offers through special, price-advantage-based communication to offers consisting of segment-specific service combinations that also take seasonal characteristics into account. The research is based on the identification, analysis and comparison of product-specific offers of four-star hotels in Hungary. The study seeks to answer how the phases of product specification appear in hotel offers. This is analyzed on a systematic sample (60 hotels). The evaluation is followed by multi-level ranking and relationship analysis. The practical applicability of the conclusions of the study will be reflected in the successful product development, in that the hotel product can be considered as a unique, specialized supply set, while the package can be considered as a general supply set.
Key words: hotel management, differential product development

1. INTRODUCTION

In the tourism system, demand is opposed to broadly interpreted tourism products in terms of attractiveness, varied service content and degree of organization, guest service, and ultimately experience promise and experience content. Several factors can be influenced

directly from the outside (Lengyel 2004), but there is no direct external effect on the experience base. When examining hotel product development, the micro-level definition of a tourism product is applicable, i.e. a specific service or a set of services provided by a tourism enterprise can be determined as a tourism product (Michalkó 2011).

A hotel product is a mix of services consisting of accommodation, catering, and other services complemented by sensations conveyed by the environment and staff. The interpretation also reflects the view that the product is a combination of services specifically compiled for the entire stay, of which the guest decides whether to use all of them or omit some. This is in contrast to the package approach, which offers optional, separately priced services in addition to the general offer (rooms, meals). In the case of hotel tourism products, the phenomenon of product specification means, among other things, the differentiation of offers according to age / lifestyle, interest / thematic content, and seasonal characteristics.

At the same time, hotel trends change in an extremely short period of time, so it is important that hotels are up-to-date and flexible in order to always be able to provide supply in line with the new trend (MacNulty 2011).

The units responsible for product management in the hotel are sales and marketing (Kenesei-Cserdi 2018) and advertising and communication, which are often identified with the previous one (Tózsa 2014), all of which show the segment specificity of products, but can also be interpreted independently (Lőrincz-Sulyok 2017). The scope of product policy is product variation, product differentiation and product diversification. (Seitz 2000). In the ever-strengthening tourism market, those tourism products are successful, that are innovative, have a unique character, thus those are distinguishable, guaranteed good quality and have the right value for money (Árva 2012). Competitive differentiation

opportunities can be exploited with an environmental and resource-based approach (Frehse 2006).
Hotel-specific product development is related to market segmentation and examines consumer habits and needs in a way that can create a tourism product that targets only a specific segment, thus applying a differentiating product strategy (Kátay 2017).
The highest level of product development and differentiation is the elaboration of individual offers, which combined with personal services, on-site amenities and service facilities create a complex experience offering. Creating a diversified offer with a higher relative cost and revenue potential from its size can be a strategic decision for a multi-segment customer base. Hotel product management must adapt to fluctuations in demand and the typical or atypical behavior of the guest during their stay, according to their segment, to the attitude of using the service, i.e. the service process is a real-time continuous correction. In this dynamic environment, hotels need to offer the guest segmental, thematic, or seasonal products that include guaranteed services, in addition to the general offer for everyone (or anyone?), at an optimal rate.

2. MATERIAL AND METHODS

An in-depth interview with the decision-makers of the product development and supply structuring tasks of the hotels, and in the case of the hotels displaying the supply on their websites, can be considered as an adequate method to explore the problem (Boncz 2015). The latter was used in the research, i.e. the content analysis of the offer of the systematically selected sample displayed through websites was performed (Lehota 2001) in an effort to achieve objectivity, which was ensured by an evaluation sheet pre-tested with a previous procedure. The measurement was conducted in February 2020 (before the impact of the epidemic on supply). It can be considered as a snapshot of the current situation about the

product specification level of the offers of four-star hotels in Hungary. According to the research plan, 3-3 hotels from each of the 19 counties of the country, plus capital Budapest, would have been included in the sample, the missing 5 elements were supplemented on the basis of tourism performance. Thus, 60 hotels were evaluated for three specializations, i.e. age / lifestyle segment-specific products, thematic products, and finally seasonal products.

In all three cases, the evaluation scale ranged from 1 to 4, depending on the proportion of the product-specific elements of the offers and the number of characteristic program and service elements. The offer received a rating of "1" that contains no or only traces of specific elements, a "2" that contains a product named after each segment, but the product elements are general in nature and the specification is minimal. The offer, which includes a product named after each segment, as well as the general product element and specification, deserved a "3" rating. In the end, the highest rating was given to the hotel, which offers markedly identifiable segment-specific products. Several simple descriptive statistical methods (Kóródi 2011) with Microsoft Excel support were used for the analysis. Many product specification indices were determined based on various criteria by arithmetic averaging. First as an average specification index for each hotel, then as an aggregate average specification index for hotels by county and by product type for each county. The extent of deviations from the national average or the specification index by product type also included additional information and the possibility of categorization. After the rankings, the distributions of each value were determined by hotel, county and product type. In search of the reasons, at the county level, the specification ranking was compared with the February 2020 tourism performance ranking.

3. RESULTS AND DISCUSSION

Figure 1, which illustrates the ranking of the specification indices of the examined hotels from the evaluation sheet database, shows only the average specification index of the hotels that exceed the average (1,466).

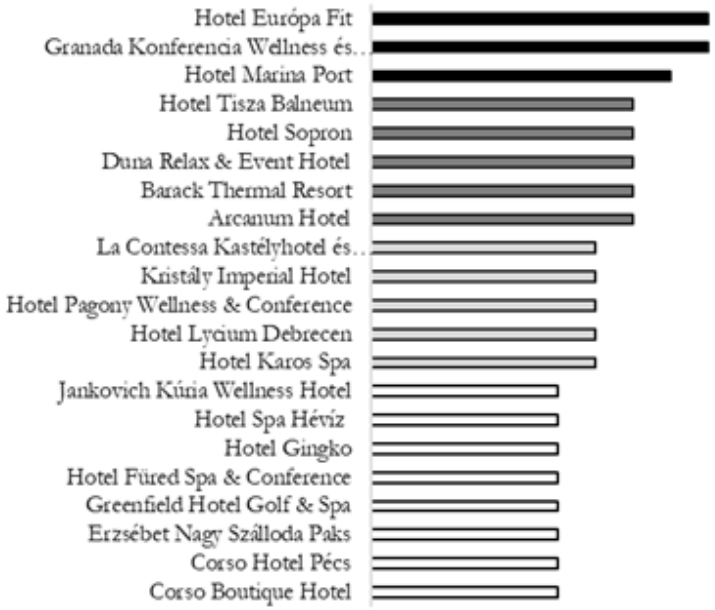


Figure 1: Hotels with a specification index above the average
Source: based on research and editing by the authors

Two hotels have the best average specification index (3.00), followed by Hotel Marina Port in Balatonkenese, with a rating of 2.67. Within the ranking, hotels were grouped based on deviations from the average. The specification level of 16 hotels is around average, 23 hotels can be considered below average. Most of the above average hotel deals are in Zala county, in this county 3 out of 4 observed hotels are above average. In Bács-Kiskun, Békés and

Veszprém counties, 2-2 hotels have above average average specification offers. The distributions according to the evaluation of the various product specifications suggest different degrees of specification for each product type.
During the evaluation of segment-specific products by age and lifestyle (*Fig.2*), out of the 60 hotels observed, 41 hotel offers received a rating of 1, 13 offers received a rating of 2, 5 offers received a rating of 3 and only 1 offer deserved a rating of 4. The latter is the package offer of the Duna Relax & Event Hotel in Ráckeve called "Forever Young Relax", which is segmented for retired guests.

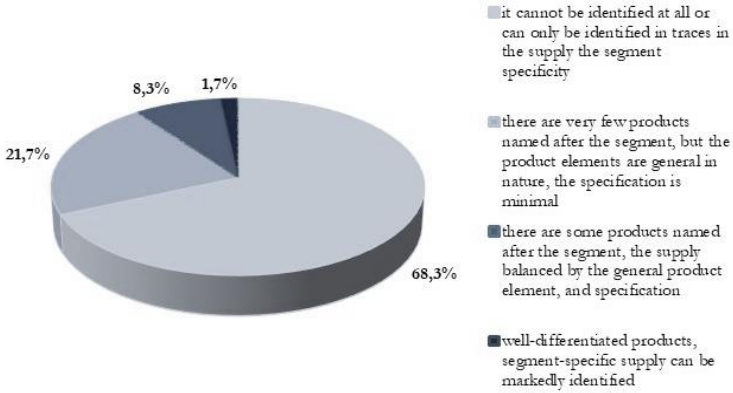


Figure 2: Distribution of valuation of segment - specific products by age / lifestyle
Source: based on research and editing by the authors

The observation outlined that hotels specialize mostly in two main segments, young couples for whom romantic and honeymoon packages are created, and older, retired guests. When compiling romantic package deals, there are a number of tools in the hands of product developers to make the days spent at the hotel intimate. At the same time, senior and retiree offers are far from containing as many specific elements as would be possible, mainly

emphasizing price advantage. The average specification index of the product type is 1.44, which does not reach the hotel specification index, so the offer of hotels is differentiated by age / lifestyle below average.

During the observation of the interest-based and thematic offers, twenty-nine offers received a rating of 1, nineteen offers a rating of 2, eight offers a rating of 3 and four hotel offers a rating of (*Fig.3*).

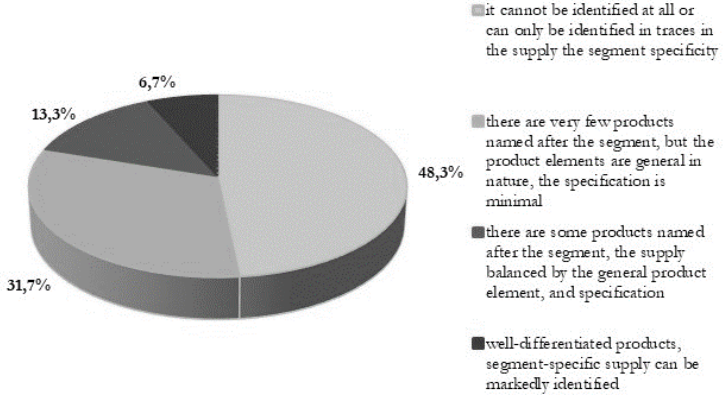


Figure 3 : Distribution of evaluation of products according to interest / thematic products

Source: based on research and editing by the authors

During the period of the observation also influences the thematic offer. While Valentine's Day contained a number of romantic elements, the Easter offerings were less themed, with packages focused mainly on value for money. The specification index of the thematic / interest-based product type is 1.76, which is well above the average specification index of the hotel, i.e. hotels make good use of this differentiation opportunity.

The evaluation of season-specific products shows the most uniform but at the same time the least product-using product specification result (1.18 average product specification index)

(*Fig.4*). Of the 60 hotels, 53 were rated 1 and only 4 hotels were rated 2, 2 hotels were rated 3 and 1 hotel was rated 4, this Hotel Europa Fit. Hotels only change the name of the package, no element of the content is chosen to suit the season (autumn / spring break / refreshment, etc.).

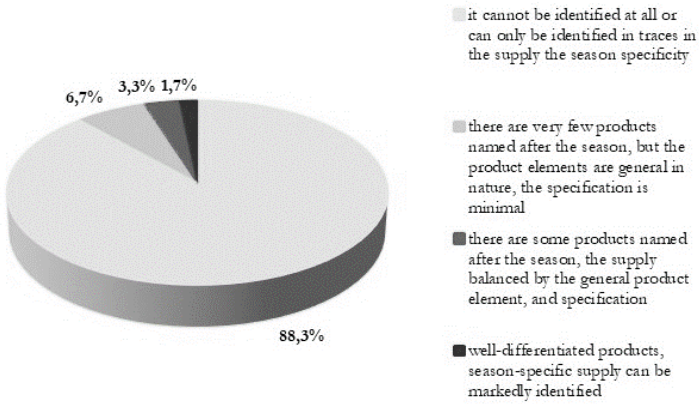


Figure 4 : Distribution of evaluation of season-specific products
Source: based on research and editing by the authors

The county aggregation was analyzed from two perspectives, on the one hand according to the ranking of specification indices and the ranking of tourism performance (CSO February 2020). On the other hand according to their position based on the deviation of the same parameters from the average (*Table.*1). Bács-Kiskun, which ranks first, is not necessarily among the most important counties in tourism (16th place), presumably the pursuit of better performance encourages hotels to offer specialized products. The situation of second place winners is special. Komárom-Esztergom has the previous characteristics, and Zala county ranks second in terms of both specification and performance. Presumably, the result reflects one of the successful practices of striving for a unique offer forced by the competitive situation. There are two

counties showing such balanced characteristics. Despite the high level of specification, the hotels of Jász-Nagykun-Szolnok county could not achieve good performance, such features even characterize Békés, Szabolcs-Szatmár-Bereg, Nógrád and Tolna counties. The relationship between the specification and the performance can be considered proportional in relation to Veszprém, Pest, Baranya, Fejér counties. Veszprém county needs an explanation, because it does not need a significant specification due to Lake Balaton, but its performance is still better in the February period than the hotels in Somogy. Compared to their low specification level, the hotels of Heves, Hajdú-Bihar, Vas, Borsod-Abaúj-Zemplén and Somogy counties occupy a higher place in the ranking. Presumably, the thermal conditions in these counties are attractive in the spring period as well. Budapest plays a special role. It has such a unique attraction that its market situation does not force it to offer the specified product. In this respect, it occupies one of the last places, while in terms of performance it occupies the first place.

Based on the specification index and the rural average of the tourist performance (except for Budapest due to its distorting effect on the average), plotting in a coordinate system the deviation from the average (*Fig.5*), the counties located in each quarter form a well-characterized group. The counties located in the first quarter made good use of the possibility of product differentiation (in addition to their favourable location), which is also reflected in their performance (Zala, Veszprém, Pest). There are limitations to the successful realization of the differentiated supply in the counties of the fourth quarter (Bács-Kiskun, Jász-Nagykun-Szolnok, Komárom-Esztergom, Békés). Regardless of the differentiation, the tourist performance of the counties of the second quarter (Győr-Moson-Sopron, Heves, Hajdú-Bihar, Vas) is good, which can also be explained by the thermal conditions.

Table 1: The level of product specification and tourism performance of the observed hotels by county

Counties	Evaluation of segment-specific products by age / lifestyle	Evaluation of thematic products / according to interest	Evaluation of season-specific products	Average specification index	Performance of commercial accommodation establishments (gross accommodation fee income thousand HUF)	Ranking based on the average specification index	Ranking based on hotel performance
Bács-Kiskun	2,3	2,3	2	2,2	229469	01.	16.
Zala	1	2,5	2,5	2	1170576	02.	02.
Komárom-Esztergom	2	3	1	2	237464	02.	15.
Veszprém	1,25	2,5	1,25	1,67	578929	04.	08.
Jász-Nagykun-Szolnok	1,5	2,5	1	1,67	185301	04.	17.
Békés	2,3	1,67	1	1,65	283686	06.	14.
Pest	2,33	1,33	1	1,55	843717	07.	05.
Győr-Moson-Sopron	1,67	1,67	1	1,45	583122	08.	07.
Heves	1,33	2	1	1,44	990339	09.	04.
Baranya	1	2	1,33	1,44	327502	09.	12.
Szabolcs-Szatmár-Bereg	1,33	2	1	1,44	162081	09.	18.
Vas	1,33	1,67	1	1,33	1034140	12.	03.
Hajdú-Bihar	1,25	1,75	1	1,33	700682	12.	06.
Csongrád-Csanád	1,33	1,67	1	1,33	342755	12.	11.
Nógrád megye	1	2	1	1,33	88954	12.	20.
Fejér	1,33	1,33	1	1,22	308486	16.	13
Tolna	1	1,67	1	1,22	134765	16.	19.
Budapest	1,4	1,2	1	1,2	8864921	**18.**	**01.**
Borsod-Abaúj-Zemplén	1	1	1	1	459503	19.	9.
Somogy	1	1	1	1	379721	19.	10

Source: based on research and editing by the authors

Budapest also belongs to this quarter, but its performance far exceeds the scale of the chart. The territorial units of the third quarter have remained below average in both respects, and in the case of the hotels located here, the renewal of the product strategy should be considered.

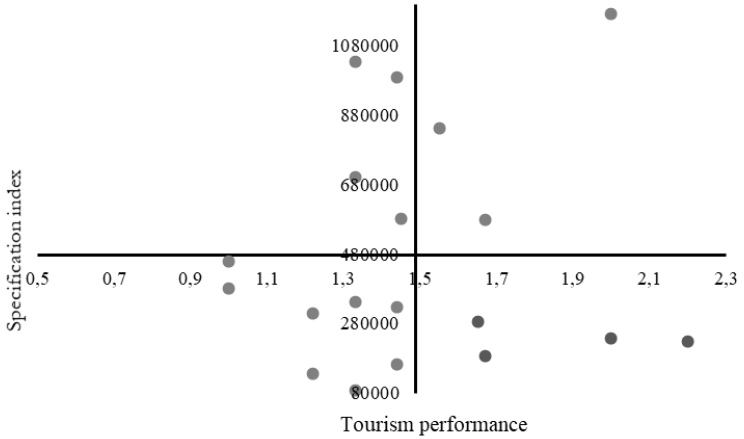


Figure 5 : The position of counties based on their specification index and tourism performance
Source: based on research and editing by the authors

4. CONCLUSION

The research outlined that the prevalence of product-specific elements in hotel offerings is generally extremely low, but the top finishers in specification rankings serve as a good practice. Most hotels, instead of putting together a package for a particular season, theme or target group, will vary an existing package and sell it with a very attractive title with the same content, or up to 1-2 specific items. The finding is in line with international findings on the use of hotel NPD (new product development) in a similar category for more than a decade (Hassanien – Eid 2006), but also raises the question of renewing the product development methodology.

Researchers have demonstrated a strong correlation between market performance and product development (Laugen et al. 2005; Lewis – Chambers 2000; Morrison 2001), which Hungarian hotels can rely on.

Preserving and improving the market position depends on the development of an individual offer based on the endowments and existing resources. Seasonality can appear in indoor and outdoor leisure programs, food offerings, movement programs referring to the dynamics of the season, in room installation, and group animation. Narrowing down the age / lifestyle specification to young and seniors ignores segments that, by addressing and providing services to them, can expand the hotel's target audience by a few segments. The thematic offer depends on the creativity of the animators, most of all it carries the possibility of the promise of experience, which is one of the most important motivating factors for the travel decision. According to the research, thematic differentiation is easiest to solve, followed by age, and least seasonally specification.

Several supply behaviours can be identified in terms of tourism performance and specification. It is typical that hotels in touristy situated counties are not necessarily forced to develop specific products if they still achieve the desired guest traffic. At the same time, there are well-specifying hotels in counties with lower tourist performance. Reinforcing the findings of the study, it is recommended to further introduce certain levels of product specification in all hotels, in addition to package deals based solely on price advantage, in order to expand the customer base and win higher solvency segments. Product development and the creation of service combinations do not involve additional expenditure, the booking of products precedes the use, so the costs of the services can be planned, only the consideration has to be paid in advance for the duration of the use of the product. Utilization of the working time of an employee managing leisure services can be

solved with a flexible split job. The unique offer can have a positive effect on the hotel's reputation and market position.

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SAVELLA ORSOLYA: EFFECT OF KNOWLEDGE ACQUIRED DURING HEALTH TOURISM TRAVELLING FOR HEALTH BEHAVIOUR – WITH SPECIAL EMPHASIS OF WOMAN IN GROUPS OF THEIR 36-55 AND 56-74 YEARS

Faculty of Economics and Business, University of Debrecen,
email: savella.orsolya@econ.unideb.hu

Abstract: The health awareness, its manifestation in behaviour, or changes consciously behaviour to a positive direction, can be related to the possibility of increasing life expectancy (hopefully without complaints). Above a certain age, the importance of awareness in women is relevant mainly because of hormonal changes that can cause such symptoms that could be an additional risk factor for other diseases / disorders. In this way, based on a current research sample that is from my previous database, age groups' (of 36-55 years and 56-74 year) short- and long-term changes in health behaviour after health tourism trips were examined.

Keywords: health, health awareness, health behaviour, behaviour intention, behaviour change

1. INTRODUCTION

One of determining factors of manifestation health behaviour is the strength of formed intention for changes, another is the self-efficacy (without barriers) which includes the ability and skills that necessary for implementation, or it is easy to develop them (ability, skills) without special effort (Nagy - Barabás, 2011)

Difficulties in health development and health education of the population, especially in adulthood, is due to the fact that character formation affects a range of previously established habits, life management models, and beliefs. And although not the whole motivational system is involved in the process, in case of a mature

personality, their change presupposes the presence of several (environmental, personal) factors (Bábosik, 2004). The established and fixed habits, the forms of activity related to life management models and beliefs are not unchangeable, but as a result of a persistent work process they can be "overwritten" mainly by influencing the elements that build up the essence of the character. Health education is a key method of health promotion. In terms of its appearance, it is "a set of consciously created learning opportunities using various forms of communication that expand health-related knowledge, skills and life skills in order to promote the health of the individual and the community" (Nagy - Barabás, 2011: 182)

Such measures may include educational lectures, through which exercise, healthy eating, stress management techniques can be presented in such a way that their focus is not on restoring health, but on disease prevention, and which can emphasize the importance of maintaining healthy behaviours and increasing responsibility.

The results of a former study published by me (Savella, 2018) support the fact that among health tourism visitors' knowledge gained by informal way developed of health-positive intentions of changes way of life and changes in health behaviours such as screening tests regularly, low levels of physical activity, and healthy nutrition. The evolution of the outcomes could be explained by the strength of behavioural intentions, but could also be explained by the fact that individuals have the abilities and skills needed for implementation (self-efficacy) that help maintain behaviour.

Based on this obtained results as a next research proposal I suggested that the examination of the database be conducted according to ranges, which is for deeper knowing of groups of mature (36-55 years) and elderly (56-74 years). All the more so because changes (hormonal) in the body can cause additional disorders and diseases by increasing age. Prevention of that can

often be achieved through lifestyle changes but there is no answer whether these two age groups of women are willing or able to change their health behaviour that can be the base of further research.

2. MATERIAL AND METHODS

The research sample included 203 mature and 51 elderly female respondents. The size of the sample is not representative, but I consider its size to be acceptable for the exploratory nature of the research.

Research questions were answered by low measurement level variables (measured on nominal and ordinal scale), non - parametric tests such as Kruskal - Wallis (K independent samples) test. The choice of the method was influenced by the fact that it could be used to analyse the variables of several independent samples and that its conditions could be lower rated.

The method was also supported by the fact that neither the parameters of the population had to be estimated, nor the theoretical distribution of the studied variables had to be followed. Based on its preconditions, there should be several independently distributed samples (FAE) and not metric independent variables (Csizmásné, 2016).

The Kruskal – Wallis test is a non-parametric method of one-way variance analysis that provides comparison of several groups (Fidy - Makara, 2005). To confirm the results I performed position indicators, median and mode calculations within a descriptive statistical method in which the mean of the given sample and the most frequently occurring mean of the sample distribution became known (Malhotra, 2008). The results were calculated with the help of SPSS program 27.

3. RESULTS AND DISCUSSION

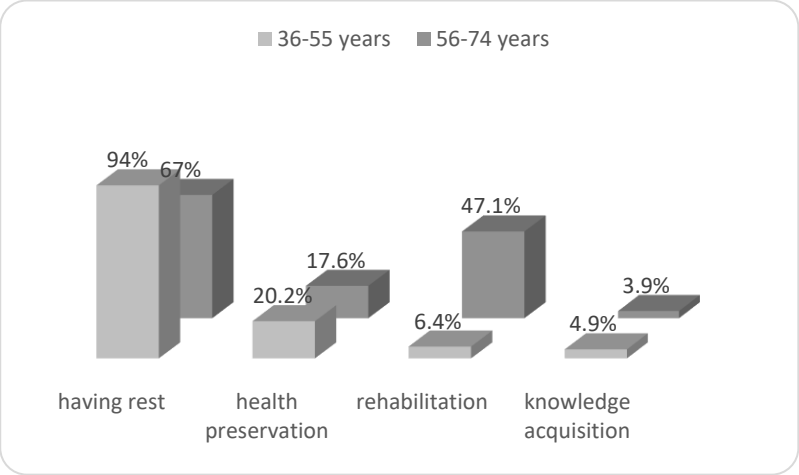


Figure 1: Motivation
Source: based on research and editing by the authors

According to motivations (Diagram 1.) the largest proportion of respondents travel for leisure purposes (m[67]: 94% and e[68]: 67%) in both ranges. A significant proportion of the elderly travelled not only for rest but also for healing (47,1%). The questionnaire did not provide an opportunity to rank motivations, but multiple responses could be indicated. After the main motivations, maintaining health preservation and learning also appeared among the responds.

[67] mature
[68] elderly

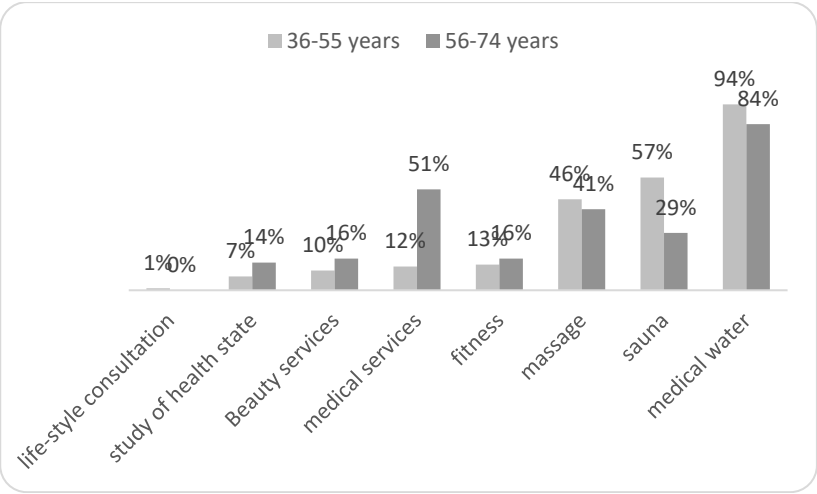


Figure 2: Used services
Source: based on research and editing by the authors

The most popular services were medical water (m:94%; e:84%) and massages (m:46%; e:41%) and sauna services (m:57%; e:29%). The frequency of used services is presumably greatly influenced by the fact that they are available free of charge within the package of accommodation. The frequency of using other services is greatly affected by their use for a fee. A proportion above 50% appeared in the case of medical services (e:51%). However, diseases that appear by aging explain the evolution of the results.

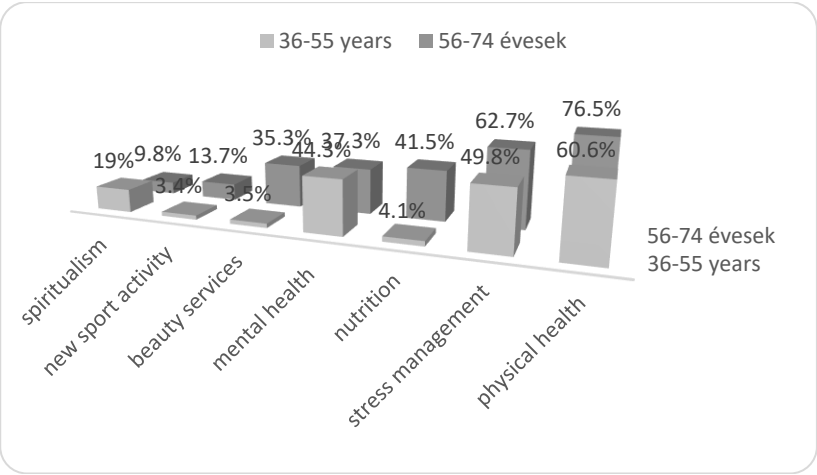


Figure 3: Areas of learning
Source: based on research and editing by the authors

Exploring areas of learning, respondents could choose from categories connected for health tourism services. The results in case of elderly group the field of physical health (76,5%), stress management (62,7%) and nutrition (41,5%), in the adult group the field of physical health (60,6%), stress management (49,8%) and mental health (44,3%) showed outstanding results. The evolution of adults' outcomes can also be explained by an active, tense lifestyle, which raises the need to reduce psychic tone. Health tourism services are suitable for this, which by breaking from everyday life and by its particular relaxing environment enhances this effect.

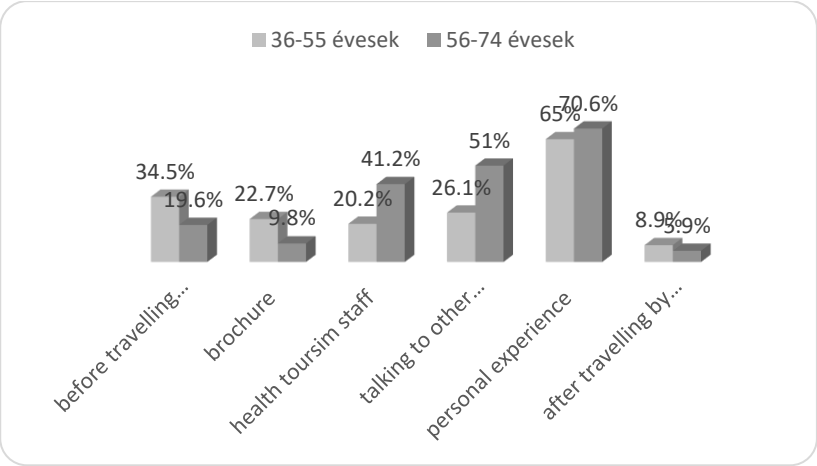


Figure 4: Sources of knowledge of health
Source: based on research and editing by the authors

Figure 4. shows that guests (elderly) have learnt mostly through personal experience (70,6%), conversations with other guests (51%) and new knowledge gained by staff (41,2%), while the other group (mature) of respondents also gained knowledge by personal experience (65%) and new informations by websites (34,5%) before the trip.

According to similarities between two groups in case of information seeking after travelling (8,9%; 5,9%) it can also be said that health tourism travelling also aroused the need for additional health-related knowledge in both groups. The results support that learning research is not only available in time of travelling, but also triggers further learning processes in visitors.

The international literature has similar influence on learning for behaviour changes, mainly in the field of ecotourism (Ballantyne, Packer, and Falk, 2002; 2004; 2011;), but the difference in these studies is that learning is studied by interpretative tools.

Table 1: Mature woman's learning areas and behaviour intentions

Learning areas	Formed behaviour intentions
Cosmetology	I will pay attention to the balance between work and rest. I will find a technique for remembering screen tests. I will use a cycle or I will walk where I can. I will search for special information about health.
Nutrition	I will find a technique for remembering screen tests. I will search for special information about health.
New sport or physical activity	I will pay attention to conscious nutrition. I will pay attention to the correct volume of liquid. I will spend my leisure time physically active. I will search for special information about health.

Source: based on research and editing by the authors

Despite the developed behavioural intentions (Table 1.), this age group didn't show changes in health behaviour neither in short nor in long term.

Table 2: Elderly woman's learning areas and behaviour intentions

Learning areas	Formed behaviour intentions
Physical health	I will pay attention to the balance between work and rest. I will pay attention to conscious nutrition. I will find a technique for remembering screen tests. I will try to do sports regularly. I will search for special information about health.

Mental health	I will pay attention to conscious nutrition. I will find a technique for remembering screen tests. I will use a cycle or I will walk where I can. I will search for special information about health.
Stress-management	I will find a technique for remembering screen tests. I will try to do sports regularly.
Nutrition	I will pay attention to the balance between work and rest. I will pay attention to the correct volume of liquid. I will try to do sports regularly. I will search for special information about health.

Source: based on research and editing by the authors

The elderly, even if only in the short term, they changed their behaviour in three areas:
• regular screening tests,
• sports and physical activity,
• conscious search for health information.
The results showed that the impact of health tourism travel maintained motivation in respondents for a short time. Internationally, a determined factor of behaviour change is emotionally based. However, in this study it is not clear what impressions were influenced by, its effect was also short. Experiences during the trip motivated temporary respondents' behaviour. In order to achieve a long-term effect in the future, the reasons for the lack of motivating factors should also be highlighted.

4. CONCLUSIONS

The learning areas could be related to health tourism services. In my opinion, the experience of used services (medicinal water, sauna, massage, medical services) had augmented the knowledge of guests about physical health. Presumably, a similar effect can be seen in the field of mental health and stress management. The results of pre-trip learning can be interpreted not only from an age group but also from a different perspective. Due to the continuous development of health tourism services, guests do not always know exactly the available therapies and pampering services of hotels.
So when they booked the accommodation, they gained information that expands the scope of their knowledge by influencing the power of novelty, or changes, and updates their previous knowledge. Studies in the area of health education examine the impact of changes in health behaviour on the basis of consciously and systematically applied methods. It can be also said that in tourism behaviour changes are examined also from the influence of pedagogically based interpretation tools and methods. But present research shows similar changes without any conscious and planned pedagogical and interpretive tools / methods. These health behaviour changes appeared in the case of elderly women. Exploring the guiding nature of the results, I found that however the changes in behaviour, as depending on learning and on development of behavioural intent, spontaneously shows changes only in the short term. But these results can be a guideline for all fields and professionals who want to consciously influence the process of health behaviour change with pedagogical tools and want to maintain its triggered effect in the long run.

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SZÉKELY KINGA KATALIN: ONLINE COMMUNICATION IN THE TOURISM SECTOR IN TIMES OF PANDEMIC

Department of Social Sciences, Faculty of Economics, Socio-Human Sciences and Engineering, Sapientia Hungarian University of Transylvania, Miercurea Ciuc, e-mail: szekelykinga@uni.sapientia.ro

Abstract
Tourism is one of the economic sectors most affected by the pandemic. Tourism operators in Romania and Szeklerland experienced this very early on, as the state of emergency introduced in Romania in March 2020 caught most tourism businesses unprepared. The ensuing crisis required tourism businesses to adopt strategies for survival. In the course of the analysis I examined how the online communication of tourism businesses in Szeklerland changed during the state of emergency and then after the easing of lockdowns. During the analysis of online content and through interviews conducted with different actors from the tourism industry, I identified four behavioral models that characterized the communication and PR activities of the analyzed subjects. The research was greatly aided by another similar research conducted one year before, which focused on the degree of digitization of tourism services.
Keywords:
crisis communication, online presence, tourism businesses, Covid lockdown, Szeklerland

Introduction

A crisis can be defined as a major event that cannot be foreseen and that can have a negative effect on the organization (it can affect the employees, the product, the industry, the economy, finances,

reputation, or any number of the above). It is an undesirable event that has deep repercussions on the functioning of the organization. (Fearn-Banks 1996). But it needn't be a negative event in every case, as it can cause significant change that can be positive or negative (Friedman 2002).

Tourism is especially sensitive to crises, be they financial, environmental, political, technological, terrorist or health crises in their nature, as was the Coronavirus pandemic (Mazilu et al. 2019). For precisely this reason, the subject of appropriate and efficient crisis communication is becoming ever more relevant. Crises present challenges to whole sectors as well as to individual actors, and though there are no universal solutions (Coombs 2010), quick and well targeted communication is one of the major components of successful crisis management strategies. Furthermore, it is important to communicate continuously and transparently with guests and other stakeholders, as well as contributing to destination level communication. (Martens et al. 2016). Through advances in communication technology, tools used during crisis communication have also changed, the spread of social media in this area is also noticeable, as they are increasingly being used to relay information, send alerts, provide information and make contacts in crisis situations (Wendling et al. 2013).

The advantage of social media platforms comes from their capability to immediately transmit precise information and to create direct channels to target audiences. Reactions, comments, messages can help tourism service providers to identify and gauge the fears and worries of target audiences, as well as enable them to immediately respond to, or initiate dialogue with customers (Coombs 2014).

The research to be presented analyzes if a number of tourism businesses from Szeklerland have or haven't applied online media – especially social media – for crisis communication following the

spread of the Coronavirus pandemic. The context in which the research was conducted includes another research project started in late 2019 by a group of researchers from the Department of Social Sciences of Sapientia Hungarian University of Transylvania, analyzing the online activities of tourism service providers from Szeklerland. The analysis of online tourism platforms, websites of individual operators as well as the presence and activity on social networking sites helped construct an overview of the use of online communication. These preliminary findings were used as a basis for the present research, alongside the findings of the research conducted by Nagy (2019), focusing on discovering possible correlations between the online presence of local destinations and the intensity of tourist flows in Szeklerland.

Methodology

Due to conditions caused by the pandemic, communication channels of tourism businesses have been reduced as well. Online space has become the only channel that could be used in current conditions for communicating with customers. Our observations and preliminary research have proven that the majority of tourism service providers in Szeklerland prefer one social media platform for their active, online communication, thus this research focuses on the development of communication on Facebook, during the 3-4 months following the outbreak of the pandemic.

I examined the posts and shared content of selected tourism operators between 16 March and 30 June.

Romania declared a state of emergency and went into lockdown in the middle of March, which had a profound impact on the tourism sector, as most businesses had to completely suspend their activities. The state of emergency was eased on May 15th into a state of alert, which meant that the tourism sector too could open for business again, under certain rules and conditions. In total, I observed the Facebook pages of 46 businesses, taking into account

three main aspects. I observed the frequency of communications (the number of posts and the interval of time between them), and any differences in this activity between the state of emergency and alert (1). I analyzed the content of the posts, the character of the information shared, and the presence of any marketing tool to drive engagement higher (2). By subject, I ordered posts into four categories: information regarding the pandemic and corresponding restrictive measures, promotion of specific tourism services provided, presentation of the destination, surrounding areas, the environment, etc. and content shared from third parties. Furthermore, I observed how interactive the communication was (3), by measuring the level of follower activity generated by posts. I compared the number of followers of a given page to the number of reactions to a given post, the number of shares and replies.

For a better understanding of the situation, I conducted a number of brief interviews with actors in the tourism sector, regarding their reaction to the pandemic and their view as to potential solutions that could be implemented in the future.

The selection of the sample businesses surveyed and analyzed happened by random (computerized random number generation) – businesses present on tourism websites/portals were taken into account[69] – the only criterion being that they have a Facebook page, which reduced the initially targeted sample size from 50 to 46.

The research cannot be considered representative, it is merely exploratory, a foray into the subject that could become a step towards a more inclusive and complete research into the matter.

Based on communication activity and posted content, four behavioral patterns can be identified among the analyzed tourism businesses, which I will present below.

[69] www.visitharghita.ro, www.visitcovasna.ro, www.visitmures.ro

Results

By comparing the online communication activity of the analyzed tourism businesses, it can be observed that the manner in which they responded to the crisis situation, as well as the content they published on their pages is very diverse. By the frequency of posts, their content and their degree of interactivity I identified four behavioral patterns: the silent ones, the wavers, the ignorants and the doers.

The silent ones:

Nearly a third of subjects analyzed exhibited this type of behavior. By observing the date and time of posts it can be concluded that online activity ceased immediately after the state of emergency came into effect, in most cases there was no reaction whatsoever to the pandemic or to the ways the pandemic might affect their services. Following a three-month hiatus, some pages started showing some signs of activity, there were some indirect references to reopening, or to restrictive measures coming into effect. As in these cases an analysis of content posted is impossible, we cannot draw conclusions as to the attitudes of these businesses towards the pandemic. The small number and the lateness of posts imply a sort of prudence on behalf of these businesses.

The wavers:

Also considerable in size is the group of businesses who reduced their communication to a bare minimum during the state of emergency. Following the easing of restrictions (around the end of May) however, their online presence grew significantly, the number of posts concerning the promotion of their services increased. Regarding the content of their posts, it is characteristic of them to avoid the Coronavirus subject, and they don't directly engage about the pandemic or even restrictions concerning the pandemic. The content posted focuses on presenting attractions, promoting services and attracting visitors. A drive to reinstate the "old" status quo can be observed among this group.

The ignorants:

This is the behavior least characteristic of analyzed tourism businesses, but in a select few cases, it appeared very prominently. A complete ignorance of the pandemic and ensuing measures can be observed in their communication activity. The frequency of Facebook posts can be mostly described as constant, no significant change can be observed during the time interval of the analysis. Regarding the content of posts, it can be observed that the focus is on the promotion of services and presenting of attractions. Photos, descriptions, local attractions usually feature in these posts, as well as the sharing of older memories and posts of third parties. The messages generally are passive, formulated as statements or descriptions, this way the communication remains one directional, follower engagement in the form of comments, shares or reactions is rare. Despite communicating almost constantly during the observed period, they never mention the pandemic and very rarely refer to it indirectly ("we miss you", "now we have time to rest as well", "stay home", etc.). We could conclude that these businesses wanted to keep up their online presence (even if only through one-way communication), but out of precaution and uncertainty they avoided the subject of restrictions.

The doers/initiators:

In the case of several businesses, prompt reactions could be observed. After the restrictions came into force, these pages featured detailed and up to date information on the effect of these restrictions on their services. Even during the state of emergency, there was constant communication. Posts are very varied in their content, besides a few entries promoting services and presenting surroundings and attractions, most communication targeted the involvement, engagement and activation of audiences. These included initiating games, competitions, polls, asking questions, while also informing followers about the effects of restrictive measures on their business, or keeping followers up to date on day-

to-day activities they were doing during lockdown like renovation, remodeling, refurbishments or changes to comply with restrictive and distancing measures.

After the lockdown was eased, communication was typically very vigorous concerning the reopening, the newly developed or upgraded services, along with safety measures. Furthermore, promotions or giveaways were organized so as to attract guests. This behavior suggests these businesses took a proactive approach in dealing with the crisis, they consciously assessed the situation and tried to adapt their services and communication accordingly.

The interviews conducted with business owners validated assumptions generated by analyzing online content. Subjects explained the lack of communication and reduction of online presence with the uncertainty surrounding the situation: *„…now everything is still uncertain, it's a waste to do anything until we don't know more about the future, things are changing every day. Once they let us open our doors again, we hope to return to how things were before…".* At the same time several mentioned that the pause in communication was due to them not knowing how and about what to communicate: *„At the beginning we hoped, this situation would last 2-3 weeks, then we still tried posting something or other, reposting old photos, but afterwards we ran out of ideas… now we don't really have much to post about, not much is happening…".* One interviewee emphasized the financial aspect, saying they couldn't any longer afford to pay the person in charge of online communications. Among the interviewees, there was only one person who had a different point of view than the "hesitants". He reported that despite being financially affected, like others as well, they had used this time to rethink their business model and their operations, among them their communications strategy, in his words "*normally we have guests all year long, even during the holidays, so we don't really have time to pause, put things into perspective and consider what to do differently. During the pandemic we renovated our rooms, our garden, redesigned our homepage and started an Instagram feed…".*

Like many others also, actors of the tourism sector were unprepared for the external shock of the pandemic, most of them didn't have a plan for this kind of situation. Crisis management and communication is not a field that businesses from Szeklerland pay particular attention to, there are no best practices formed. According to previous research, most actors are either small or family businesses, with an emphasis on agrotourism. Professional backgrounds in tourism are not the norm, personal experience and examples (Hungary, Austria) are most often characteristic, mainly because of the absence of a privately owned tourism sector during communism. Furthermore, it is striking that no form of cooperation evolved between service providers, every business tried to succeed self-sufficiently. Another important characteristic is the minimal use of opportunities provided by digital and online tools. Considering all these aspects it is not surprising, that in the case of many businesses, there was no communication in response to the pandemic with them hoping for a solution from outside sources.

Local initiatives

Communication campaigns targeting to restore tourism were meant to help out tourism businesses from Covasna and Harghita counties. Following the lifting of the state of emergency, county authorities started programs aimed at securing the trust of tourists and kickstarting the tourism sector. The Visit Covasna Safe Place campaign presented Covasna as a destination offering high quality, safe and fun tourism. This campaign, as a countrywide first, was geared towards all tourism service providers who, through implementing adequate safety measures, could obtain the Safe Place certificate. The intense communications campaign ran countrywide and generated significant interest from the media. The campaign was also present in the online space by implicating businesses and service providers directly, through interviews,

presentations, videos, all of which were met with positive feedback. Similarly, in Harghita county a social media campaign was started under the #TravelAtHome title, which promoted domestic tourism by presenting destinations, services and attractions.

Summary

The research analyzed online communications of tourism service providers from Szeklerland during the initial stages of the Coronavirus pandemic. I sought to answer how individual actors reacted to restrictive measures imposed on them, how they communicated their reactions on their Facebook pages and if and how they engaged in any kind of crisis communication. By analyzing the results we can conclude that almost one third of analyzed actors took a passive attitude during this period, which in most cases meant a complete lack of communication. The others subjects exhibited a fairly constant and active presence, trying to keep communication channels alive, but aside from a select few examples, we cannot talk about real crisis communication as content posted typically avoided the subject of the pandemic and of the restrictive measures. Content posted did not significantly differ from pre-pandemic times. Of the 46 businesses analyzed, 7 exhibited proactive communication, several Facebook pages conducted exhaustive, detailed and continuous information dissemination, on the other hand also paying attention to include interactive content meant to engage followers.

The analysis of Facebook pages however doesn't shed light on the degree of awareness of these practices or if they were rather instinctual. To reveal this aspect there would need to be another detailed interview-based research conducted.

Observations of the present research confirm results of previous studies conducted in this region, as to the relative under-development of Facebook pages of tourism service providers which are typically static, have very limited interactivity and lack

stimuli, being foremost of informative nature while missing out on the benefits offered by social media.

It is already certain that the pandemic will have long-term effects on every aspect of life, with many expected changes in the tourism sector as well. Actors in this sector must be aware that in order to stay competitive, they need to prepare for these changes. Tourism businesses from Szeklerland can even be beneficiaries of these changes, if they react accordingly and quickly, as the demise of mass tourism is ever more expected giving place to the rise of less frequented destinations. At the same time, a rise in demand for tailored services is also expected, with safety and trust becoming of great importance in the choice of tourism destinations (Raffay 2020). Health will be a central element for post-COVID tourism, which means an easier restart for providers with a track record and reputation of cleanliness, efficiency and decreased risk of infection, as well as for structures that are ready to adapt and react to crises or new waves of COVID infections (D'Onofrio 2020). Besides these, a further expansion of digital solutions is probable, with digital tools and innovation playing an increasing role in the tourism of the future. The majority of travelers have already been collecting information about their destinations but being informed gained a whole new level of importance during the pandemic. Real-time up to date information gains in importance, which will mean a rise in use of written and digital media, as well as social media.
All these changes amplify the need for effective communication. Communication, and most importantly online communication will have an even greater role in establishing trust and retaining competitiveness in the tourism sector in the future.

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GYÖRGY SZERB, GYÖNGYI BÁNKUTI, KATALIN SZERB, ANDRÁS BENCE SZERB: CONSUMPTION HABITS OF SNOW SPORTS IN HUNGARY

[1]Hungarian University of Agriculture and Life Sciences, Kaposvár Campus, 7400. Kaposvár, Guba Sándor u. 40.

[2]University of Pécs, Faculty of Health Sciences, 7621. Pécs, Vörösmarty Mihály u. 4.

Abstract

Tourism and sport are two key areas of modern society that are closely linked to people's leisure time and have an impact on the economic and cultural life of countries, regions, and municipalities, as well as on international relations. The winter tourist period in Hungary is dominated by sports tourism related to snow sports, even though Hungary's natural endowments are limited in this respect. Today, the most popular snow sports in Hungary are skiing, snowboarding, and cross-country skiing. In our study, we want to present the consumption habits of Hungarian consumers pursuing any of the snow sports after a national survey conducted in the winter of 2020, with the participation of different Hungarian professional organizations operating in the sector.

Keywords: snow sports, ski, snowboard, cross-country ski, consumer habits

JEL code: Z21, Z31, Z33

Introduction

Over the last century, the importance of both tourism and sport as an economic sector has increased. In today's globalizing world, significant industries are built on these two sectors, and sports tourism is even becoming an increasingly important and independent market. However, the link between sport and tourism in the literature is mentioned by Anthony (1966), who published his study in Great Britain, entitled Council of Physical Recreation only in the middle of the 20th century. According to Béki (2017), both in terms of politics and scientific research, there was a growing interest in the 1990s to bring sport and tourism closer to each other. As a result of globalization, travel opportunities have changed, they have become faster, more selective, and freer than ever before. This has had a direct impact on the tourism of professional and amateur athletes, sports chambers, and fans (Lasztovicza - Béki, 2016). Sports tourism today can provide an opportunity to extend the classic summer and winter tourist seasons and increase the number of guest nights. Various international and national competitions, sporting events, and tournaments provide an opportunity for countries, regions, and municipalities to reach and attract different consumer groups. The complexity and development of sports tourism have made it essential to define the place of sport in the tourism literature. Both active and passive forms of sport have in many cases already become the number one motivation for travel today (Hegedüs et al., 2020). The international literature defines sports tourism as a leisure activity that is not tied to home or work, it requires a temporary trip and the consumer plays an active or passive role in a sports activity (Standeyen - De Knop, 1999). Later, Gibson (2003) also linked the concept to leisure travel, in which a person engages in physical activity or visits a sport-related attraction. In the Hungarian literature, Bokor (2004) states that active or passive

participation in sports activities in the framework of tourism is established by the tourist leaving his / her usual environment for leisure or business purposes.

Due to the expansion of the sports market, the development of the sports economy can also result in growth in the national economy (Faragó, 2016). Since the 1970s, according to Faragó et al. (2018), the sports economy has experienced rapid growth in North America and Western Europe. According to Várhelyi - Könyves (2007), the most significant form of active tourism in Europe in recent decades has been related to snow sports and to the winter seasons, which is closely connected with various sectors of the sports economy. However, due to climate change, the natural snow line is shifting higher and higher across Europe, significantly reducing the number of snowy days in many locations. Tourism service providers based on snow tourism are constantly improving their services and infrastructure, partly due to environmental changes and partly due to increased consumer demands. Ski slope operators are responding to modern challenges with qualitative and quantitative improvements, increasing the length of the tracks, occasionally connecting several track systems, replacing their obsolete old ski lifts with more modern, faster, and higher capacity ski lifts. In order to ensure snow-sure ski slopes, better snow quality tracks, most of the operators today are already treated daily with ratracs and snow cannon systems to ensure the right amount of snow in the ski resort.

Not only operators of the ski resorts compete with each other for consumers, but also accommodation providers and other service providers operating in nearby areas, valleys, and mountains. According to Várhelyi - Könyves (2007), there are many factors nowadays outside the ski resort that influence consumer decisions. Such services include spa and wellness services, gastronomy, cultural programs, entertainment, shops, and other services.

The authors' aim in this study is, to present the consumption habits of the Hungarian consumers who regularly do any of the examined snow sports (ski, snowboard, cross-country ski) and the factors influencing their decisions in the current market.

Snow sports today

Snowsports, like many other popular sports today, were not created as sports. At first, one used the tools needed for work and different goals, then used them and combined them with sports culture. In areas covered with snow and ice, prehistoric man had already used rudimentary, initially wooden skis to facilitate transportation. According to FIS (2018), the finds found in the Northern Hemisphere, Russia, and various Scandinavian areas date from around 6-5 thousand BC. However, the development of modern skiing did not begin until the second half of the 19th century, when the use of skis spread from the Scandinavian countries to other European countries (Síelők, 2011). Due to the terrain of the Alps, the alpine skiing technique developed, and then, at the beginning of the 20th century, various other winter sports came into being. Winter sports were soon included in the program of the Olympics and in 1924 the first Winter Olympics were held in France. However, in addition to professional sports, the possibility of entertainment in winter sports was also recognized early in leisure sports (Béki, 2015). Then, in the 1960s, a new snow sports device was patented in the U.S. called snowboard (FIS, 2018). Nothing shows the popularity of snow sports better than the fact that, according to Vanat (2020), 68 countries today have a total of more than 2,000 snow-covered outdoor ski resorts.

According to Table 1, we can see that Europe, which can be considered the homeland of snow sports, still plays a decisive role in the snow sports market today. 59% of all 2084 ski resorts are

located in the three European-linked regions (Alps, Western Europe, East-Central Europe). Of these, the Alps region stands out, where 37% of today's resorts are located. In terms of the number of lifts, the dominance of European regions can also be seen, as 68% of all lifts are located in these regions. However, the dominance of the Alps region in terms of snow sports is shown not only by the number of ski resorts and lifts but also by the fact that 80% of the world's top ski resorts are located here, according to Vanat (2020). Top ski resorts include those where the number of visitors exceeds 1 million per year.

1. table: Regions market share in the winter sports market in 2020

Region	Distribution of ski resorts (%)	Distribution of ski lifts (%)	Market share in terms of number of visits (%)	Distribution of the number of visitors by origin (%)
Asia and Oceania	19	14	16	22
America	21	16	21	23
Alps	37	38	43	16
Western Europe	11	16	10	24
East – Central Europe	11	14	9	13
Other	1	2	1	2

Source: Own compilation based on Vanat (2020)

The market dominance of the Alps region is also shown by the share of the number of visits, as 43% of the more than 350 million visits were due to the ski resorts located here. The second most popular destination is the region of America, which was chosen by 21% of all visitors. The origin of visitors shows a different picture, as most consumers who choose winter sports came from the Western European region, ahead of visitors from the Americas (23%) and Asia and Oceania. Visitors from the Alps region account for only 16% of the world market. However, the market positions that have developed in recent decades are constantly changing. Today's climate change does not affect regions suitable for winter sports in the same way. Several sources report from time to time the coming end of European winter sports, supported by data from recent years. According to Index (2019), the average temperature in the Alps is warming faster than the average temperature of the earth itself, which has meant 2 degrees Celsius for the past 120 years. This means an upward shift in the snow line, which endangers the operation of several track systems. We can also read about the average decrease in opening days at different ski resorts and the decrease in the amount of natural snow that has fallen.

An important choice for snow sports consumers is the price of ski resort services. From the point of view of this study, we collected the daily adult ticket prices of the ski resorts located in a region that is closer to Hungary based on the data of Ski-Resort-Stats (2020). Table 2 shows the five cheapest ski resorts according to their daily ticket price. Their prices range from 18 to 20 euros and have a 20-35 km track system. Some of the cheapest ski resorts in Europe in the Central and Eastern European region are Bulgaria, Poland, Bosnia and Herzegovina, and the French Alps.

2. table: European ski resorts adult daily ticket prices in 2020 (cheapest)

Cheapest ski resorts		
Name of the ski resort	**Country**	**Daily adult ticket price (EUR)**
Vitosha – Sofia	Bulgaria	18
Aillons-Margériaz	France	19
Gresse en Vercors	France	19
Szczyrk – Skrzyczne	Poland	20
Jahorina	Bosnia and Herzegovina	20

Source: Own compilation based on Ski-Resort-Stats, 2020

The ski resort offering the most expensive adult daily ticket is summarized in Table 3. The most expensive track system in Europe is the Swiss Breuil-Cervinia - Zermatt / Valtournenche - Matterhorn where the operator asks 81 euro for a daily ticket. Other ski resorts in the Swiss Alps are also among the five most expensive in Europe. They await visitors with 120-412 km of ski slopes in terms of size.

3. table: European ski resorts adult daily ticket prices in 2020 (most expensive)

Most expensive ski resorts		
Name of the ski resort	**Country**	**Daily adult ticket price (EUR)**
Breuil-Cervinia - Zermatt/Valtournenche – Matterhorn	Switzerland	81
St. Moritz – Corviglia	Switzerland	69
Corvatsch/Furtschellas	Switzerland	69
Laax/Flims/Falera	Switzerland	68
Verbier – La Tzoumaz/Nendaz/Veysonnaz/Thyon (4 Vallées)	Switzerland	66

Source: Own compilation based on Ski-Resort-Stats, 2020

Snow sports in Hungary

Only 2% of Hungary is situated above the altitude of more than 400 meters above sea level, however, several smaller ski areas operate. In the northern part of the country, next to the Slovakian border, most of the tracks are located, and the highest peaks of Hungary are also located here, including the 1014 meter high Kékes tető, which is the highest peak in the country. However, one of the largest ski resorts in Hungary is located close to lake Balaton in the Bakony mountain.

Skiing has become popular in Hungary in recent decades, and according to Vanat (2020), out of a population of nearly 10 million, about 600,000 people do one of the snow sports. However, more than 90% of them travel abroad for winter sports, as the Hungarian mountains are not high enough, the ski lifts are a bit outdated, the size of the ski areas are small and the quality of the snow in many

cases lags behind the quality of foreign resorts. However, we consider it important to present (Table 4) the 13 ski areas operating in Hungary according to Síelők (2020). The ski areas have a total of 50 lifts, of which only 6 can be said to have at least 5 or more lifts available for guests. The length of the piste systems is also significantly lower than that of their foreign counterparts, as a total of 3 ski areas have slopes longer than 4 km, suitable for alpine sports.

4. table: Operating ski areas in Hungary in 2020

Ski area	Length of the slopes (km)	Number of lifts	Peak height (m)	Altitude difference (m)
Bánkút	3,3	7	935	165
Dobogókő	2,7	1	680	170
Eplény	7,9	8	509	176
Kékestető	3,1	5	1014	245
Mátraszentistván	4,1	8	821	145
Nagy-Hideg-hegy	4,2	4	850	270
Normafa	14	0	477	77
Pécs	1,1	1	510	140
Sátoraljaújhely	2	5	487	167
Sopron-Vasfüggöny Sífutópálya	20	0	520	160
Szilvásvárad	0,3	1	390	30
Tokaj	0,6	1	476	101
Visegrád	1,7	9	370	130

Source: Own compilation based on Síelők (2020)

There were several other smaller ski resorts in Hungary, but these were closed due to inadequate snow conditions, high costs, or outdated infrastructure. Currently, the largest ski resort in Hungary is the Intersport Síaréna in Eplény in Bakony, which has an altitude of only 509 meters above sea level but is a list leader in terms of the number of opening days/season. The ski area has become nearly 8 kilometers long thanks to several developments over the past decade, and with modern technology, it has been able to both increase the number of opening days and improve and maintain adequate snow quality. Also, the Mátraszentistván Sí Park must be highlighted, as it is the other defining piste system in Hungary. At the two mentioned ski areas, the domestic sports associations organize their youth and adult alpine skiing and snowboarding competitions in Hungary. The first FIS ski competition in Hungary was planned to be held in the Mátraszentistván Sí Park in 2020, which would have been a serious sports diplomacy success for the professional association.
Lovers of winter sports look not only for the length of the ski area, their height or the quantity and quality of the lifts, but also how much the operators charge for the services available.

5. table: Prices of the Hungarian ski areas in2020

Ski area	Daily adult ticket (EUR)
Eplény	30,0
Mátraszentistván	22,7
Kékestető	18,2
Visegrád	17,9
Bánkút	16,7
Sátoraljaújhely	13,6
Dobogókő	12,1
Nagy-Hideg-hegy	9,1
Pécs	7,6

Source: Own compilation based on Sielők (2020)

According to the data in Table 5, the operators of Intersport Síaréna Eplény in Hungary charge the most for adult daily tickets, followed by the ski area in Mátraszentistván, Kékestető, Visegrád and Bánkút with materially cheaper ticket prices. However, Béki's (2017) study showed that despite the higher daily tickets, the Eplény ski resort leads the list of Hungarian piste systems due to better services, ahead of Mátraszentistván and Sátoraljaújhely in the evaluation.

Material and method

In the research, there was primary data collection based on a quantitative online survey. The sampling was carried out using the snowball method, assisted by several Hungarian sports federations, sports associations, and other professional organizations. Data collection covered three months between January and April 2020 and reached N = 1124 respondents. Although it cannot be considered to be representative sampling, it can provide unique useful information and guidance to the actors in this sector. The scope of the research covered respondents who considered themselves active snow sport users at any field of skiing, snowboarding, cross-country skiing. The analysis focused on the characteristics of the above-mentioned active sports consumers' consumption habits, motivations, and attitudes. The number of valid answers was N = 983. The structure of the survey was the following. It started with filter questions about the type of sport the respondent is doing. The frequency of the certain sport activity, motivation of it, the level of the sports skills, the available sports infrastructure, and last came the personal data. For the calculation and visualization of the data, there were MS Excel and Tableau Public were used.

Results and Discussion

Table 6. contains the statistics about the frequency of the sports activity and the body structure, the level of fat of the respondents (Body Mass Index, BMI). 50,5% of the respondents were female and 49,5% male. Most of them (43,6%) practice sport 1-3 times a week, about a fifth of them more frequently or sometimes a month.

That can be stated, 64% of the winter athletes live with normal weight, 5,4% thin, 22,3% overweight, and 6,5% live with obesity. Considering the frequency of doing sport activity 21,4% of the respondents do sport more than 3 times a week, 43,6% 1-3 times a week, till 19,6% only a few times a month and 15,4% rarely more than once a month.

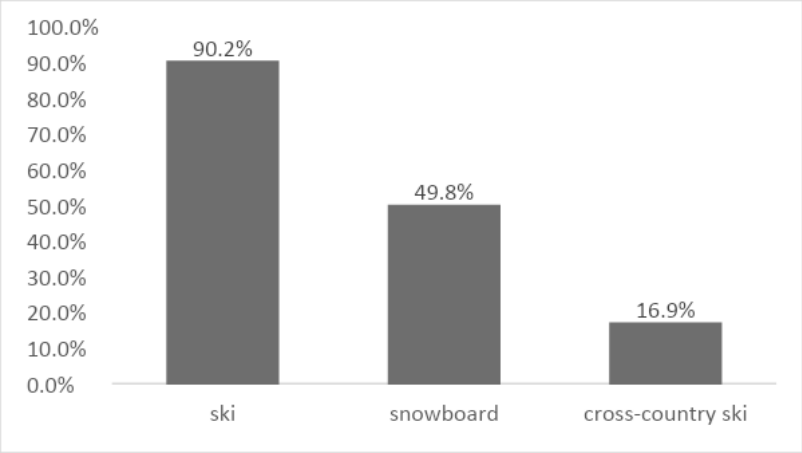
Table 6.: BMI index and habits of the active winter sport athletes

Pie chart	Color codes	BMI index of the respondents	
		Thin	5,4%
		Normal body weight	64,7%
		Overweight	22,3%
		Obesity	6,5%
		No answer	1,1%
Pie chart	**Color codes**	**Frequency of other sport activity**	
		Less than once a month	15,4%
		A few times a month	19,6%
		Yes, 1-3 times a week	43,6%
		Yes, more than 3 times a week	21,4%

Forrás: Own compilation

The research concluded that 52% of the Hungarian snow sports consumers have played or tried only one snow sport type, while 48% have played or tried at least two types. Figure 1. shows that more than 90% of the domestic consumers have at least tried or did skiing, nearly 50% of them snowboard and almost 17% of them cross-country skiing. (Figure 1.)

Figure 1.: Types of winter sports, have been tried by Hungarian sport consumers



Source: Own compilation based on the survey

Table 7. refers to the demographic data of the respondents. 78% of the respondents live in cities, having at least 10 000 inhabitants, and 31,3% live in our capital. Thus, the Central region is over-represented with about 50%. The other regions take about 10%, only the Southern Transdanubia is a little bit higher with its 13,5%.

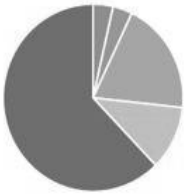
Table 7.: Personal, demographic data of the active winter sport athletes

Pie chart	Color codes	Region	
		Central Hungary	49,5%
		Central Transdanubia	9,1%
		Western Transdanubia	8,4%
		Southern Transdanubia	13,5%
		Northern Hungary	9,1%
		Northern Great Plain	4,8%
		Southern Great Plain	5,6%
Pie chart	**Color codes**	**Type of the settlement**	
		Village	14,0%
		City (below 10 000 inhabitants)	5,8%
		City, (between 10 000 and 50 000)	18,0%
		City, (between 50 000 and 100 000)	13,0%
		City, (above 100 000 fő)	16,5%
		Capital	31,2%
		I live abroad	1,4%

Forrás: Own compilation

Table 8. refers to the economical situation of the respondents. 60% of them have university degrees. Considering the economic activities of the groups of the respondents, the white-collar ones formed the most populated group (45,8%). Second, the entrepreneurs (16,7%) came, followed by the students (15,4%). 80% of the respondents can live on their salary, or even live on it well, that makes saving money possible and using it later for free.

Table 8.: Personal data of the active winter sport athletes

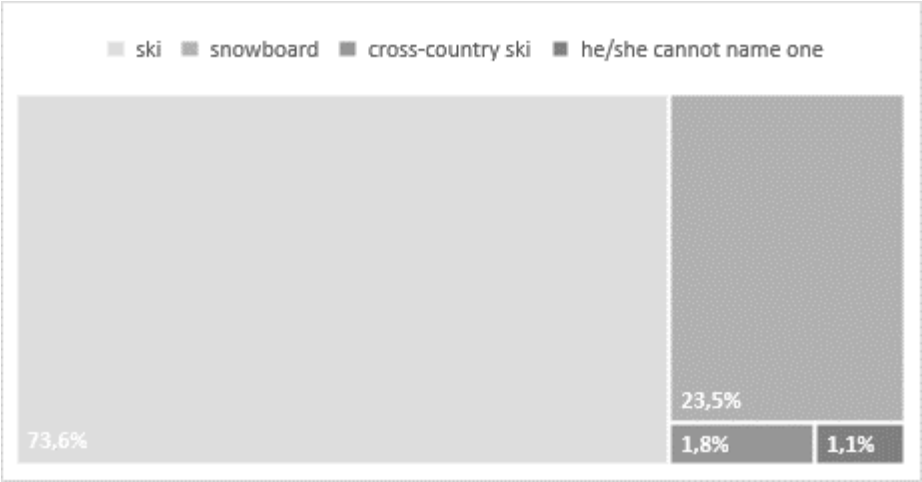
Pie chart	Color codes	Economical position	
		Student	15,4%
		Blue collar employee	6,4%
		White collar employee	45,8%
		Top manager	5,5%
		Entrepreneur	16,7%
		Pensioner	1,8%
		Other	8,4%
Pie chart	**Color codes**	**Net income of the family**	
		Almost not enough for living	0,2%
		Just enough for living	8,7%
		Enough for living, but cannot afford to save	46,3%
		Well for living, can afford to save	35,5%
		I don't know, / don't want to answer	9,3%
Pie chart	**Color codes**	**Highest level of education**	
		Primary school	3,6%
		Vocational school,	3,5%
		Secondary school diploma	19,6%
		college, vocational higher school	11,1%
		University degree	62,3%

Source: Own compilation

Figure 2. shows the most frequently pursued sport types. 73,6% of the respondents do skiing, about a quarter of them snowboarding, and only 1,8% cross-country skiing. The number of persons who have tried snowboarding is double the number of persons who do it most frequently as concluded from the survey. The same rate between cross-country running is fifteen. 1,1% of the respondents

do at least two types of winter sports, and do not want to name any primary snow sport type.

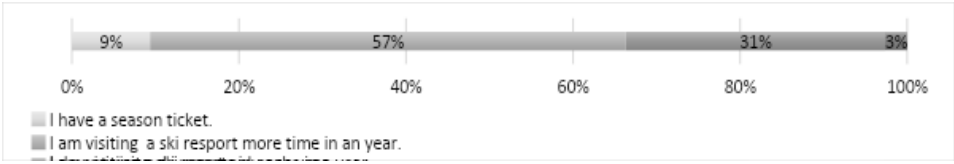
Figure 2.: The most frequently pursued snow sports of the respondents



Source: Own compilation based on the survey

Figure 3. shows the frequency of visiting resorts in a year. 57% of the sports consumers visit ski resorts several times a year to do winter sports and 9% of them have a season ticket. 31% of the consumers visit a ski resort once a year for skiing, snowboarding, or cross-country skiing, and 31% of them do not visit a resort yearly.

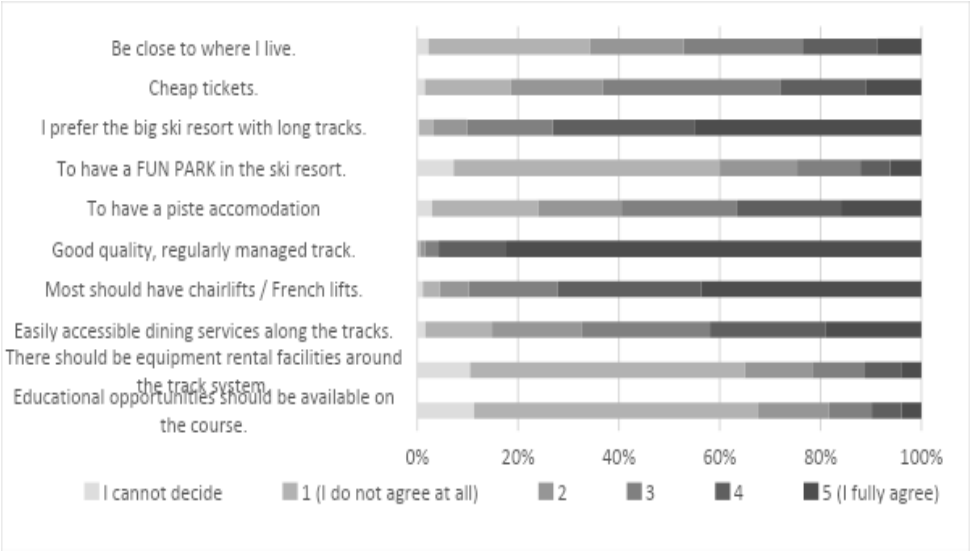
Figure 3.: The yearly frequency of visiting winter sport resorts



Source: Own compilation based on the survey

Thanks to the recent developments of the ski resorts and related services nearby, the popularity of the resorts increased, it affected the habits of the sports consumers. Figure 4. shows the rank of the selection criteria of the sports consumers. 50% of them do not consider the distance of the resort to be important, meaning it must not be close to their place. They don't mind traveling a longer distance. The other major expenditure of a skiing vacation is the prices of the tickets or ski passes. The respondents' opinion about the importance of the price is not identical. Only 11% chose the answer "the price is very important". The most important feature of a ski resort is the length of the trails, which is determined by the geographical features of the territory. For 70% of the respondents it is very important the length of the trails. Unfortunately, the Hungarian resorts have only short slopes, which disadvantages them. Recently, the majority of the ski resorts have FUN PARK, which marks an independent part on a slope where kicker and obstacles can be found for both skiers and snowboarders. These facilities do not affect the preference of the majority of the respondents, it can be important just for a minority (4%) in their choices.

Figure 4.: Selection criteria of the ski resorts



Source: Own compilation based on the survey

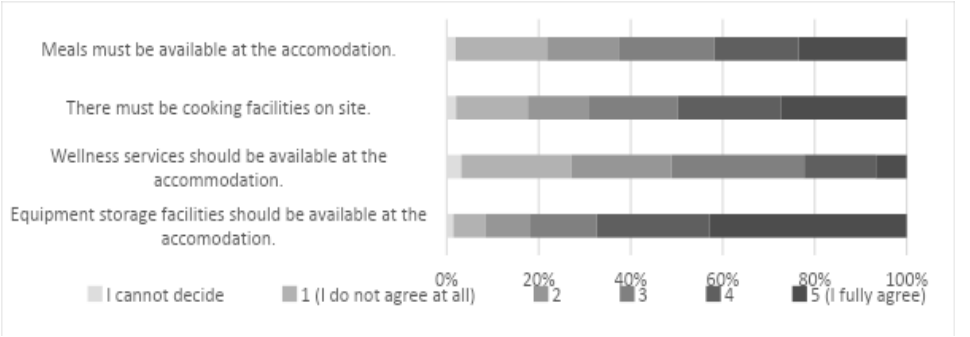
Consumer opinions are divided considering the distance of the accommodation from the trails. For 20% of the respondents, it is not important, but for the 16% of them it is a priority to use "piste accommodation".

Based on the continuous developments of the last decades, nowadays the trail keepers try to serve the consumers at the highest possible level with modern tools and technology. More than 95% of domestic consumers consider it important to have good quality and regularly maintained trails while playing sports. For more than two-third of them, it is important most of the tracks are equipped with seated lifts. Surface lifts (e.g. plates, pickaxe) are less popular than seated ones. Ski resorts offer other additional services, like easily accessible dining services also rentals and repair of the ski

accessories. The preference of it divides the customers. For two-third of them, the rentals and repair service of the ski accessories do not affect their resort choice.

Around the track systems, many accommodation providers compete for the consumers to spend most of their guest nights with them. According to the diverse needs of consumers, the accommodation providers also try to attract guests with various additional services, like dining, cooking facilities, wellness services, sports equipment storage. Figure 5 shows the accommodation service preferences of the customers based on the survey.

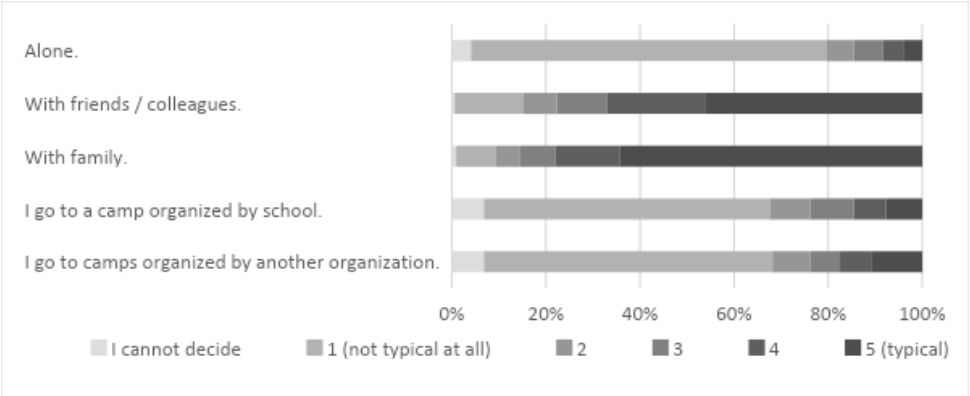
5. ábra: Accommodation service preferences of the costumers. based on the survey



Source: Own compilation based on the survey

The research focused on the issue of whom the consumers go for skiing, snowboarding and ski running with. Matching our preliminary expectation, 80% of consumers are not at all likely to play sports alone. Two-thirds of them are accompanied by friends or colleagues and nearly 80% by their family. Participation in camps organized by schools or other organizations is typical of only a narrow group of consumers in Hungary.

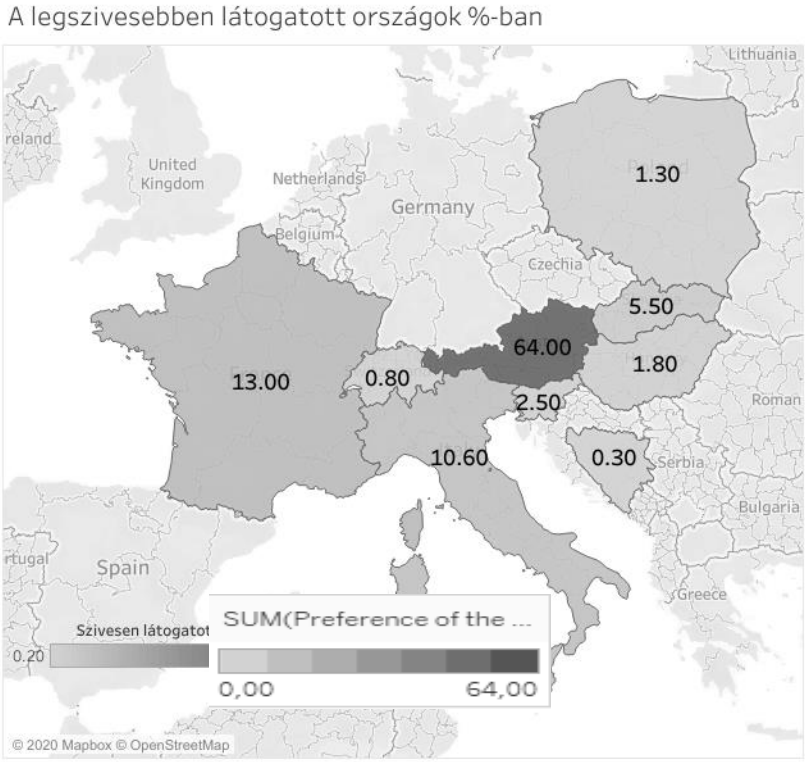
6. ábra: With whom are you going for ski resorts?



Source: Own compilation based on the survey

Figure 7. shows the ski resort destination for Hungarian winter sport consumers. The most popular destination is Austria, 64% of the respondents would prefer to choose it. This is followed by the French Alps (13%) and Italy (10.6%). 5.5% of consumers chose Slovakia and 2.5% Slovenia, from the bordering countries, while only 1.8% of respondents indicated Hungary as their most popular destination.

Figure 7.: The ski resort preferences of the respondents

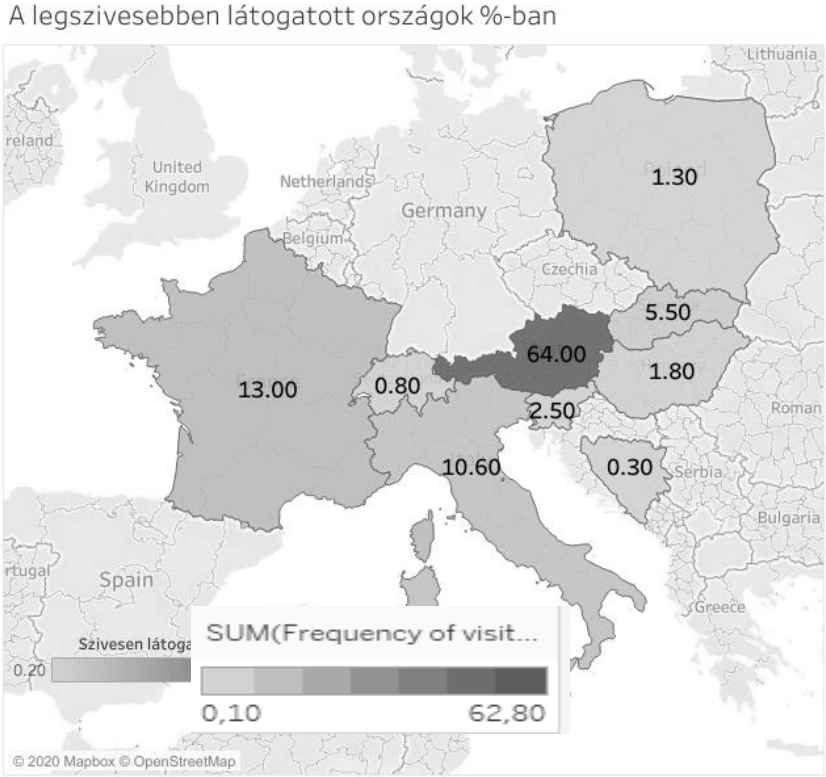


Source: Own compilation based on the survey

Figure 8 shows the destination countries that snow sports consumers most visit most often. More than 60% of the respondents pointed to Austria to be the most visited country, similarly as it was the most popular destination as well. However, the price and distance from home sensitivity of the respondents occur in the second and third preferred destination, that is Slovakia – with 10.8% - and Hungary – with 6.9%. France and Italy are still

important destinations for domestic consumers, but their frequency of visits is lower than their popularity. The frequency of visits of the rest of the neighboring countries – like Slovenia, Poland, Romania, and Ukraine - is higher than their popularity. It also proves the price and access sensitivity of the snow sports consumers.

Figure 8.: The most frequently visited ski resort countries



Source: Own compilation based on the survey

Conclusion

Today, snow sports tourism has become a dominant branch of the tourism sector. The first part of the study provides a brief overview of the market emergence of sport tourism and the global market share of snow sports tourism by region. The presentation of the Hungarian ski resorts and services fits in this part of the paper, highlighting the Eplény and Mátraszentistván ski areas, which play a leading role in the domestic market.

During the research, we conducted a quantitative survey. An online survey was used in the primary study. Between January and April 2020, 983 active respondents joined our online data collection examining snow sports consumption habits using the snowball method. Our respondents found that they typically play sports on a recreational basis, most of them are higher educated, living in cities with a population of over 10,000 in good financial conditions. Their average age is 37-40 years for skiers and 30-33 years for snowboarders. We learned from the responses that 57% of them visit one of the ski resorts several times a year. More than 50% of domestic consumers do not consider it important for the ski area to be located close to where they live and are willing to travel farther to reach the desired ski resorts. Barely 11% of respondents indicated that a cheap ski ticket was very important to them. At the same time, more than 70% of them need to be able to play sports on large track systems and to have longer slopes if possible. This is a disadvantage for domestic ski areas in terms of competitive advantage. The existence of a FUN Park can have a decision-influencing factor for only a narrow 4% layer.

Consumer opinions are divided on the distance of the accommodation from the slope itself. While 20% of the consumers consider that it is not important at all, for 16% it is extremely important to be able to have accommodation at the ski resort.

However, more than 95% of domestic consumers consider it important to have good quality and regularly maintained tracks available during sports. For more than two-thirds of them it is important that most of the tracks be equipped with seated lifts. Equipment rental and the available educational opportunities in the ski areas are not a decision-influencing factor at all for two-thirds of domestic consumers when choosing a ski resort.

Two-thirds of respondents go on holiday with friends or colleagues in the winter, and nearly 80% have a family with them. Participation in camps organized by schools and other organizations is typical of only a narrow group of consumers in Hungary.

For the Hungarian consumers, the most popular destination is Austria, which 64% of respondents would prefer to choose as their place of consumption. This is followed by the French Alps (13%) and Italy (10.6%). Of the other countries bordering Hungary, 5.5% of consumers would choose Slovakia and 2.5% would choose Slovenia, while only 1.8% of respondents indicated Hungary as their most popular destination.

By presenting the results of this study, we hope to be able to provide useful help to sports and tourism professionals to contribute even more to the further development of Hungarian winter sports tourism with consumer-friendly services.

Acknowledgments

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KATALIN VARGÁNÉ CSOBÁN – ANETT GODÁNÉ SŐRÉS: CHALLENGES OF THE DEVELOPMENT OF CULINARY TOURISM IN THE BALATON TOURISM REGION

[1] Department of Tourism and Hospitality Management, Faculty of Business and Economics,
University of Debrecen, Debrecen,
e-mail: vargane.csoban.katalin@econ.unideb.hu
[2] Department of Rural Development and Regional Economics, Faculty of Business and Economics, Debrecen,
e-mail: sores.anett@econ.unideb.hu

Keywords: sustainable, gastronomy, culinary innovation, regional development

Abstract

The Lake Balaton region is one of the most renowned destinations in Hungary. For the last few years several private and public initiatives have been launched to promote new types of tourism, such as culinary tourism. As a result, a „gastronomic revolution" has taken place in the region. The aim of our paper is to explore the characteristics of the complex tourism products based on the traditional and innovative gastronomy of the region, and investigate its recognition among tourists. In-depth interviews were conducted with local catering businesses to analyse the success factors and challenges of gastro tourism development. A questionnaire survey has also been implemented to explore the tourists' opinions and attitudes to the gastronomic experience provided in the region. The results imply that the recognition of culinary tourism is increasing, creating a solid basis for the tourism

product diversification, which may contribute to the sustainability of the tourism sector.

Introduction

The blending of nations and cultures in the Carpathian Basin over the centuries has resulted in peculiar dishes and methods of food preparation as well as traditions that are typical exclusively of the region that represents the foundations of today's gastronomy.

At some earlier time the main foodstuffs of the people living in Balaton-felvidék and the Bakony hill were potatoes, bread, cabbage, and pork complemented by food from hunting, fishing as well as vegetables and fruit. Vegetables and fruit that grew wild such as sorrel, liquorice root and salsify played an important role but the main source of food consisted in mushrooms, which were prepared in rather diverse ways. Dishes made with mushrooms were so predominant in this region that chicken soup and pork chops „Bakony' style are known to be prepared flavoured with mushrooms and sour cream. Fish was a popular food in Balaton-felvidék and it was prepared in a number of different methods. Some of the typical dishes were tasty fish soup made from different types of fish, fish paprika, but it was also frequently prepared as stew, goulash, and roasted on a metal plate or skewers. One of the best known fish in this region is Balaton bream, which is prepared in diverse ways, with one of the best known dish being bream "Bakony" style, which is also prepared using mushrooms and sour cream as flavouring. These traditional dishes can still be found in some old restaurants (tschardas), which conjure up memories of old times (Cey-Bert, 2001).

The late 1990s and early 2000s saw the beginning of the process of renewal called "culinary revolution" which is still going on even today, and which has led to an internationally significant advancement of Hungary's cuisine in the past one and a half decades (Chilembu, 2010). Although international trends are

reflected in the Hungarian restaurants, several businesses prioritize the preservation of traditional ingredients and recipes. As a result of this, Hungarian fish, game, and other traditional products are becoming increasingly important (Magyar Turisztikai Ügynökség, 2018).

Culinary revolution is a long-term process that aims at renewing Hungary's culinary culture. The goal of this revolution is not only to raise the level of Hungarian gastronomy but also to ensure that people pay attention to what they eat at home and in restaurants as well as to what foodstuffs they buy and what technologies they use in cooking.

The aim of the present study is to explore and present the close relationship between tourism and culinary art through the example of Lake Balaton, one of Hungary's most popular tourist regions. The change and development of tourism was caused by the trend that in today's fast-paced world tourists try to take every means and opportunity to make their resting and eating conditions as memorable and enjoyable as possible. A further aim of ours is to describe those elements of the gastronomy of Lake Balaton that play an important role in the renewal process of our traditional cuisine.

As a destination Lake Balaton should no longer be positioned on the tourist market as a spa but rather as an active region where sports and recreational facilities, cultural activities, wine culture and gastronomy appear jointly. The presence of these factors on the market enables year-round operation (LT Consorg, 2005).

More and more dedicated professionals around Lake Balaton are investing their energy in creating a novel, value-added business model that aims to achieve a level where the employee and the operator both find the enterprise profitable, creating a calculable future, serving customer satisfaction throughout. The approach that lake Balaton should be given more prominence in the country's image building is not to be neglected, either, as wine

tourism and regional gastronomy unite in a unique environment here, enabling the popularisation of the region both domestically and internationally (Sulyok, 2010).
Our research questions are as follows:
What are the innovative methods used by gastronomy experts to turn the region into a tourist destination all year round?
To what degree can culinary traditions be preserved today in the world of ever-more-popular gastronomy trends?
What are the most typical motivations of tourists visiting this region?
We are looking for answers to the questions posed from the sides of both demand and supply. Our aim is to map the development potential of the region's gastro tourism.

Literature

The concept of gastronomy tourism covers journeys whose primary motivation is the exploration of dishes, beverages, and food materials through visiting growers and processors, participating in culinary festivals, visiting restaurants and other places of catering and/or visiting destinations famous for their gastronomy to explore local dishes and drinks, and to try and learn how to prepare them (Hjalager–Mitchell, 2001).
The actors of food tourism are tourists who plan their journeys at least partly with the intention of tasting the dishes offered by local cuisines or conduct some gastronomy-related activity during their journey (UNWTO, 2012). Tourists judge the particular gastro tourism experience based on the diverse attributes of the given tourism product. These are primarily the quality and quantity of the dish, features of the environment, and the human work involved. Post-experience satisfaction is highly important from the point of view of the loyalty of tourists, too. Satisfaction is highly subjective and dependent on the tourist's previous expectations. Satisfaction and the way people experience it are culturally

determined. Expectations can be idealistic as a result of intensive marketing.

Gastro tourism comes in innumerable shapes and is accompanied by the continuous appearance of new and innovative gastro tourism products. Its most widespread forms are food festivals, culinary tourism trails, food museums, special restaurants, conditioners, wineries, gastro tours, gastronomy walks, thematic dining and cooking courses (Könyves - Csobán, 2015)

Gastronomy tourism can also exert a significant impact on the region affected. In addition to the economic effects of tourism, such as increasing employment, income generation, and enhancing tax revenue, locally produced premium products can greatly contribute to the destination's positive image (Fehér – Kóródi, 2008). Certain dishes, especially local specialties, can become an important part of an authentic tourism experience. Relationship with local producers strengthens the possibility of having authentic and original experiences. Finally, local dishes and foodstuffs themselves constitute tourist attractions. The markets, buying produce from the growers, the winery, and the scenery to which the culinary experiences are linked represent adequate motivation for people to go and visit the destination. Continuously renewing tourism products can also result in lengthened stays. The success factors of gastronomy tourism also include the creation of high quality gastronomy supply, which can function as a value for the local population, too. It is indispensable to build a network of outstanding restaurants which are capable of demonstrating national and regional cuisine and to strengthen their cooperation domestically as well as internationally. It is necessary to increase export of food products and drinks, to strengthen education and training as well as to nurture highly trained chefs who can become some of the best in the world. Finally, it is important to consciously coordinate gastronomy supply and tourist demand (Croce – Perry, 2010).

Material and methods

During our investigation in-depth interviews were used as a primary research method. In the course of the interviews subjects needed to be sought out who were knowledgeable about gastronomy, viticulture and tourism alike and lived and worked in the Balaton region. The demand side was investigated using an on-line questionnaire, where questions in the given topic were asked to find out how customers see the present situation of gastro tourism in the Balaton region. The sample included data from a total of 103 questionnaires, which were statistically analysed using the Excel programme.

Interview subjects are active and dedicated actors in the fight for high-quality gastronomy, and the preservation of traditions and values. In our interviews we asked catering professionals, wine professionals and gastro journalists. The interview subjects gave their views on the present situation of gastro tourism, told us how they saw the future of Lake Balaton, talked about the possibility of a year-round operation, the success of present initiatives, as well the concomitant presence of traditions and innovations.

Our interview subjects were the following:

- Zsófia Laposa, oenologist of the Badacsony Laposa Borbirtok (Wine Estate).
- Judit Szauer, founder of the Balatoni Gasztrotérkép (Gastro Map), gastro journalist, who has been in charge of her own communications company for years.
- Gabriella Szikra, creator and owner of Konyhám, opened at Balatonfenyves on the southern shore of Lake Balaton in 20017.

Results and Discussion

Results of the in-depth interviews

The results of the in-depth interviews are categorized according to the most prominent points discussed during the investigations.

Innovative solutions for stimulating gastro tourism

The restaurant owner mentioned her new wave beach bistro as an example of gastronomy product innovation. When she opened the bistro, she had two goals: to offer quality, to combine quality with traditional local food materials, and all this at reasonable prices. Her philosophy is that dishes made with traditional local food materials need rethinking. Their menu contains many rethought versions of traditional dishes made from local food materials such as Duck Burger, Beef cheek in red wine or Beef Burger made from Angus beef from Balatonfenyves. In 2016, Angus beef from Balatonfenyves was chosen as one of the best food materials in the Balaton region. The owners had been open towards the vegan and vega trends from the very beginning, as a result of which the bistro was the only place to reach an entirely new target group, too, on the Nagystrand (Main beach) of Balatonfenyves. The secret to their success was the recognition that premium food materials should be used to produce premium dishes with some rethinking. In addition to this, the appearance of food on the plates is also very important.

The founder of Balaton Gasztrotérkép demonstrated the innovative initiative of both an online and a printed version of a map that shows visitors premium catering places in the Balaton region that are open all year round or at least from spring to autumn. The goal of Balaton Gastro Map is to popularise service providers that are open outside of the main season, too, and to provide help for visitors interested in gastronomy to find these places (Balatoni Gasztrotérkép, 2020).

The arsenal of service providers that appear on the Map is extremely broad and consists of restaurants, wineries, conditioners, bakeries, and also family businesses, larger companies,

professionals who have been working in the Balaton region for a long time, and enthusiastic new actors in the field. They all share the feature that they are outstanding professionals in their respective jobs and believe in the basic values of Balaton Gasztrotérkép. They function as a community, and their like-mindedness is an extremely important factor of success.
Every business is placed on the map following a personal visit to the place and personal experience; customer feedback and testimonials are also very important. In addition to the fact that being present on this map has a number of advantages from the aspect of marketing, regular quality control is also very important. The founders make a point of visiting all the businesses on the Map personally at least once a year, and pay full attention to customer feedback. If too much negative feedback is received in connection with a particular unit, they will not be given the opportunity to feature on the Map next year.

Seasonality
In connection with the issue of seasonality the restaurant owner explained that they had prepared for that as they had known that catering around the Lake is rather special in this respect as the actual main season is only 40 days long. It also greatly differs from a city catering place in terms of customer habits as well because at midday customers tend to be more impatient and in a rush while they prefer to spend their evening meal at a more leisurely pace and in more relaxed circumstances. The restaurant works with two different menus: one for the midday meal, when great emphasis needs to be placed on speed, and another, extended menu for the evening meal, when customers have more time for dining.
The restaurant owner is hopeful since the natural endowments of the lake and its surroundings provide customers with numerous experiences in every period of the year. For reasons of season extension, "Konyhám" is open between April and October since

the number of tourists who are equally interested in visiting the Lake and its surroundings both in spring and in autumn is steadily growing. Lake Balaton has unique geographical endowments with lots of opportunities for trekking, and cycling around the Lake is a popular activity both in spring and in autumn. In autumn a number of gastro-cultural events accompanying the grape harvest await visitors (likebalaton.hu, 2020). Tourists are happy to return to the restaurants and buffets that they visited during the summer season. Seasonality is also an important issue in the life of the Laposa Birtok since at the end of the summer season and the autumn harvesting months life on the family estate slows down. „We believe in and promote the idea that the Lake is for four months, and we are willing to work a great deal to realise this," Zsófia Laposa said. The wine terrace is open all year round, and more and more entrepreneurs are following suit around the entire lake. However, keeping the unit open during the winter is not economically profitable as yet, and most entrepreneurs barely survive the winter season. Zsófia explained that, in spite of this, their experience suggests that demand is growing for activities outside of the main season and the number of tourists visiting the estate in the period between autumn and spring is on the rise, too.

Workforce supply

According to the restaurant owner, the lack of sufficient workforce is not an issue limited to catering in the Balaton region: this is a problem on a national level. Difficulties arise not only from the special situation related to seasonality and the lack of competitive demand, but in many cases they are also caused by problems in some people's approach to work. It is important that people who work should not only do their work well but be passionate about what they do and should treat the catering unit as their own. During the summer season a catering unit needs to manage a month's turnover several times over, which inevitably requires

teamwork. Reaching the condition of Balaton which is open all-year-round could be a solution as it could secure livelihood for the people working in the sector for the entire year.
With respect to catering in the Balaton region the issues of seasonality and workforce management are closely linked with each other. Being open for the entire year could be a solution to workforce problems caused by seasonality. Zsófia explained that for them, in relation to being open all year round both the issue of keeping customers and that of keeping employees play a very important role. As a result of staying open all year round the estate has been working with the same staff, which makes the task of acquiring high quality workforce less arduous as they are able to provide employment for their workers all year round in contrast to catering places that are open seasonally only.

Results of the questionnaire survey
We used the questionnaires to examine the following questions: how often do respondents visit the Balaton region, what are their goals in visiting, are they aware of the present directions and trends of the development of Balaton gastronomy as well as the most recent gastro tourism developments and initiatives?
78.6% of the respondents were women, most of them were 14 and 25 years of age, and only one person over 60 completed the questionnaire. 52.4% of the respondents had secondary school education, 41.8% were college or university graduates, and 5.8% had elementary school education. 53.4% of the respondents live in cities with county rights, 28.2% live in towns, 14.6% in the capital, and 3.9% live in villages. 54.4% of the respondents are in active employment, 31.1 still study and 14.5% of them still study but also work. The majority of the respondents (54.37%) were young people aged 14 – 25, the second largest group (18.45%) were between 26 – 35 years of age. 13.6% of the respondents

represented the 36-45 year old people, while 10.68% were between 45 and 55 years old. Only 2.91 % fell into the age group above 56. Our first question was whether the respondent had ever been to Lake Balaton. 9.03%- of the respondents said they had been, and only 0.97%% of them said that they had not. The latter percentage represented only one person out of 103 respondents in my sample. Due to their lack of familiarity with the region, this respondent was unable to answer the rest of the questions.

Respondents were also asked about their travel motivations, in other words, what was their most frequent goal in visiting Lake Balaton. 46.6% of the respondents travel there to spend their summer holidays, 20.4% to attend festivals and events, 18.5% of them to go on excursions, to do sports or trekking, 8.7% travel there to enjoy the gastronomy of the region, and 5.8% of respondents visit the destination to see friends and relatives. It is encouraging that, although close to half of the respondents still identified spending their summer vacation at the lake as their primary motivation; the proportion of those who visit LakeBalaton to enjoy its gastronomy or attend festivals and events is considerable.

The survey examined the question: in which season do tourists choose Lake Balaton as their travel destination? 53.4% of the respondents answered that they liked to visit the Hungarian sea in any season while the rest (46.6%) said that they only visit the lake region in summer. The fact that the majority of the respondents do not visit the destination during the summer main season only is a positive point, which suggests that tourists do not only see the lake as a beach resort since after the end of the summer there is no more sunbathing or doing water sports. This leads us to assume that tourists like to visit the programmes and events organised outside of the main season or they might choose the lake as a designation for an outing.

Furthermore, the results reveal that a large proportion, 40.8% of the respondents visit the lake several times a year, 30.1% of them less than once per year, while 29.1% usually go once a year. From the aspect of the region this is very positive because these results suggest that a major proportion of tourists no longer see Lake Balaton as a destination for a once-a-year summer vacation.

Relying on the results of our questionnaire, we intended to assess how familiar visitors were with Balatoni Gasztrotérkép. We aimed to learn what percentage of those asked had ever heard of Gasztrotérkép and how many of those who had heard of it had actually used it at least once either in its printed or mobile phone application version. The result was extremely positive because, in spite of the fact that the first version of the map came out only a few years ago, 48.6% of the respondents have already heard of Gasztrotérkép and 40.2% of these respondents have already used either one of the two versions of the map at least once.

As a follow-up to this question, respondents were asked whether they were following events around Lake Balaton on some social media. The results showed that 53.4% of the respondents regularly monitored Balaton-related events. This can lead us to assume that social media plays an important role in widening tourists' knowledge.

The development of gastro tourism is contingent upon a supply of premium catering places. We examined the question of how customers weigh various aspects in their choice of a restaurant. Respondents were asked to mark the importance of the following factors on a scale from 1 to 3: price, quality, traditional products, new products, local raw materials, service, appearance of the catering unit, and view of Lake Balaton. 1 indicated „not important", 2: „important", and 3: „very important. Quality of food and service was considered as most important by the respondents, while the price, the offer of traditional products and new products were seen as important, too. The appearance of the

restaurant and the possibility of having a nice view over the Lake Balaton were also found to be important by the respondents. (Fig. 1)

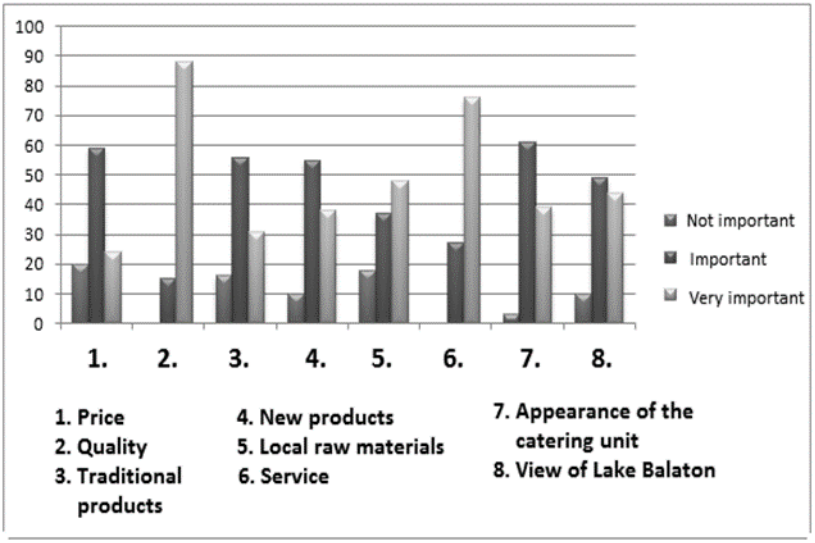


Figure 1: Distribution of catering units by selection criteria
Source: Own data collection (2019)

Finally, we also intended to find out about the ratings of the gastronomy-related events and programmes of the Balaton tourism region, namely: what percentage of the respondents have taken part in at least one gastro tourism event in the region. 58.3% of the respondents answered in the affirmative while 94.2% of those who answered that they had not responded to question 14 by saying that they would like to visit several events like this in the future.

Conclusions

Our research investigated the development of gastro tourism in the Balaton region. We can conclude that for tourists Lake Balaton is

no longer synonymous with a summer holiday destination. Ever more complex consumer needs, changes in culinary tourism that have reached the region and the development of the unique wine culture all contribute to the development of the destination.

There is growing demand for local products, pushing poor, and low-quality mass products into the background. This has a positive effect on local farmers as the higher the demand for local products, the higher the need for raw materials of the catering units, which, in turn, can ensure stable livelihood for farmers. A greater role should be assigned to these local farmers and livestock farmers. During thematically designed farm visits those interested could follow the process that finally brings a product to the table. In the less busy months the catering units could organise visits to growers' markets, where consumers could familiarise themselves with the food materials and then the process of preparing dishes.

The turnover of the summer months at the lake is still much higher than what the region's infrastructure could cope with. Examination of the region from the point of view of transport shows that local public transport between the settlements is not adequate. There are professional endeavours in this respect, too, one good example being the introduction of electric, environmentally friendly mini buses. A comprehensive upgrade of the cycle path network around Lake Balaton has also been completed; this, too, will facilitate transfer for tourists in the region.

Tourism professionals are working on organising as many programmes as possible during the autumn and winter months, e.g., in the form of culinary festivals and thematic programmes as well. More and more catering businesses are joining this initiative, who, by staying open 6 months or the entire year round, promote the lake and its surroundings as a destination that offers unrivalled experiences to tourists (Balatoni Kör, 2018).

To ensure the operation of Lake Balaton for all four seasons, considerable developments are needed in the field of

accommodation, too, as most privately let accommodation cannot be heated in winter, thus they cannot be used as appropriate accommodation for tourists outside of the summer months. Contrary to older misconceptions, there is a great need for wellness hotels around Lake Balaton as the growing number of tourist events will attract even higher numbers of tourists to the region in autumn and in winter, too.

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