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The Hungarian Public Health Product Tax.. 2011 – 2021

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List of abbreviations

PHPT – Public Health Product Tax

BMI – Body Mass Index

WHO – World Health Organisation

SSB – Soft Sweetened Beverage

NCD – Non-communicable Diseases

MNB – Magyar Nemzeti Bank (Hungarian National Bank)

GDP – Gross Domestic Product

KSH – Központi Statisztikai Hivatal (Hungarian Central Statistical Office)

I. Introduction

In this essay, I would like to present Hungary's Public Health Product Tax (PHPT, commonly known as Chips Tax). In chapter 2, I will write short background information about what and why we eat. Because most economists think price is the best and only thing that influence people what type of food and food material they buy in the shops and eat, but genetic and hormonal reasons can influence eating habits. In Chapter 3, regarding this type of tax, I will give a short overview of where and in what form it was introduced in other countries. In Chapter 4, I will give a detailed description of the PHPT tax in Hungary. Chapter 5 will summarize the international and Hungarian publications related to the PHPT and examine how positive and damaging public and professional opinion is distributed. Chapter 6 deals with the effect the tax has on domestic consumption. Some examples will be presented of how food manufacturing companies have responded to the new tax: what kind of taxed products are available in more giant hypermarkets today, what ingredients they use contain. Chapter 7 is about my examination of answers to the questionnaire prepared, how consumers know what influences the decision of Hungarian customers in the store or what they think about the PHPT. Finally, in Chapter 8, I will summarize the results and share my personal opinion and experience on this subject.

II. What and why do we eat?

This chapter will summarise how other factors influence human appetite. The environment regulates the eating behavior of humans, that is, when one eats a day, the social aspect that signals what the following time is when something can be eaten, and core biological or physiological mechanisms, which is the balance between food intake and energy level. (de Graaf, et al., 200)

I want to elaborate on this chapter because economists and politicians tend to ignore the fact that eating habits are not just influenced by the price of food and/or foods' ingredients. These factors can group several aspects, for example, internal and external effects.

II.1. Homeostatic and Hedonic Mechanisms

In the following subpart, I will summarise two different mechanisms theoretically, but their daily operations affect each other in the real world.

Homeostatic mechanisms had been modelled as appetite control by John Blundell in the early 1990s. This model suggested three different but interconnected fields: psychological issues, peripheral physiology and metabolic issues, and neurotransmitter and metabolic interface in the brain. (Blundell, 1991)

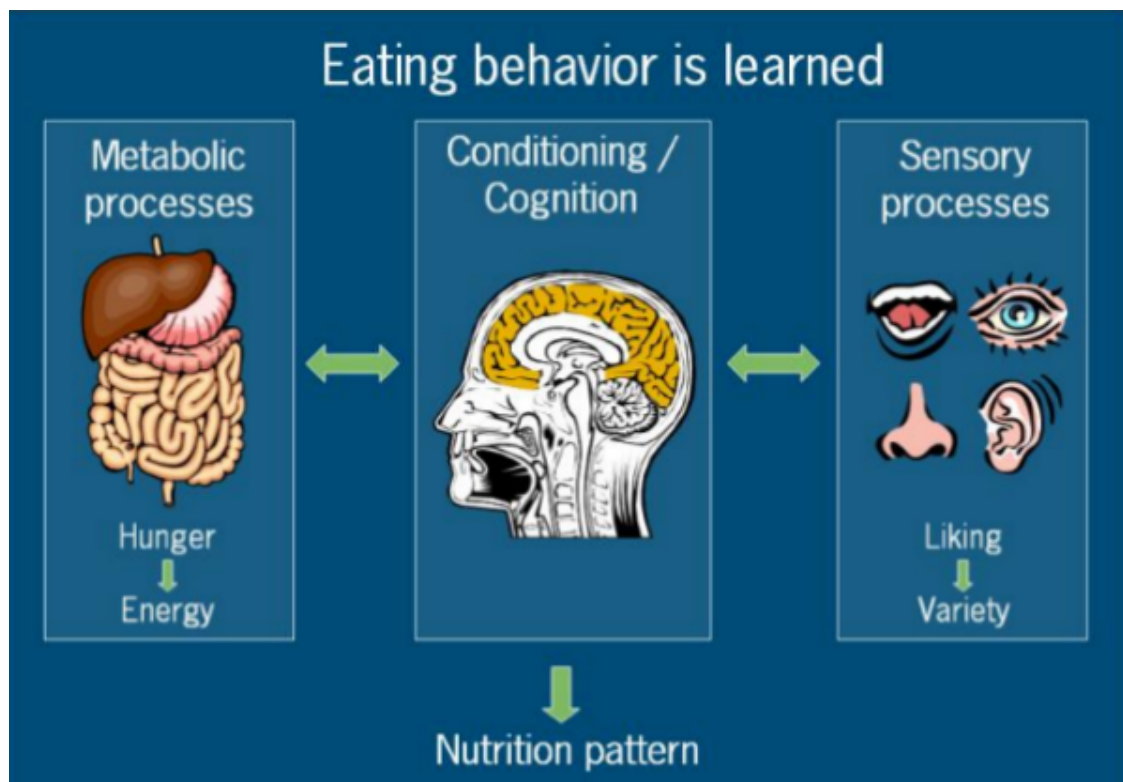


Figure II-1 Modelling of eating (Blundell, et al., 2010, p. 30)

The *eating behaviour is learned* model in Figure II-1 visually shows basic concepts. Metabolic processes in the first from the left symbolize neural and hormonal processes that are linked to the gastrointestinal tract, and the brain stays in the centre of the figure. Ghrelin, cholecystokinin, and other hormones are involved in hunger and satiety between the stomach and brain. The right side of the figure shows the sensors such as the mouth, eyes, nose, and ears. These relates to the learned satiety phase reaction when tasting a food people know directly about their repletion. This response is based on experience with nutrition. (Blundell, et al., 2010)

Every food, from slight to the strong smell and taste, triggers *hedonics mechanisms* for regulating feeding in the brain. (Saper, et al., 2002) Frequent consumption of tasty energy-dense foods makes the humans have hedonic hunger. This food intake has got pleasure for the person, and it may be a concurrence of the homeostatic indication in the brain. Consumption of these high energy-dense foods affects the neurotransmitters, for example, dopamine, which means food intake release to correlate with the level of pleasure received and serotonin, which is the feeling of well-being, frame of mind and impulse of eating has been promoted. (Freitas, et al., 2018)

II.2. Effect of breastfeeding

We all know and have heard about breast milk, but we have got little information about its effect on life. Only in the past few decades has this topic come to the front of the research topic, and we got more and more information about the effect on infants.

It is a specific human food that caters to the baby's needs. Breast milk includes micro-, macronutrient and bioactive elements that depend on the characteristics of the mother and her infant. (Mazzocchi, et al., 2019). Leptin and some hormones, such as resistin, ghrelin, obestation and Insulin like growth factor-I in breast milk, significantly influence the infant. These hormones influence the baby's eating habits and body mass index (BMI), and other health conditions in the future. (Savino, et al., 2009)

Besides, this topic has been researched many times. For example, Gibbs and Forste 2014, examined the relationship between socioeconomic status and the risk of obesity. They found that children who have grown up in a family with low socioeconomic status are at higher risk of obesity. The negative relationship between socioeconomic status and

childhood obesity might be reduced with well-aimed support and infant led feeding strategies in the families who have low socioeconomic status. (Gibbs & Forste, 2014)

II.3. Genetic reasons - Genes Associated with Food Intolerances

I will mention the celiac (gluten intolerances or allergy) and the lactose intolerance genetic background because many people buy specific free products. However, their price is higher than the everyday foods'. Those people who have some intolerances are less price-sensitive than other consumers without any problem with food.

Gluten intolerances.

The main task of the HLA genes is to distinguish their proteins from other outside cells such as bacteria and viruses. In the abnormal reaction, the HLA genes could cause a wrong immune response for the proteins, which is the reason in the case of celiac. (Vesnina, et al., 2020)

Lactose intolerance.

The MCM6 gene should control the adjacent LCT gene's expression. LCT genes determine lactose protein that is beneficial for digesting dairy products and milk that contain lactose enzymes. (Chin, et al., 2019) There are genetic and environmental relationships between eating behaviour and symptoms of anxiety and depression. (Song, et al., 2019) My MCM6 gene example can be represented in the following tables. Table II-1 helps explain the prevalence of lactose intolerance worldwide.

Alleles	African	American	European	East Asian	South Asian	All
G	97%	78%	49%	100%	89%	84%
A	3%	22%	51%	-	11%	16%

Table II-1: Population genetics of MCM6 genes in the world (Ensembl Home, 2021 Dec)

II.4. Social effects

Adult people are more influenced by social platforms and the internet than scientific platforms. When one writes "népszerű diéták" in Hungarian on google.com, 686 thousand results are found in approximately half a second. However, when one writes "favourite diet" in English, 2 890 million results are shown simultaneously.

The U.S.News Health makes a list of the current best diet trends yearly. They mark one diet from three different viewpoints: overall score, overall weight loss, and healthiness score.(U.S.News Staff, 2022) When one clicks on a special diet, we can see lots of

information about the diet, pros and cons, and another scorecard, for example, short/long term weight loss or how easy it is to follow it. Also, we can read some expert reviews and find recipes and eating plans for the diet. (U.S.News, 2022) Their top 3 rankings are the following: #1 Mediterranean Diet; #2 DASH Diet, and #2 The Flexitarian Diet. (U.S.News Staff, 2022)

II.5. Conclusion of what and why we eat?

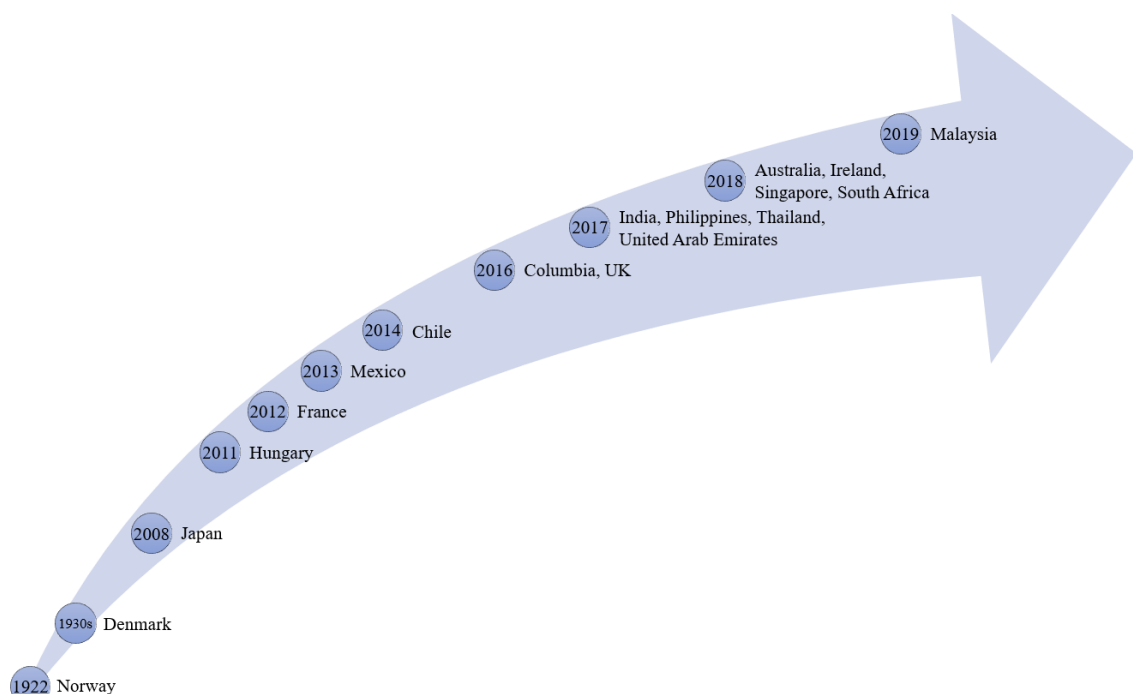
It is a complex process consisting of several parts, with many internal and external influences. Internal genetic and hormonal things cannot be changed, but knowledge of them is necessary for proper nutrition. In the case of external factors, it is difficult to orient ourselves. For example, social media and fashion influence from a young adult age are quite strong. It is necessary to understand all these effects to know why the tax studied in my dissertation can be effective in one area and not in another. The reasons for the different effects mentioned earlier are why other products or product groups are taxed differently by country and region.

III. History and types of health-related taxation

In this chapter, I will summarise why sugary drink tax, soda tax, sweetened beverage tax, junk food tax or fat tax have been introduced in many parts of the world. As we can see from Figure III-1, since the 2000s, more countries have decided to introduce such levies to reduce the intake of certain types of food and make sure the health status of the population improves. For example, there would be a decrease in high blood pressure, high blood sugar level or the level of obesity according to normal BMI. The United States is not included in the figure because there is not a uniform law on this topic. Every state can introduce such tax, e.g., Philadelphia and California have already done this. (WHO, 2015a) (Wikipedia, 2021a)

Taxes that influence people to eat healthier are different from country to country. I have tried to make several groups. However, it proved to be a challenge. Many countries have introduced a mixed tax form or use different names for the same product groups.

The logical way is the same, but it can be used for energy drinks or fatty products. I would like to illustrate the case of beverages in the following Figure III-2.



*Figure III-1: The introduction year of sugary drinks or other healthy lifestyle promoting product taxes
(Source: Author's compilation)*

III.1. Sweetened products

Countries have chosen some kinds of sweetened product tax because many studies have shown a strong and positive association between the consumption of these products and the prevalence of some non-communicable (NCD) diseases and certain cancers. Furthermore, these two disease groups cause mortality and remain one of the top reasons for mortality. The tax may be grouped by ad valorem specific volume, specific volume with threshold, specific sugar content, specific sugar type, etc.

These products could be taxed by different countries: carbonated soft drinks, juice drinks, sports drinks, fruit juices, aerated drinks, lemonades, bottled beverages, syrups/ concentrates for commercial sale, mixers, coffee syrups distributed to coffee shops and beverages containing sweeteners that are only noncaloric and so on. However, some exceptions are the following: 100% juices, powders, concentrates and sugar-sweetened dairy products. (Ng, et al., 2021)

Example – Ad valorem in Barbados (2015)

The government of Barbados has introduced the tax to decrease NCD. Taxable products are carbonated soft drinks, juice drinks, sports drinks, and fruit juices that contain added high-calorie sweeteners based on Harmonized System tariff codes. But they use some exceptions, such as 100% juices, powders and concentrates and sugar-sweetened dairy products. The amount of the tax rate is 10% of the price. (Ng, et al., 2021)

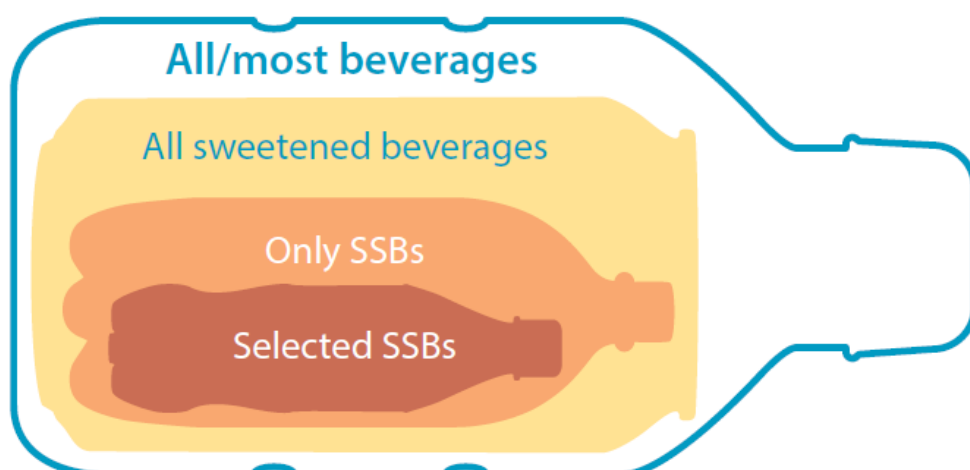


Figure III-2: Illustration of different tax base options for example beverages
(WHO, 2015a, p. 20)

Example – Specific Volume in Mexico (2014)

The government of Mexico has introduced the tax to address the high prevalence of diabetes and cardiovascular diseases. Taxable products are the following: all non-alcoholic beverages with added sugar, including reconstituted powdered sugar-sweetened drinks and flavoured/sweetened dairy products that are not milk. But they use some exceptions, such as milk products and 100% fruit and/or vegetable juice. The tax rate is 1 Mexican Peso per ready-to-drink litre indexed to inflation once cumulative inflation hits 10%. (Ng, et al., 2021)

Example – Specific Sugar type (2018)

The government of the Philippines has introduced the tax to generate revenue and struggle against obesity and diabetes, and poor dental health. Taxable products are the following: sweetened juice drinks, sweetened tea, every carbonated beverage, flavoured water, energy and sports drinks, powdered drinks not classified as milk, juice, tea or coffee, cereal /grain beverages and other non-alcoholic beverages with added sugar. However, they use some exceptions, such as milk products, whether powdered or in liquid form, sweetened or not, 3-in-1 coffee packs, 100% fruit and vegetable juices and beverages sweetened with stevia or coconut sugar. The tax rate for drinks with caloric and noncaloric sweeteners is 6 Philippines pesos per litre. Drinks with high-fructose corn syrup are taxed at 12 Philippines pesos per litre. It is not indexed to inflation (Ng, et al., 2021)

III.2. Fat or junk food tax

Countries have also chosen some kinds of fat tax because many studies have shown a strong and positive correlation between the consumption of fatty products, junk food or fast foods for prevention and control of NCD.. (Krishnamoorthy, et al., 2020)

Example – India (2016)

India has chosen a fat tax because half of the adults in India were overweight and obese. The government of India (Kerala) has introduced the tax to curb the growing addiction to junk foods. Initially, the fat tax was started with unhealthy food items as it brought the least resistance from people because it only targeted big corporate food chain restaurants. Thus people with low income were not influenced by the tax. (Krishnamoorthy, et al., 2020)

Example – Denmark (2011-2012)

Denmark was the first country to introduce the fat tax in October 2011 to reduce the burden of cardiovascular disease. However, the taxation was repealed within a year in November 2012. The amount of tax rate was an extra 16 krone per kilogram. (Krishnamoorthy, et al., 2020)

III.3. Conclusion of the history and type of health-related taxation

The health-related taxes presented above can be divided into two major groups, one of which aims to curb the consumption of sugary and sweetened foods and drinks. The other large group is the fat or junk food tax, which aims to reduce the consumption of salty or fatty foods, but there are some countries where fast food is losing prominence, such as India. The overall goal of the tax is to reduce and prevent NCD, obesity and cancer, thus reducing the mortality associated with them.

IV. Health-Related Public Tax in Hungary

The Hungarian Parliament introduced the Public Health Product Tax (PHPT) on 11th July 2011. The law has been changed several times over the years. By the end of 2021, it had been changed 15 times. This current version is effective from 1st January 2019, and this version involves ten subgroups within three main classes (beverages, food, alcohol) that the PHPT concerns. I would like to elaborate on these classes in the following few pages. (Act CIII of 2011; 2019.)

First, I am going to show the purpose of the law, and that it has not changed since its introduction:

"... To reduce the consumption of food that is not useful for public health and to promote a healthy diet and to improve the financing of health services, in particular public health programs..." (Act CIII of 2011)

IV.1. Beverages

IV.1.1. Soft beverages with the exclusion of energy drinks

At the time of introduction, the Hungarian Law only used one big category for most beverages. It includes vegetable and fruit juices and carbonated and non-carbonated mineral water flavoured with sugar or other ingredients, with the tax exemption of more than 25% of puree, concentrates, syrups, nectars, and fruit juices. Two subgroups are distinguished that have been excluded from the PHPT with sugar content exceeding 8 grams of sugar per 100 millilitres (hereinafter I will refer to these products as soft drinks under the law) and the products with the added caffeine content of more than 10 milligrams of caffeine per 100 millilitres (hereinafter referred to as energy drinks). Other regulations and higher tax amount apply to energy drinks. (Act CIII of 2011; 2011.VII.) After some months, it was modified, added to the exceptions, and extended to products made using at least 50% dairy material. (Act CIII of 2011; 2014.)

These three taxable groups have used very different tax rates, which is visible in the case of soft drinks in Table IV-1 and the case of syrups in Table IV-2. Energy drinks will be shown in Table IV-3, but before I would like to show the regulation in the following subsection.

Publication status	Ft/litre	Changes Ft (%)	
		Last status	Introduction time
2011.VII.19 - 2011.XI.29	5	-	-
2011.XI.30 - 2012.XII.31	7	+2 (140%)	+2 (140%)
2013.I.1. - 2014.XII.31.	7	0	+2 (140%)
2015.I.1. - 2018.XII.31	7	0	+2 (140%)
2019.I.1. - nowadays	15	+8 (214%)	+10 (300%)

*Table IV-1: The rate of tax obligation and changes in case of soft drinks
(Source: Author's compilation by Act CIII of 2011)*

Publication status	Ft/litre	Changes Ft/litre (%)	
		Last status	Introduction time
2011.XI.30 - 2012.XII.31	200	0	0
2013.I.1. - 2014.XII.31.	200	0	0
2015.I.1. - 2018.XII.31	200	0	0
2019.I.1. - nowadays	240	+40 (20%)	+40 (20%)

*Table IV-2: The rate of tax obligation and changes in case of syrup drinks
(Source: Author's compilation by Act CIII of 2011)*

IV.1.2. Energy drinks

At the time of introduction, energy drinks were only a small subpart of the beverage category, but nowadays, it seems it is its big category within the PHPT. Two different tax groups were introduced: one the taxable and the other tax-free. It depends on the type of sweetener in the 2011.XI.30 modification in the following way:

- Tax-free: if the content of methylxanthine exceeds 1 milligram of methylxanthine per 100 millilitres (Act CIII of 2011; 2011.XI)
- Taxable: if the content of taurine exceeds 100 milligrams per 100 millilitres (Act CIII of 2011; 2011.XI.)

In the case of energy drinks, more complex addition to the composition reappears as producers have modified the recipe, and with this addition, the majority of energy drinks became taxable in 2013.I.1. Previously it was only bound to the combined content of methylxanthine and taurine, but henceforth regardless of the taurine content, if the methylxanthine content exceeds 15 milligrams per 100 millilitres, a fee shall still be charged. (Act CIII of 2011; 2013.)

The tax amount depends on the above-illustrated categories, and it is changing the following way, which can be observed in both cases in Table IV-3.

Publication status	Ft/litre		Changes in Ft (%)			
	Only methylxanthine	Taurine (or combined with methylxanthine)	Last status		Introduction time	
			Only M	T(+M)	Only M	T(+M)
2011.VII.19 - 2011.XI.29	250	-	-	-	-	-
2011.XI.30 - 2012.XII.31	250	-	0	-	0	-
2013.I.1. - 2014.XII.31.	250	40	0	-	0	-
2015.I.1. - 2018.XII.31	250	40	0	0	0	0
2019.I.1. - nowadays	300	50	+50 (120%)	+10 (125%)	+50 (120%)	+10 (125%)

*Table IV-3: The rate of tax obligation and changes in case of energy drinks
(Source: Author's compilation by Act CIII of 2011)*

IV.2. Food products

IV.2.1. Salty snacks

At the time of introduction, the PHPT regulation of salty snacks was the following: it was made with the use of cereals, potatoes, or oilseed, and they can be baked or roasted or flavoured products suitable for immediate consumption if their salt content exceeds 1 gram of salt per 100 grams (Act CIII of 2011; 2011.VII.). A few months after the implementation, salty snacks were supplemented, except that 2 grams of salt per 100 grams applies to salty bakery products, and it is the actual regulation in 2022. (Act CIII of 2011; 2011.XI.)

Publication status	Ft/kilogram	Changes in Ft (%)	
		Last status	Introduction time
2011.VII.19 - 2011.XI.29	200	-	-
2011.XI.30 - 2012.XII.31	250	+50 (125%)	+50 (125%)
2013.I.1. - 2014.XII.31.	250	0	+50 (125%)
2015.I.1. - 2018.XII.31	250	0	+50 (125%)
2019.I.1. - nowadays	300	+50 (120%)	+100 (150%)

*Table IV-4: The rate of tax obligation and changes in case of salty snacks
(Source: Author's compilation by Act CIII of 2011)*

IV.2.2. Pre-packaged added sugary products

In the summer of 2011, the PHPT also had some regulations about pre-packaged sugary products. The legislator initially also distinguished between two groups. There was a

difference in determining the quantity of sugar content and their tax amount. Their tax amounts are shown in Table IV-5 and Table IV-6. (Act CIII of 2011; 2011.VII.)

Pre-packaged added sugary products are a large group with the everyday names of candies, gums, sweet biscuits, wafers and ice creams with sugar content exceeding 25 grams of sugar per 100 grams. (Act CIII of 2011; 2011.VII.)

Publication status	Ft/kilogram	Changes	
		Last status	Introduction time
2011.VII.19 - 2011.XI.29	100	-	-
2011.XI.30 - 2012.XII.31	130	+30 (130%)	+30 (130%)
2013.I.1. - 2014.XII.31.	130	0	+30 (130%)
2015.I.1. - 2018.XII.31	130	0	+30 (130%)
2019.I.1. - nowadays	160	+30 (123%)	+60 (160%)

*Table IV-5: The rate of tax obligation and changes in case of pre-packaged added sugary products
(Source: Author's compilation by Act CIII of 2011)*

The following regulation in the PHPT applies to sugary cocoa powder if the product fits the following two criteria. One of them is that it has added sugar content exceeding 40 grams of sugar per 100 grams, and the other one is that it has cocoa content of fewer than 40 grams per 100 grams. (Act CIII of 2011; 2011.VII.)

Publication status	Ft/kilogram	Changes Ft (%)	
		Last status	Introduction time
2011.XI.30 - 2012.XII.31	70	-	-
2013.I.1. - 2014.XII.31.	70	0	0
2015.I.1. - 2018.XII.31	70	0	0
2019.I.1. - nowadays	85	+15 (121%)	+15 (121%)

*Table IV-6: The rate of tax obligation and changes in case of sugary cocoa powder
(Source: Author's compilation by Act CIII of 2011)*

Upon law-making, no distinction was made between the different physiological effects of honey and sugar, so from the beginning of 2015, if the honey content of a product exceeds 20%, but in parallel, its sugar content is less than 40%, the product is not taxable. (Act CIII of 2011; 2015.)

IV.2.3. Condiments

At the time of introduction, the condiments, with the exception of no baby food, soup ready for consumption, and sauce, if their salt content exceeds the amount of more than 5 grams salt per 100 grams. Also exempt are mustard, ketchup and those vegetable

condiments that are dried, crushed, mashed, and salted whose salt content does not exceed the amount of 15 grams of salt per 100 grams. (Act CIII of 2011; 2011.VII.)

Publication status	FT/kilogram	Changes	
		Last status	Introduction time
2011.VII.19 - 2011.XI.29	200	-	-
2011.XI.30 - 2012.XII.31	250	+50 (125%)	+50 (125%)
2013.I.1. - 2014.XII.31.	250	0	+50 (125%)
2015.I.1. - 2018.XII.31	250	0	+50 (125%)
2019.I.1. - nowadays	300	+50 (120%)	+100 (150%)

*Table IV-7: The rate of tax obligation and changes in case of condiments
(Source: Author's compilation by Act CIII of 2011)*

IV.2.4. Fruit flavour

The fruit flavour was introduced in the autumn of 2011. Exceptions are extra jams, extra jellies, marmalades, and jams, according to the Hungarian Food Book, and there is no quantitative restriction in this category. (Act CIII of 2011; 2011.XI.)

The law was modified within a quarter year and entered into force on 22nd December 2011, then adjusted. The tax now only applies to products with sugar content exceeding 35 grams of sugar per 100 millilitres. (Act CIII of 2011; 2011.XII.)

Publication status	Ft/kilogram	Changes Ft (%)	
		Last status	Introduction time
2011.XI.30 - 2012.XII.31	500	-	-
2013.I.1. - 2014.XII.31.	500	0	0
2015.I.1. - 2018.XII.31	500	0	0
2019.I.1. - nowadays	600	+100 (120%)	+100 (120%)

*Table IV-8: The rate of tax obligation and changes in case of fruit flavour
(Source: Author's compilation by Act CIII of 2011)*

IV.3. Alcoholic products

IV.3.1. Flavoured beer alcoholic refreshments

According to the PHPT, some beer products have become taxable. The followings include flavoured beer and alcoholic refreshments, with both categories containing more than 5 grams of sugar per 100 millilitres. (Act CIII of 2011; 2011.XI.) The increased prevalence of sweeteners and changes in the case of aromatized beers and alcoholic refreshments made it necessary to determine the sugar content. The product is also taxable for sweeteners with a sweetener content of more than 5 grams per 100 millilitres. (Act CIII of 2011; 2017) These have been taxable since the 2017.I.1 modification. In addition, it

has been clarified at the same modification that products below 5% alcohol content are alcohol refreshments, and soft drinks with higher alcohol content are subject to band tax liability according to alcoholic beverages. (Act CIII of 2011; 2017)

Publication status	Ft/litre	Changes Ft (%)	
		Last status	Introduction time
2011.XI.30 - 2012.XII.31	20	-	-
2013.I.1. - 2014.XII.31.	20	0	0
2015.I.1. - 2018.XII.31	20	0	0
2019.I.1. - nowadays	25	+5 (125%)	+5 (125%)

*Table IV-9: The rate of tax obligation and changes in case of flavoured beer alcoholic refreshments
(Source: Author's compilation by Act CIII of 2011)*

IV.3.2. Alcoholic beverages

The PHPT introduced alcoholic beverages as an independent category in 2015. Earlier it had been a part of the above-mentioned flavoured beer and alcoholic refreshment category. The same tax amount was imposed for these products in 2015, as visible in Table IV-9 and Table IV-10. Another addition to the category of alcoholic beverages was that if the beverage was made using at least seven different herbs which did not contain additives, the fruit distillate was excluded from the list of products subject to tax. (Act CIII of 2011; 2015) Later, fruit spirits and herbal drinks were excluded from the exceptions for alcoholic beverages and from then on, the general band tax obligation applied. (Act CIII of 2011; 2019.)

Alcoholic beverages with ...	Publication status (Ft/litre)		The extent of changes	
	2015.I.1. - 2018.XII.31	2019.I.1. - nowadays	Ft	%
1.2-5 volume %	20	25	+5	125%
5-15 volume %	100	120	+20	120%
15-25 volume %	300	360	+60	120%
25-35 volume %	500	600	+100	120%
35-45 volume %	700	850	+150	121%
45 and more volume %	900	1 100	+200	122%

*Table IV-10: The rate of tax obligation and changes in case of alcoholic beverages
(Source: Author's compilation by Act CIII of 2011)*

IV.4. Some additional information

As with all taxes, there are some general exemptions for the PHPT. Persons and legal entities remain tax-free as long as they sell less than 50 litres or kilograms, sell abroad, are involved in additional sales or when the taxable person uses the tax-free product (as raw material) to produce their taxable product. (Act CIII of 2011; 2019.)

IV.5. Summary of PHPT

The PHPT has introduced complex taxation in Hungary, including salty, sugary or sweetened products in general. However, a separate part and tax burden applies to energy drinks and alcoholic beverages that are flavoured. Similar to the international examples briefly presented earlier, there are well-defined exceptions for every product group in Hungary. The PHPT does not apply to fast food or tobacco products, which many people think about.

V. International and national publications of opinions and estimations concerning different taxes worldwide

The impact of the PHPT introduced in Hungary is not only dealt with by the domestic press but also by the international press and literature. The following appeared in The Guardian:

„Hungary provides much stronger evidence that food taxes do work. Its public health products tax, which came into force in September 2011, slapped extra duty not just on sugary drinks but also on energy drinks, salted snacks, condiments, fruit preserves and pre-packaged sweetened products. The result? Dr Eva Martos, of the national institute of pharmacy and nutrition in Budapest, points to evidence that large numbers of Hungarians have reduced their consumption of those foodstuffs. For example, 30% have reduced their consumption of pre-packaged sweets, 22% of energy drinks and 19% of sugar-sweetened soft drinks.” (Campbell, 2016)

In addition, even the WHO cited the Hungarian tax as an example. According to the WHO, economic interests are preferred over health benefits in many countries. The 2015 WHO Technical Meeting Report in Genoa highlights the following about domestic tax:

„In conclusion, PHPT has achieved its public health aims. The population has reduced its consumption of products subject to PHPT; food manufacturers have started reformulation, and the estimated tax revenue has been almost fully realized.” (WHO, 2016, p. 16)

Since this summary was made in 2015 based on formerly known consumption habits, I also came to this conclusion in my dissertation, but unfortunately, after that, consumption gradually started to grow again, which is also clearly visible in the following chapter in Figure VI-2, Figure VI-3 and Figure VI-4. It is mentioned in the same study that the product choice habits of consumers in Hungary have changed positively. However, as there has been less and less talk about this in recent years, people have become accustomed to the existence of this tax. Manufacturers have modified many things, so nowadays, consumers' habits have deteriorated, which, in my opinion, have only become

worse during the pandemic situation. Based on a survey conducted in 2016, the WHO mentioned the following as a positive example:

„The second impact assessment of 2014 sought to determine whether changes in consumption would be maintained in the long term and how they would be influenced by nutritional and socioeconomic status. The assessment also aimed to obtain information on product substitution. Initial results showed that consumers of unhealthy food products responded to the tax by: a) choosing a cheaper, often healthier product (7–16% of those surveyed); b) consumed less of the unhealthy product (5–16%); or c) changed to another brand of the product (5–11%) or substituted some other food (often a healthier alternative). Most people (59–73%) who reduced their consumption after introduction of the tax, consumed less in 2014 than in previous years, suggesting that the reduction in unhealthy food consumption has been sustained.” (WHO, 2016, p. 16)

To provide another example for the impact of the PHPT, József Bodrogi, a Hungarian health economist, told Népszava:

“It is a success of health policy that energy drink manufacturers have reduced the caffeine and taurine content of their products” (MTI, 2017)

In contrast, Value in Health has examined the period between 2011 and 2017 and they came to the following conclusion:

„We could not see a decrease in consumption in most of the taxable products. However, public health product tax has become a stable and growing source of revenue of the Health Insurance Fund.” (Csákvári, et al., 2018)

Ildikó Horváth, Secretary of State for Health, told the following at a professional conference in Budapest:

“The reform of public catering, daily physical education in schools, the introduction of the Public Health Product Tax brought visible results, and the obesity of children stopped. The introduction of a Public Health Product Tax has also achieved its goal; the turnover of foods containing ingredients that are harmful to health has decreased.” (MTI, 2019b)

VI. Statistical analysis

VI.1. Consumer side – shopping habits in general

In this chapter, I will present the impact of the PHPT on the budget and household consumption.

The PHPT results in a significant annual increase in Ft revenue and the percentage of GDP for the Hungarian government. Figure VI-1 shows how it evolved between 2012 and 2021. Unfortunately, neither in 2021 nor 2022, when I was writing my essay for the first and second time, I could not find available data for 2019. However, in an article from origo.hu in early 2019, Ft 57 billion was mentioned as expected PHPT revenue (MTI, 2019a), which I have marked with grey in Figure VI-1. It can be concluded that not only the tax increase was expected, but there was demand growth for products. Regardless there was a tax increase of between 20% and 100% at the beginning of 2019, summarised above from Table IV-1 to Table IV-10 by different product groups.

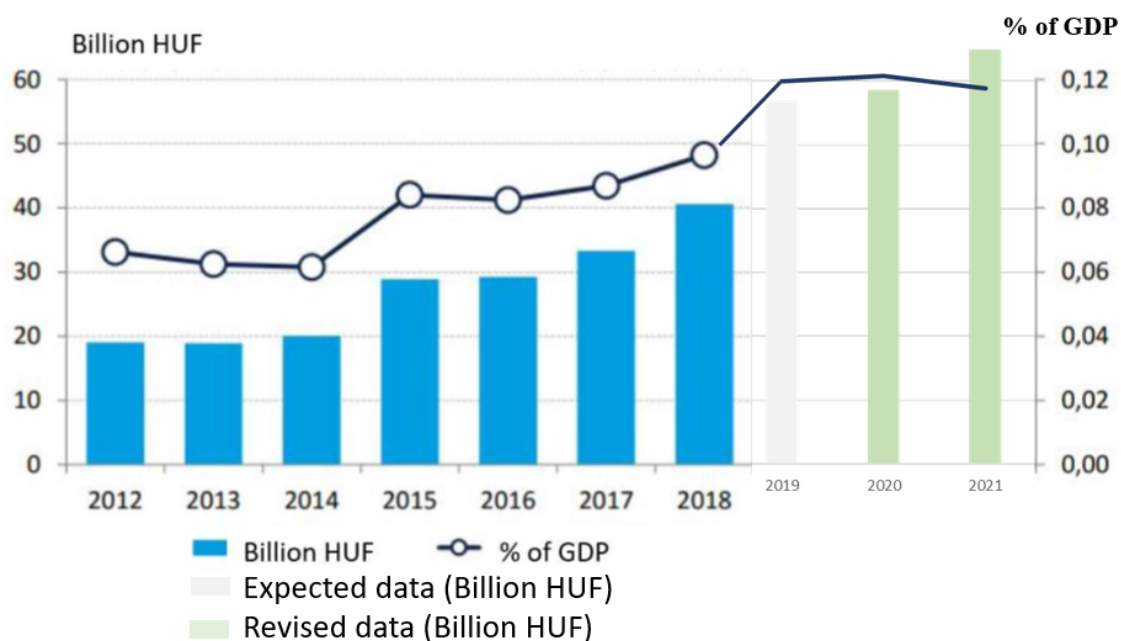
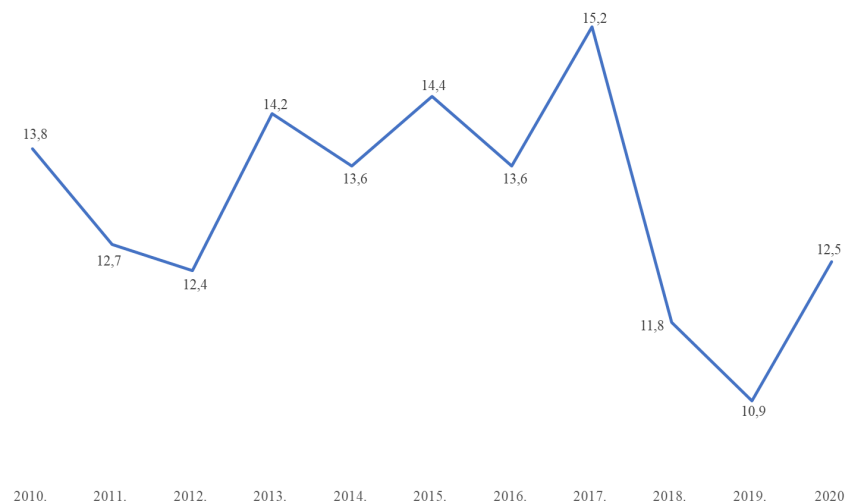
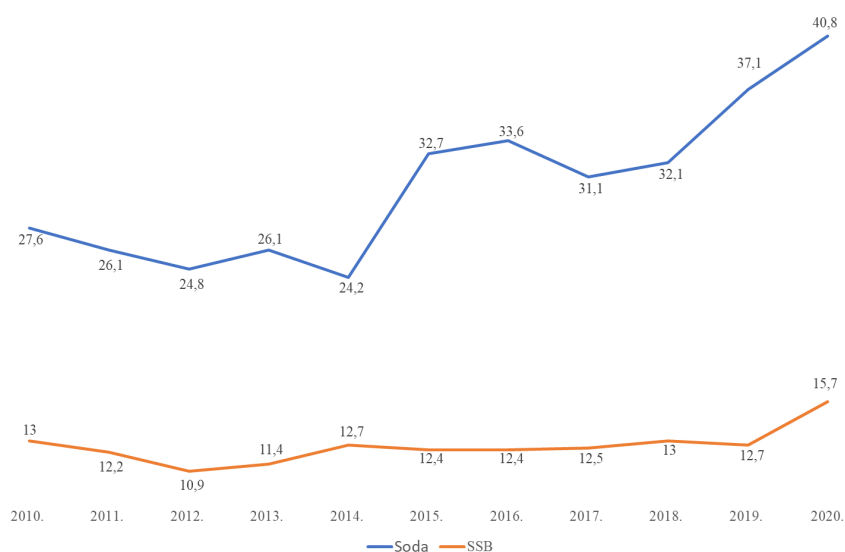


Figure VI-1 Annual budget revenue from the PHPT
(Source: from 2012 to 2018 (Berta, 2019, p. 3); 2019 (MTI, 2019a); tax amount 2021 and 2021 (Magyar Államkincstár, 2022) GDP date of between 2019 and 2021 (KSH, 2022) and Author's compilation in one figure)

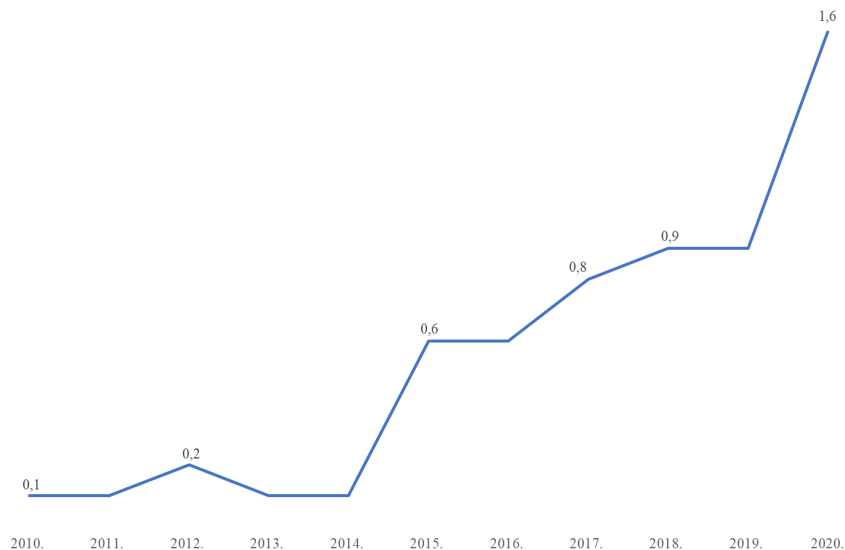


*Figure VI-2 Per capita average annual consumption of sugar in kilogram per person per year
(Source: Author's compilation based on KSH data)*

As a result of the introduction of the PHPT, the sale of some products containing tax decreased. Then, since 2015, the consumption of carbonated soft drinks (Figure VI-3) has continued to grow. Sugar consumption (Figure VI-2) decreased in the first two years and then exceeded 14 kg/capita in 2013, 2015 and 2017, which in 2018 and 2019 suddenly fell below 12 kg. It started to increase in 2020 and reached 12.5 kg, which I expected from my last year's essay because I thought there were empty shelves in the shops as a consequence of products acquisition. It was due to restrictions imposed due to the pandemic caused by the COVID19 infection, which had not been experienced before. Thus, in 2021 the consumption of sugar per capita and other products is expected to be higher than in the previous year.



*Figure VI-3: Per capita average annual consumption of soda and SSB in kilogram per person per year
(Source: Author's compilation based on KSH data)*



*Figure VI-4: Per capita average annual consumption of fruit products in kilogram per person per year
(Source: Author's compilation based on KSH data)*

Figure VI-3 shows the increase of consumption of soda and SSB in kilogram per person and Figure VI-4 illustrates the dramatic increase of fruit products. This category includes fruit flavour.

VI.2. Provider side

VI.2.1. Some product groups' price and their ingredients analysis in 2021

In my study in this section, I will show that if a consumer wants to consider which crisps, soft drinks and energy drinks to choose, they should look at how much sugar, salt or taurine and methylxanthine they contain. I have used Tesco's online shopping webpage for collecting consistent data for ingredients and prices that will be easier to compare.

In this analysis, I always count with total consumer price, regardless of whether a product may have been on sale at the time the prices were collected. Investigating the effect of discount prices over a longer period would make sense depending on what products are put on sale at the same time and how the average shelf image is in front of consumers. Each promotion can significantly influence the decision of buyers.

Crispy and salty snacks

Three hundred twenty products were found in the 'Crisps and Salty Snacks' category in Tesco's online shops on 1st March 2021. These can be grouped into 19 subcategories (20 English versions) and 24 brands. These are the following subcategories Potato Chips, Dried Fruit, Extruded Snacks & Crackers, Salt Sticks & Pretzel, Nuts, Popcorn, Peanut, Crackers, New, Tortilla Crisps, Other Dried Fruit, Sunflower & Pumpkin Seeds, Cashew

Nuts Pistachios, Salted Almond Corn, Dried Fruit Chips, Dried Fruit Mixes, Tortilla Dips, Dried Plum & Peach, Nut Mixes and Extruded Snacks. (Tesco, 2021)

The following Table VI-1 shows that the salt content of the product groups per 100 grams varies on a fairly wide range, from unsalted to 6.2 grams of salt / 100 grams/product. When looking at all 320 products, the average salt content is 1.5 grams / 100 grams, but we can already see minor differences as soon as we start examining a narrower product group. In Table VI-1, I highlighted the three highest average salt contents of the group in bold italics. However, I will not analyze these product groups in more detail later. There is only one product in the extruded snacks group, so it would be difficult to compare it with anything else within the group. I omit the group of salted chopsticks and pretzels because these products have exactly one special external feature that is pieces of salt visible to the bare eye, so if manufacturers reduced the salt content of these products, the consumer would immediately see it as a change in quality, whether or not a particular product is healthier than others. Finally, the cracker group can be confused with salt sticks for some goods, and there are a lot of different extra flavoured products in addition to salt, which is otherwise taxable.

In the following, I would like to write about the *extruded snacks and crackers* category in more details. This is interesting because it contains many products from several different manufacturers. The exact calories, salt, and other intake contents refer to Table VI-2. In this product range, it can be stated that the manufacturer who considers Hungarian taxation will produce a maximum of 1 gram / 100 grams of added salt

Table VI-2 in the following page shows how the products I have studied are distributed based on their salt content. It can be stated that less than half of the products, 29% correspond to this. The average price of the studied products is 3 367 Ft/kg. Most Hungarian consumers are price-sensitive, so they tend to choose a cheaper product unless there is another influencing factor, such as what the children like. The table shows that chips below the salt content of 1 gram are the most expensive, while those which do not contain added salt are the cheapest. Based on the above table, it is thought-provoking how effective this type of tax is in curbing the consumption of food that is said to be unhealthy when it is still the cheapest of the two products.

Product category	Mean	N	Minimum	Maximum	Variance	Range
Cashew nuts & pistachios	0.92	5	0.80	1.00	0.01	0.20
Crackers	2.31	15	0.54	4.00	0.67	3.46
<u>Dried fruit</u>	<u>0.29</u>	<u>45</u>	<u>0.01</u>	<u>2.30</u>	<u>0.21</u>	<u>2.29</u>
Dried fruit mixes	0.09	3	0.02	0.16	0.004	0.13
<u>Dried plum & peach</u>	<u>1.00</u>	<u>1</u>	<u>1.00</u>	<u>1.00</u>	<u>0.00</u>	<u>0.00</u>
<u>Extruded snacks</u>	<u>3.00</u>	<u>1</u>	<u>3.00</u>	<u>3.00</u>	<u>0.00</u>	<u>0.00</u>
Extruded snacks & crackers	1.49	34	0.00	4.20	0.74	4.20
New	1.12	9	0.90	1.70	0.06	0.80
Nut mixes	0.03	1	0.03	0.03	0.0	0.00
Nuts	1.26	28	0.00	4.50	0.80	4.50
<u>Other dried fruits</u>	<u>0.07</u>	<u>3</u>	<u>0.00</u>	<u>0.20</u>	<u>0.013</u>	<u>0.20</u>
Peanut	1.69	16	0.00	3.90	2.02	3.90
Popcorn	2.03	16	0.00	4.00	1.70	4.00
<u>Potato chips</u>	<u>1.49</u>	<u>89</u>	<u>0.29</u>	<u>4.00</u>	<u>0.37</u>	<u>3.71</u>
<u>Salt sticks & pretzel</u>	<u>3.58</u>	<u>28</u>	<u>1.69</u>	<u>6.20</u>	<u>1.12</u>	<u>4.51</u>
Salted almond & corn	1.36	4	0.80	2.20	0.38	1.40
Sunflower & pumpkin seeds	0.60	5	0.00	1.00	0.30	1.00
Tortilla crisps	1.54	8	0.90	2.40	0.23	1.50
Tortilla drips	2.05	2	2.00	2.10	0.01	0.10
Total	1.50	313	0.00	6.20	1.34	6.20

Table VI-1: Groups of crispy and salty snacks category and their salt content per 100 grams
(Source: Author's compilation based on Tesco webstore 2021)

Between the chips and the category presented earlier, the buyer will not be able to make a distinction since, for example, Pombär belongs to the last category. Most of its products have a low salt content, but it is also one of the most expensive brands in the domestic market.

In the case of chips in proportions, less than 23.7% of the products are not subject to tax. Table VI-3 shows the chips products. For these products, it is clear how interesting a difference can be made between the average price of the product and the average price per kilogram with a well-chosen packaging. Most products can be classified into group that contains 1-2 grams of salt. Their prices are not much more expensive than those below 1 gram. In everyday shopping, the difference is not noticeable from the point of view who only looks at the price in the event that it is 400 grams instead of 100 grams. They will buy one big package rather than four smaller ones, which will be the saltiest per 100 grams, so the packaging price is the influencer and the product with low salt content is chosen in all likelihood. However, one looks at the unit price and sees that it is only 33 Ft more expensive, but the product that costs 129 Ft and which is a salted mixed

cracker with a salt content of 0.54 grams / 100 grams in a 100-gram package, and the other product is a salt stick in a 400-gram package, a product with a larger packaging is not available in this category. At the end of the purchase, if you are a bit of an environment, a conscious buyer regarding garbage formation, you will surely buy it because you only spend 13 Ft more than buying from the cheapest with four packages.

Salty group (gram/100grams)	N	Price per product 2021.03.01. (Ft)			Unit price Ft/kg 2021.03.01		
		Mean	Minimum	Maximum	Mean	Minimum	Maximum
0	2	79	69	89	1020	890	1150
0.01-0.99	8	355	129	699	4665	2150	5580
1-1.99	17	240	69	699	3053	1150	5580
2-2.99	5	213	119	299	3277	1512	4598
3-3.99	1	145	145	145	3372	3372	3372
4-	1	399	399	399	3470	3470	3470
Total	34	256	69	699	3367	890	5580

Table VI-2: Average unit and package price per extruded snacks & crackers categorised by salt content
(Source: Author's compilation based on Tesco's price and product information in 2021)

The *potato chips* category is similar to *extruded snacks & crackers*, shown in the following table. In the case of the chips product group, only 23% have a lower salt content than 1 gram. In contrast, the average price of 3 grams of salt / 100 grams of salt per package is the lowest in this category. Unfortunately, one of the cheapest chips in terms of unit price is the one containing 4 grams of salt / 100 grams.

Salty group (gram/100grams)	N	Price per product 2021.03.01.			Unit price Ft/kg 2021.03.01		
		Mean	Minimum	Maximum	Mean	Minimum	Maximum
0.01-0.99	22	400	129	799	4193	1290	5475
1-1.99	54	459	159	999	3957	1495	6244
2-2.99	10	493	159	999	4379	3180	6244
3-3.99	2	339	279	399	2791	1596	3986
4-	1	529	529	529	1323	1323	1323
Total	89	446	129	999	4007	1290	6244

Table VI-3: Average unit and package price of potato chips categorised by salt content
(Source: Author's compilation based on Tesco's price and product information in 2021)

There are not many products in the following category, but *popcorn* can be considered a trendy good. One piece of salt-free popcorn is the kind of popcorn that we can pop ourselves and flavour it if we have a popcorn machine. It is interesting for other products that can be made in the microwave or the case of finished goods because the saltier it is, the cheaper it is for popcorn containing more than 1 gram of salt / 100 grams. And here,

too, in terms of unit price, the most expensive products are the ones that contain salt but are below the 1 gram of salt / 100 grams limit.

Salty group (gram/100grams)	N	Price per product 2021.03.01.			Unit price Ft/kg 2021.03.01		
		Mean	Minimum	Maximum	Mean	Minimum	Maximum
0	1	125	125	125	1250	1250	1250
0.01-0.99	5	323	299	359	3998	3590	4271
1-1.99	1	399	399	399	2347	2347	2347
3-3.99	8	27	179	379	1547	830	2390
4-	1	89	89	89	890	890	890
Total	16	274	89	399	2303	830	4271

*Table VI-4: Average unit and package price of popcorn categorised by salt content
(Source: Author's compilation based on Tesco's price and product information in 2021)*

And finally, in the following Table VI-5 does not show a complete product category, but in the case of *sunflowers and peanuts*. Through some examples, I would like to show that although each brand has salted and unsalted products on the store shelves, there is no difference in consumer prices.

Name of product	Salt amount	Product Price 2021.03.01.	Unit price Ft/kg 2021.03.01	Energy (kcal)
Mogyi Roasted, Sunflower Seeds 60 g	0	119	1983	291
Mogyi Roasted, Salted, Sunflower seeds 60 g	1	119	1983	285
Mogyi Roasted, Sunflower Seeds 200 g	0	319	1595	291
Mogyi Roasted, Salted, Sunflower seeds 200 g	1	319	1595	285
Mogyi Roasted Peanuts without Salt 170 g	0	349	2053	644
Mogyi Roasted Salted Penauts170 g	1	349	2053	644
Mogyi Roasted Peanuts without Salt 320 g	0	549	1716	644
Mogyi Roasted Salted Peanuts 320 g	1	549	1716	644

*Table VI-5 Example that price does not depend on salt content
(Source: Author's compilation based on Tesco's price and product information in 2021)*

Soft drinks

Looking at the Tesco online webshop, there is also a large selection of *fruit juices*. On 3rd April 2021, I found 266 different fruit juices in 16 brands or 12 categories in the web store. In my opinion, these 16 brands are not enough in the group, because if we look at Rauch products, for example, we will find more brands and they market the product brand more than the main manufacturer brand. (Tesco, 2021)

There is no point in examining the separate categories because, for example, looking at apple juices, we can also find apple juice in the category of *apple juices* and *freshly pressed fruit juices*. I will deal with the study of apple juices in the following section since the situation would be similar for orange juices or other popular juices. In my study, I only deal with products that contain pure apples, excluding the combination of apples with any other fruits. However, apple juices containing added vitamins are part of my analysis. First, I looked through all the products in the soft drinks category one by one. After, I found a total of 26 in the name of which there is apple without the name of another fruit.

Almost 10% of *the fruit juices* category is apple juice or beverages containing apple. The products are produced by nine known or lesser-known brands. The main brands are Rauch (6 products), Sió (5 products), Cappy and Tesco (4-4 products each). Of these producers, Tesco produces only 100% fruit juices, two groups of which depend on the application of production technology, either from concentrate or directly pressed. The other three manufacturers also differentiate their products in this way, and additionally, juices with a low fruit content of 12-30% are also produced. From a tax point of view, the fruit content is emphasized because sugars and sweeteners are also contained in these drinks, along with many other added ingredients.

In the following Figure VI-5, I would like to illustrate the products containing tax. (I have marked the sugar-containing products with red, the sweetener-containing ones with light yellow, the sugar- and sweetener-containing products with orange, the syrup with blue, and products without any added ingredients with translucent light green). The size of the packaging is shown in litres on the vertical axis. They are sorted from the cheapest to the most expensive products per package on the horizontal axis, and the size of the circles represents the fruit content of the soft drinks.

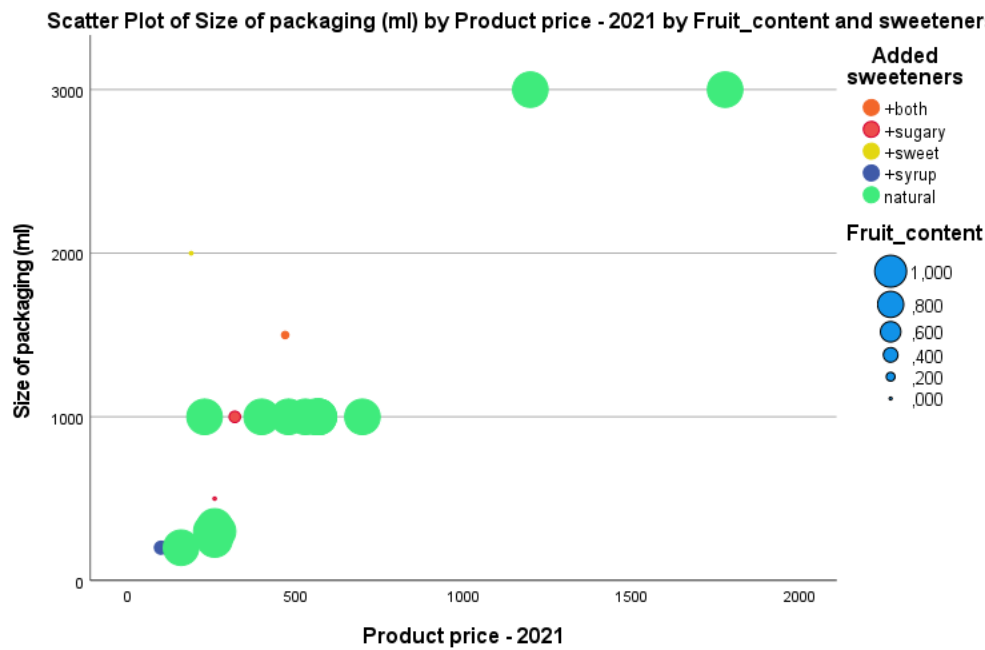


Figure VI-5: Products of apple soft/juice and drinks
(Source: Author's compilation based on Tesco's price and product information in 2021)

Brand	Syrup	Sweetener	Sugar	Sweetener and sugar	Nothing	Total
Rauch						
Bravo	-	-	-	1	-	1
Happy day	-	-	-	-	4	4
Yippy	-	-	1	-	-	1
Cappy	-	-	1	-	3	4
Hey-Ho	-	-	-	1	-	1
Kubu	-	-	1	-	1	2
Sconto	-	1	-	-	-	1
Sió						
Sió	-	-	2	-	-	2
Sió Natura	-	-	-	-	3	3
Suzy	-	1	-	-	-	1
Tesco	-	-	-	-	4	4
Topjoy	1	-	-	-	1	2
Total	1	2	5	2	16	26

Table VI-6: Summary of the allocation by type of sweeteners and producers
(Source: Author's compilation based on Tesco's price and product information in 2021)

Looking at the table, it is worth highlighting the syrup. Talking of it as an ingredient of drugs, coffee or cocktails is not new to me, but it is novel as an ingredient in fruit drinks that can be bought in shops, which could be new information for most people.

Syrup that is glucose-fructose-syrup is used instead of sucrose as it is cheaper than sugar. It is obtained from corn starch as part of a multi-stage production process. The food industry, especially the soft drink industry, has recently used large amounts of glucose-fructose syrup made from corn starch instead of the slightly more expensive sucrose to achieve a sweet taste. At first, corn starch is hydrolyzed to high-glucose corn syrup (formerly by hydrolysis with hydrochloric acid, now mostly enzymatically), and then some of the glucose (typically 42%, 55% or 90% of it) is enzymatically converted to fructose. (Wikipédia, 2021b)

From Table VI-6 above, it is clear there are manufacturers who produce either only sweetened or only sugary and sweetened apple drinks. Based on the data in the table, it is visible there are manufacturers who group them under a different brand depending on what it contains. Those products that contain no added ingredients are only 100% fruit juices, which, if needed to be further categorized then, could be either concentrated or freshly squeezed. The PHPT affects 10 of these products that contain sugar, sweeteners, and syrups used for some sweeteners.

Brand	Syrup	Sweetener	Sugar	Sweetener and sugar	Nothing	Average by brand
Rauch						
Bravo	-	-	-	313	-	313
Happy day	-	-	-	-	626	626
Yippy	-	-	815	-	-	815
Cappy	-	-	319	-	767	543
Hey-Ho	-	-	-	235	-	235
Kubu	-	-	518	-	897	708
Sconto	-	95	-	-	-	95
Sió						
Sió	-	-	432	-	-	432
Sió Natura	-	-	-	-	560	560
Suzy	-	229	-	-	-	229
Tesco	-	-	-	-	432	432
Topjoy	495	-	-	-	830	663
Average by added ingredients group	495	162	521	274	685	504

*Table VI-7: Summary of average price (Ft) by type of sweeteners and producers
(Source: Author's compilation based on Tesco's price and product information in 2021)*

From the table above, there is a big difference between the average price of natural fruit juices or fruit juices sweetened somehow. Yet, the PHPT, which aims to prioritize the consumption of healthy foods, contains all non-100% fruit juices. Has the primary goal of the PHPT been reached with this category? The answer is no; in this case, it is only appropriate for funding public health programs. In this category, the detrimental effect of a sweetener can be better captured compared to previous saline rodents because the human body needs salt to a healthy degree. However, neither artificial sweeteners nor sugary aromatic drinks are necessitated at all.

Earlier I wrote about why syrup appeared among the ingredients. Based on the table above, it is clear that using syrup is cheaper than sugar compared to sugary fruit drinks. Beverages produced using only sweeteners are the cheapest, and their excessive consumption can have a laxative effect. In such a case, it could be further investigated how much a person who consumes it spends in the pharmacy due to stomach problems and how his quality of life develops compared to someone who consumes only 100% fruit juices. In Table VI-7 above, I have highlighted four average prices in bold italics because the target group of those drinks is kids. Of the 4, 2 are made using 100% fruit, one is sugary, and one is made using syrup. Here, it is worth calculating how much it would cost if a parent wanted their child to drink a packet at school every day, instead of them drinking just water and school milk or eating as varied as possible. How much does it cost in the case of a family with one, two or three children? I have presented this in Table VI-8. Based on the table above, it is clear what the financial implications can be, without people buying on sale, or if someone buys a 100% fruit juice or the cheapest fruit drink and without paying attention to the ingredients. These soft drinks for children have fairy tale figures or some cute characters on their packages. The external factor of such packaging can completely distract even a parent who wants to buy one of the 100%fruit

Name of fruit drink or juice	Fruit content	Price (Ft)	1 child		2 children monthly (Ft)	3 children monthly (Ft)
			Weekly (Ft)	Monthly (Ft)		
Cappy Junior 100% Apple Juice 250 ml	100%	259	1 295	5 180	10 360	15 540
Kubu 100% Apple Juice 300 ml	100%	269	1 345	5 380	10 760	16 140
Rauch Yippy Apple Drink with 5 Vitamins and Calcium 330 ml	12%	269	1 345	5 380	10 760	16 140
Topjoy Apple Drink 200ml	30%	200	1 000	4 000	8 000	12 000

*Table VI-8: Weekly and monthly cost calculation of kids' drinks
(Source: Author complication based on Tesco's price and product information in 2021)*

juices for their kid. However, unfortunately, a latter is a Micky mouse fan, in which case they will buy something completely different for the child's sake. On the other hand, if there are two products for the same price, and the parent ignores the ingredients only in the package, they can be happy that one of them contains more vitamins for the same price.

They would buy it, but instead of the 100% juice, the child will drink a 12% fruit drink with artificial vitamins and sugar. These raise a lot more questions for a family with children, but it is worth looking at how those products that have small packages and are not for the target group of children are developing.

Table VI-9 shows how a half-litre package stands out from all the products, which is a 0.1% minimum apple concentrate and if we scrutinize its ingredients in more detail, we can see that the maximum amount of fruit is set at 1%. According to these, I could also classify it as flavoured mineral water, but since it also has a sugar content, I think it was categorized here. If we look at the other products, it is clear there may be a difference in the size of the package, whether it is 200, 300 or 330 ml, but it has a significant effect on the monthly expenditure. Table VI-9 is about how consumption changes when our consumers are more conscious and can dispense daily portions into small bottles daily. It is clear from the table above that huge savings can be made if one insists on 100% fruit juice and drinks freshly squeezed, non-concentrated fruit juice, which can be considered even better from a health point of view. However, it also raises the question if it can be safely stored for a long time in the refrigerator after opening it without any deterioration in texture and if we should not be worried about infection and the risk of contamination during daily dosing and measuring..

Name of fruit drink or juice	Fruit content	Price (Ft)	1 person		2 people	3 people
			Weekly (Ft)	Monthly (Ft)	Monthly (FT)	Monthly (Ft)
Cappy 100% Apple Juice 330 ml	100%	259	1 295	5 180	10 360	15 540
Topjoy Apple Juice 100% with Vitamin C 300 ml	100%	249	1 245	4 980	9 960	14 940
Rauch Happy Day 100% Apple Juice 0.2 l	100%	159	795	3 180	6 360	9 540
Sió Apple Drink 0.2 l	25%	109	545	2 180	4 360	6 540
Kubu Waterrr Apple Non-Carbonated Soft Drink 500 ml	0.10%	259	1 295	5 180	10 360	15 540

*Table VI-9: "Weekly and monthly cost calculation of "non kids' drinks"
(Source: Author complication based on Tesco's price and product information in 2021)*

Let me conclude with one of the most interesting products in Table VI-10 described as energy-free. It is not clear whom they want to address with this product, but I guess dieters and diabetics. Fruit content is the second-lowest of all that is in this category. Considering the price, it is financially beneficial for a family with a low income, even with tax. What health effects does a drink that contains not even one but a combination of sweeteners have on its consumers, and how much will they spend on subsequent treatments?

In the case of soft drinks, many more interesting and complicated cases arise than with chips.

Name of fruit drink or juice	If dose = 300 ml (dose)	Fruit content	Price (Ft)	Dose price (Ft/300ml)	2 people		3 people	
					Weekly (Ft)	Monthly (Ft)	Weekly (Ft)	Monthly (Ft)
Sió Natura Directly Pressed Apple Juice 100% 3 l	10	100%	1 779	177.9	1 779	7 116	2 668.5	10 674
Tesco 100% Apple Juice 3 l	10	100%	1 199	119.9	1 199	4 796	1 798.5	7 194
Rauch Bravo Apple Drink with Sugar and Sweeteners and Vitamin C 1.5 l	5	12%	469	93.8	938	3 752	1407	5 628
Sconto Energy-Free Filtered Apple Soft Drink with Sweeteners 2l	6	1%	189	31.5	315	1 260	472.5	1 890

*Table VI-10: Weekly and monthly cost calculation of large package' drinks
(Source: Author complication based on Tesco's price and product information in 2021)*

Energy drinks

There are 40 different kinds of energy drinks in the web store of my choice, among them energy drinks and sports drinks. Their caffeine content ranges over a fairly wide scale from less than one coffee to more than one espresso. Unfortunately, such drinks are becoming increasingly popular, and their excessive consumption can cause cardiovascular problems. It is not recommended for pregnant mothers, minors, or people who are sensitive to caffeine and have high blood pressure and circulatory disorders.

The following Table VI-11 shows the minimum and maximum prices of energy drinks depending on their caffeine content and size. Due to legislative changes, most include tax. One of the products is also available in an extremely large one-and-a-half-litre package, and it might be worthwhile to look at how many people share such a package or how long it can be consumed by whoever buys it. An espresso contains 75mg of caffeine,

Caffeine content in the whole package	Size of packaging (price min-max Ft)					Average price regardless of package size (Ft)
	250ml	355ml	500ml	600ml	1500ml	
37.5	129-179	-	-	-	-	149
75	109	-	-	-	-	109
80	199-409	-	-	-	-	295
90	-	-	-	279-279	-	279
96	199	-	-	-	-	199
113.6	-	579	-	-	-	579
150	-	-	299-399	-	209	302
160	-	-	299-399	-	-	339
225	-	-	-	-	213	213
Average price regardless of caffeine content	217	579	342	279	211	249

Table VI-11: Energy drinks and their caffeine content
(Source: Author's compilation based on Tesco's price and product information in 2021)

on average, and one and a half litres of energy drink is equivalent to 3 cups of coffee, which is the price of less than one coffee in a coffee house, but some coffee machines also cost more if coffee is not made at home.

Summary of some product groups' price and their ingredients in 2021

Compared to any of the tables containing fruit juices, it costs much less to buy an energy drink than a fruit drink, which barely contains any fruit, and 100% fruit juices are in a completely different price range. Energy-free apple drink is the only product that is similar to energy drinks in the price.

As long as energy drinks are available almost at the price of mineral water, unfortunately, tax has a lesser effect on this category. Today, more and more pupils consume energy drinks, but they cannot count on their long-term effects.

In my opinion, summarising the four categories presented above, in the case of chips and chocolates, some manufacturers reacted positively by reducing salt content or modifying the packaging size similarly to ice cream. However, in the case of bars of chocolate, a single recommended portion is displayed on the package.

In contrast, in the case of fruit juices, the gap between 100% fruit juices and beverages is huge. Table VI-8 and Table VI-9 show no product with a partial content of more than 30% fruit. In some cases, it is difficult to distinguish what percentage of their fruit content

is and whether they have been made with added sugar or sweetener, as these are only indicated in the ingredients with lower case letters.

Finally, the taxation of energy drinks should be radically reconsidered, as they are currently extremely cheap compared to their detrimental effects in the long- or the short term.

VI.2.2. Some product groups' price changes from 2021 to 2022

In my study in this subsection, I will only show the main difference and tendency from last year. I have also used Tesco's online shopping webpage for updated prices. I will not do calculations for every product group I presented earlier. For the calculation, I have used SPSS 27, and I have excluded those products that were not available in both years. I have only shown the price changes in the groups of *crispy and salty snacks* within that the category of *potato chips* and *extruded snacks and crackers*, *soft drinks* and lastly energy drinks.

Crispy and salty snacks

For the *crispy and salty snack* category as a whole, products' price has risen by 8% from 2021 to 2022. The highest increase was in the case of dried fruit mixes, where the unit price of the products has doubled.

It is worth looking at two subcategories for *potato chips*. In the price of 15 of these products, there was a significant decrease in unit price, while in the case of the remaining four products, there was no change in unit price. It explains why the price of the products has fallen below the average salt content of 1 gram

An average price increase of 2.3% was observed in this category, compared to an 8% price increase in the main category. The next category for the price change of extruded snacks and crackers is, on average close to the price change for the main category. In this category, it is worth noting that the average price of the salt-free product group has risen by at least 1.6%, while the price of products containing more than 2 grams of salt has risen by an average of 18%.

Product category	Average price changes (Ft)	Average unit price Ft/kg 2021.03.01	Average unit price Ft/kg 2022.03.01
Cashew nuts & pistachios	104	8435	8846
Crackers	107	2732	2990
Dried fruit	105	5035	5308
Dried fruit mixes	226	2659	6044
Dried plum & peach	127	2745	3495
Extruded snacks	113	3325	3742
Extruded snacks & crackers	109	3406	3721
New	103	3860	3993
Nut mixes	103	3345	3445
Nuts	109	3855	4113
Other dried fruits	105	4441	4642
Peanut	108	2999	3182
Popcorn	109	2428	2566
Potato chips	103	4057	4165
Salt sticks & pretzel	112	2830	3109
Salted almond & corn	133	4951	6128
Sunflower & pumpkin seeds	119	2526	2900
Tortilla crisps	105	3665	3850
Tortilla drips	105	3227	3381
Total	108	3801	4061

Table VI-12: Groups of crispy and salty snacks category price change from 2021 to 2022
(Source: Author's compilation based on Tesco webstore 2021 and 2022)

Salty group (gram/100 gram)	Potato chips			Extruded snacks & crackers		
	Price change	Average unit price 2021.03.01 (Ft/kg)	Average unit price 2022.03.01 (Ft/kg)	Price change	Average unit price 2021.03.01 (Ft/kg)	Average unit price 2022.03.01 (Ft/kg)
0.01-0.99	97	4162	3975	102	1020	1054
1-1.99	103	4014	4139	112	4779	5217
2-2.99	112	4172	4656	106	3108	3292
3-3.99	96	2791	2806	118	3277	3896
4-	106	1323	1398	-	-	-
Total	102	4006	4087	109	3406	3721

Table VI-13: Groups of potato chips and extruded snacks & crackers category price change from 2021 to 2022 (Source: Author's compilation based on Tesco webstore 2021 and 2022)

Soft drinks

In the case of the previously presented apple beverage and juice category, an average price increase of 7% can be observed. Natural 100% fruit juices have become the least expensive, and the average prices are still the highest. The highest increase was observed in the case of sweetened juices, which was 13%.

Type of sweeteners	Average price change (%)	Average price (Ft)	
		2021.03.01.	2022.03.01.
+both (sugary and sweetener)	107	352	372
+sugary	113	255	291
+sweetener	105	189	199
+syrup	110	99	109
natural	105	548	563
Total	107	437	456

Table VI-14: Soft drinks average price change by sweetener type
(Source: Author's compilation based on Tesco's price and product information in 2021 and 2022)

Energy drinks

In the case of energy drinks, an 11% increase in prices was observed on average. It can be seen from Table VI-15, which I have presented earlier, that in the category containing 96 mg of caffeine, only one product packaging is shown whose price is unchanged. The largest price increase was for products with larger packaging and thus higher caffeine content, which can be considered as an average price increase of more than 25%. The price of products with a caffeine content of 37.5 grams in small 250 ml packages increased by at least 2.9%.

Caffeine content in the whole package (mg/product)	Average price change (%)	Average price (Ft)	
		2021.03.01.	2022.03.01.
37.5	103	152	156
75.0	112	109	122
80.0	107	313	335
90.0	106	279	295
96.0	100	199	199
113.6	105	579	609
150.0	126	254	329
160.0	128	349	439
Total	111	253	282

Table VI-15: Energy drinks' price change by caffeine content
(Source: Author's compilation based on Tesco's price and product information in 2021 and 2022)

VII. Questionnaire

VII.1. Method and place of the questionnaires

My research in 2021 and 2022 took place online. The questions could be completed by anyone anonymously. In 2021, the research was shared only on the Facebook interface. In 2022, the research was shared on Facebook, and Instagram supplemented it for greater availability. In the case of the questionnaire, I have used the snowball method to ask my friends to fill it out and share it with their friends and thus reach more respondents. In 2022, the Facebook share was added with exposure to my story, which only my friends could see on Facebook, but strangers could be accessed on Instagram. I did not use LinkedIn on the social platforms, as I could only access a narrower medium on that platform. For the first sample survey in 2021, I used the form from Google Form. Then in 2022, I used the Microsoft Form questionnaire application to further develop the previous year's questionnaire, as in my experience, it has an interface that is easier to use.

VII.2. Online questionnaire survey in 2021

In connection with the PHPT, I have formulated 16 questions divided into three main groups. The first group was basic demographics:

- Gender of the respondents?
- What type of settlement do you live in?
- Which group do you belong to?
- How many people live in your household?

In the second larger group, I have formulated questions related to shopping habits, which were the following:

- How often do you go shopping for food products?
- Do you go to the grocery store to buy discounted products?
- Is home delivery of food products ordered online available in your place of residence?
- If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
- Is more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
- Do you buy a larger quantity if the particular product has discounted price?

- Do you look at the ingredients of the product?
- If yes, does it affect your decision?
- Are you following any special diet?

Finally, I have classified three questions related to the PHPT into the third group:

- Have you heard on Public Health Product Tax?
- What is the purpose of this tax?
- Which of the following products do you think apply?

The questionnaire was available online, and I shared it on one of the big social networking sites and asked friends to fill it in and share it with their friends to get as many responses as possible. It was available for 12 days from 24th March 2021 to 5th April 2021, during which time 192 people responded. The questionnaire was available in Hungarian but could be viewed in Hungarian and English in the Appendix (X.1.1 and X.1.2)

VII.2.1. Demography - 2021

Gender of respondents? Which group do you belong to?

The proportion of women who completed the questionnaire was higher than of men. The gender distribution of respondents was the following: women 75.5% and men 24.5%. Considering age groups, it can be seen that the proportion of responses is evenly distributed among the actively working people. However, there were also those under 18 who filled in the questionnaire.

What type of settlement do you live in?

Most respondents live in villages, followed by the proportion of urban respondents with 19% (I have also included the category of the city with country status), then the residents of the capital and finally, the fewest people who live in a county seat. I was curious about a city with county status in a separate breakdown because the proportion of available shops is completely different compared to small towns.

How many people live in your household?

Most of the respondents live in a 2-person-household, but there were also some households consisting of more than six people. I could not evaluate the answers of 3

people because all they wrote was "yes". In several cases, I had to count how many people lived in the same household, but I took the value I had calculated into consideration.

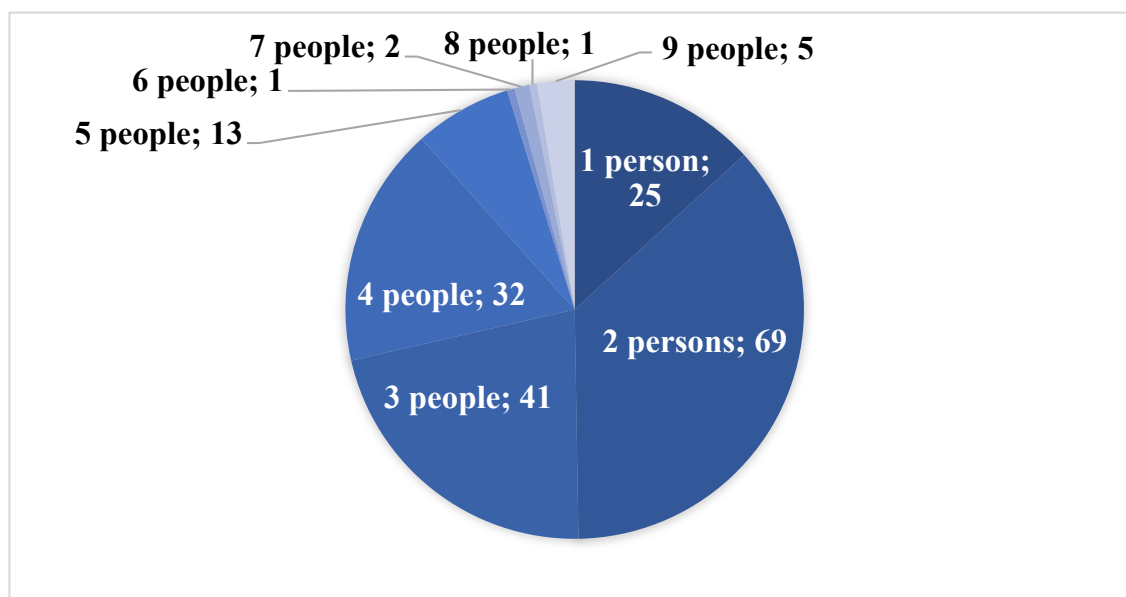


Figure VII-1: Distribution of household size in 2021 (Source: Author's research)

VII.2.2. Questions about shopping habits - 2021

From the following table, it is clear that most people go shopping to buy food daily, several times a week, or once a week, but it can be seen that daily shopping is dominant in the case of large families. In the case of a one- or two-person-household, shopping happens less frequently than daily.

People per household	Daily	Several times a week	Every week	Every two weeks	Less frequently
1	3	13	7	1	1
2	12	25	22	5	5
3	11	23	6	1	-
4	10	16	6	-	-
5	8	2	2	-	1
6	1	-	-	-	-
7	1	-	-	1	-
8	1	-	-	-	-
9	4	1	-	-	-
Total	51	80	43	8	7

Table VII-1: Relationship between the size of household and shopping habits in 2021 (Source: Author's research)

Do you go to the grocery store to buy discounted products? Do you buy a larger quantity if the particular product has a discounted price?

The vast majority of respondents go to the store to buy a particular discounted product; it occurs more frequently than people living in larger households go shopping for a discounted product. It might also be interesting to look at the answer to the other question, whether it is more common to buy something in larger quantities if it is on sale in the store. Those who tend to go to the store specifically for discounted products are more likely to buy larger quantities of these goods. But it is also the case among respondents who buy more discounted products and do not go into the store specifically for a special offer.

People per household	Do you go to the grocery store to buy discounted products?					
	Yes			No		
	Do you buy a larger quantity if the particular product has a discounted price?			Do you buy a larger quantity if the particular product has a discounted price?		
	Yes	No	Total	Yes	No	Total
1	9	11	20	2	3	5
2	30	17	47	11	11	22
3	25	10	35	3	3	6
4	16	4	20	4	8	12
5	5	4	9	3	1	4
6	1		1			
7	2		2			
8	1		1			
9	4	1	5			
Total	93	47	140	23	26	49
%	66	34		47	53	

*Table VII-2: Relationship between having the main goal of buying products on discount and buying higher amount of a product when it has a discounted price in 2021
(Source: Author's research)*

Is home delivery of food products ordered online available in your place of residence?

It is a tricky question because home delivery of food ordered online was available throughout the whole country in 2021, but 33.9% of respondents said no home delivery was available where they live since most of these respondents are from villages or towns. Half of the respondents were aware that home delivery of food products was available.

If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?

By looking at these two questions together, the majority of Hungarian buyers place price in the foreground, but some people make a decision based on quality or product designation, e.g. Hungarian products.

Do you look at the ingredients of the product? If yes, does it affect your decision?

These two questions should be analyzed together again. Most people look at the ingredients of the product, yet the decision of a smaller group of individuals is not affected by the ingredients. It is thought-provoking for me that people read the ingredients, but they do not affect their decision.

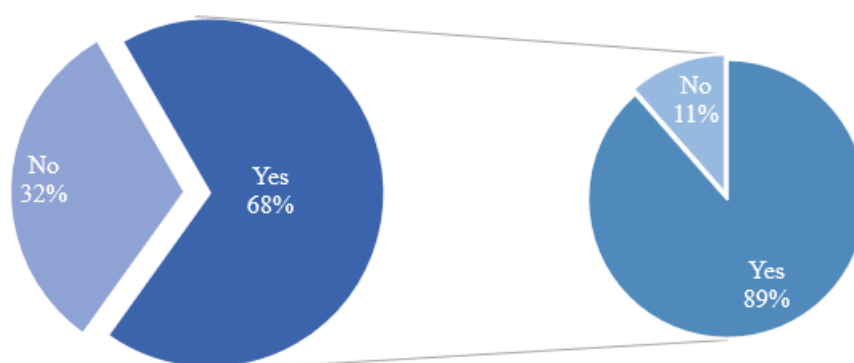


Figure VII-2: Do you look at the ingredients of the product? Allocation of "yes" answers affecting the decision in 2021. (Source: Author's research)

Are you following any special diet?

The majority of respondents answered "no" to this question, but gluten-free, milk-protein-free, vegan, CH180 and other forms of diets were mentioned, but none of them was outstanding numerically. I also wanted to share the questionnaire in a special nutrition group but sharing it was not permitted since the questions were tax-related. However, other meal-related questionnaires are usually allowed.

VII.2.3. Question about PHPT – 2021

Have you heard of Public Health Product Tax?

58.3% of people answered "yes" while 41.7% said "no". It would have been interesting in relation to the following two questions, whether there is a difference between the answers, depending on whether they have already heard about it or not. For the following

two questions, I included options of random answers that did not apply to this category but arose in previous conversations with others..

What is the purpose of the tax? (Multiple answers possible)

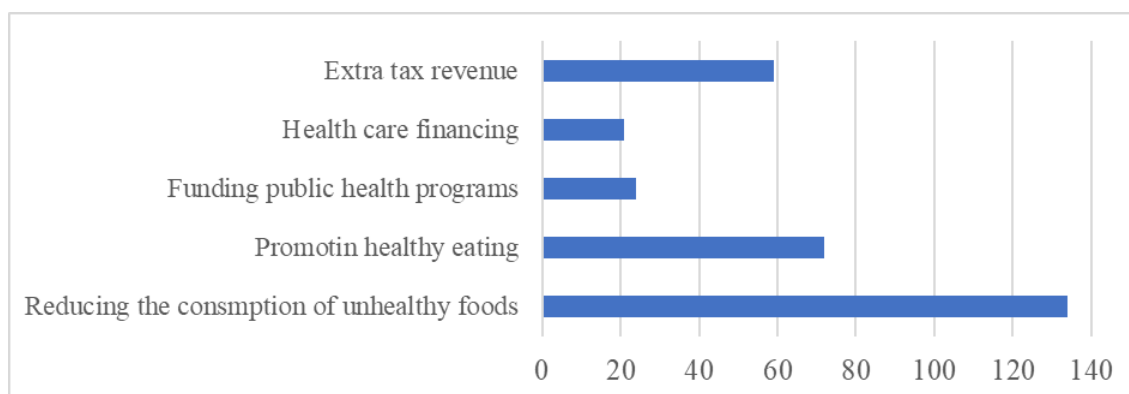


Figure VII-3: Allocation of answers provided to the following question in 2021: What is the purpose of the tax? (Source: Author's research)

Regarding this question, if we do not look at the combination of responses received, almost 70% of respondents know the primary purpose of part of the tax. Scrutinizing the combination of how many people responded, only responses of 119 people did not *include funding for health care* or *extra tax revenue*. There were only two people who knew that the goal of curbing the consumption of unhealthy foods was to *promote healthy eating* and *finance public health programs*. One of the two respondents has heard about the tax, while the other person has not heard about it yet. Forty respondents marked two of the three correct answers in the right way; among them, 27 people had heard about the tax previously, and 13 people had not. More detailed tables on the combinations of these responses can be found in the X.1.3 Answers in 2011 in Appendix.

Which of the following products do you think the tax applies to? (Multiple answer possible)

There were 151 different combinations of responses (192 people), one of which was a person who checked all the answer options. Sixty-six responses did not include honey and dairy products (but we know that in some cases if used as a raw material below a certain amount, they are taxable). These responses did not even include confectionery products that could even be consumed locally, fast food products, quick-frozen semi-finished products, and tobacco. Forty people answered previously that they had heard about the tax, and 26 respondents had not heard about it before.

If wine is considered not to be subject to the tax because it should not typically contain added sugar, then the proportion of those who know the answer correctly is reduced to 61. Thirty-eight people answered that they had heard about the tax, and 23 had not heard about it before. Thus, the narrow correct answer is composed of the following, marked by a total of one respondent.

- fruit juices with added sugar
- syrups
- energy drinks
- sugary products
- sugary cocoa powder
- products baked using cereals, potatoes or oilseeds which can be consumed immediately after opening
- products roasted using cereals, potatoes or oilseeds which can be consumed immediately after opening
- products flavoured using cereals, potatoes, or oilseeds, which can be consumed immediately after opening
- bakery products
- seasoning
- beer
- brandy
- alcoholic refreshing drinks
- fruit flavour

Some common, partly correct answer combinations:

- 9 people: fruit juices with added sugar
- 5 people: fruit juices with added sugar + energy drinks + sugary products
- 4 people: products baked using cereals, potatoes or oilseeds which can be consumed immediately after opening; products roasted using cereals, potatoes or oilseeds which can be consumed immediately after opening + products flavoured using cereals, potatoes, or oilseeds, which can be consumed immediately after opening
- 4 people: fruit juices with added sugar + energy drinks

- 4 people: products baked using cereals, potatoes or oilseeds which can be consumed immediately after opening
- 3 people: products baked using cereals, potatoes or oilseeds which can be consumed immediately after opening; energy drinks

Common answer combinations that includes something that the tax doesn't apply to:

- 4 people: energy drinks + beer + wine + brandy + tobacco
- 7 people: tobacco

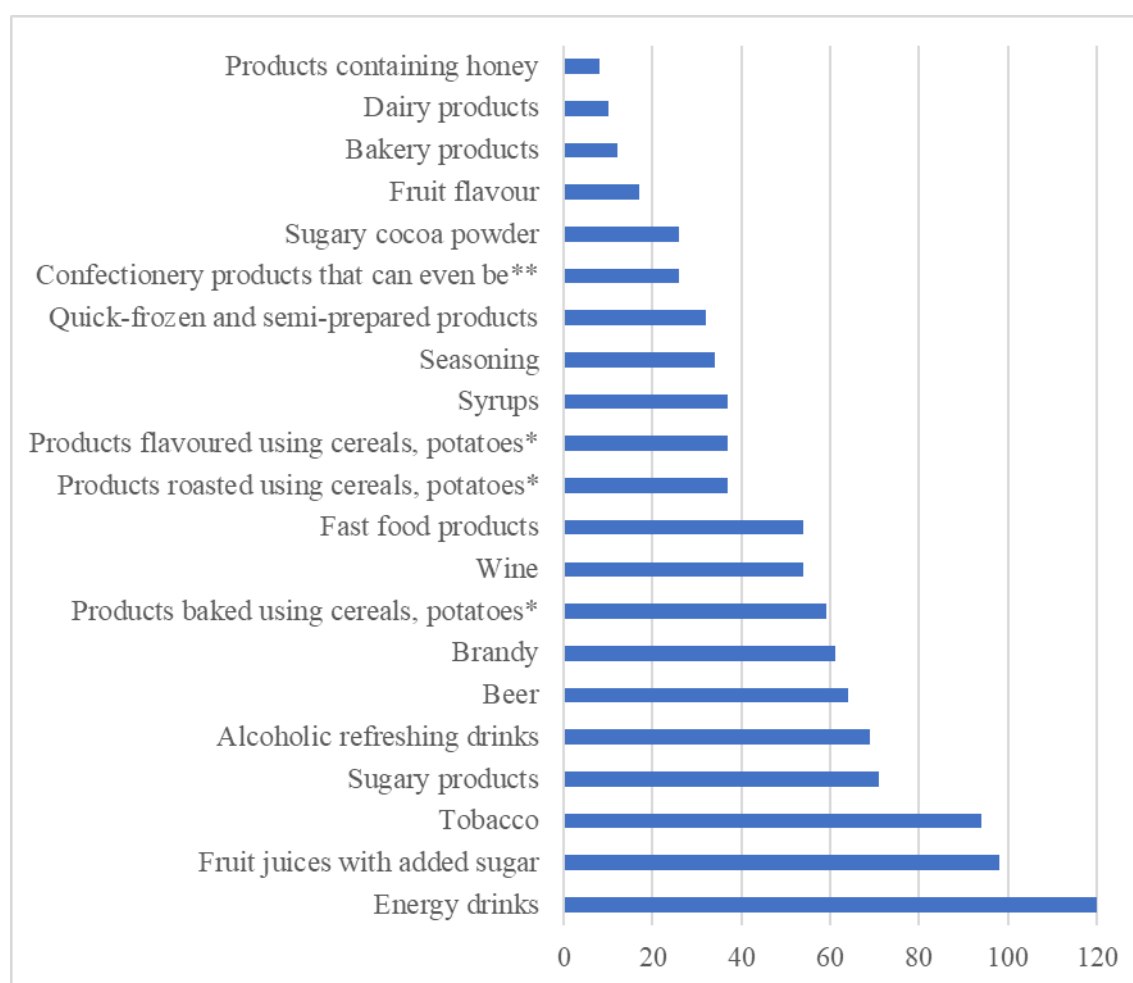


Figure VII-4: Allocation of answers provided to the following question in 2021: Which of the following products do you think the tax applies to? (Source: Author's research)
 *or oilseed which can be consumed immediately after opening; **consumed locally

Based on the analysis above, it can be seen that a minimum percentage of respondents indicated a response combination that only contains the right products. Many people think that tobacco products are also subject to this tax when they are in reality, subject to completely different legislation in terms of taxation and distribution.

VII.3. Online questionnaire survey in 2022

In connection with the PHPT and the experience of last year's survey, I have formulated 27 questions divided into seven main groups. The first group was *Introduction questions* - *Residence*

- Do you live in Hungary? If this question to the answer is “no”, the respondent got the following 3 screening questions:
 - o In which country do you live?
 - o Do you know about any taxes in your country where you currently reside that are aimed at cutting unhealthy or health-damaging ingredients or products? What is it called?
 - o Have you lived permanently in Hungary in the last 365 days? If the respondent stayed in Hungary for less than month, the question jumps into the last section.

In the second larger group, I formulated questions related to shopping habits. These questions were very similar to the last year's questionnaire, so it is easier to compare. These questions were the following:

- How often do you go shopping for food products?
- Do you go to the grocery store to buy discounted products?
- How do you usually get informed of the promotions of a particular store?
- Do you buy a larger quantity if the particular product has discounted price?
- If more than one package of product is available, on what basis do you usually decide which one to buy?
- If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
- Do you shop online?
- The table below lists different shopping situations related to your shopping habits. Please indicate the one, which is specific to you?

On the third page, there is only one screening question related to background knowledge, which is the following: Have you heard of the Hungarian Public Health Product Tax? The following section depends on if the answer is "yes" or "no". After that, I classified questions related to the PHPT.

- What is the purpose of this tax? (Both sides)

- Does this tax also apply to tobacco products? (Only the “yes” side)
- According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale. (Both sides, but list of products is different)
- Have you heard about the Hungarian "chips adó" (crisps tax)? (Both sides)

I have formulated questions about product availability and price changes in the six pages. These questions were the following:

- How do you think the PRICES of the following listed products have changed compared to a year ago?
- How do you think the PACKAGING of the following listed products have changed compared to a year ago?

The last group was basic demographics:

- Gender of respondents?
- In what type of settlement do you live?
- To which group do you belong?
- How many people live in a common household?

The questionnaire was available online and was shared on one of the big social networking sites, and I asked my friends to fill it in and share it with others to get as many responses as possible. It was available for 16 days from 26th March 2022 to 10th April 2022, during which 228 people responded. The questionnaire was available in Hungarian and English, and both versions can be viewed in the Appendix (X.2.1. and X.2.2.)

VII.3.1. Introduction questions – 2022

Do you live in Hungary?

Two hundred twenty-six respondents actually live in Hungary, and two people in Germany and Malta. Of the people who live in Hungary, five choose to fill in the English version of my questionnaire.

VII.3.2. Questions about shopping habits – 2022

How often do you go shopping for food products?

From the following table, it is clear that most people go shopping to buy food daily, several times a week, or once a week, but it can be seen that the category several times a week has become more dominant compared to the last year.

People per household	Daily	Several times a week	Every week	Every two weeks	Less frequently
1	6	18	15	0	0
2	10	44	24	5	1
3	16	19	9	0	1
4	17	13	4	1	0
5	7	10	2	0	0
6	1	2	0	0	0
7	0	1	0	0	0
8	1	0	0	0	0
Total	58	107	54	6	2

Table VII-3: Relationship between the size of household and shopping habits in 2022
(Source: Author's research)

Do you go to the grocery store to buy discounted products? Do you buy a larger quantity if the particular product has discounted price?

The vast majority of respondents go to the store to buy a particular discounted product; it occurs more frequently than people living in larger households go shopping for a

People per household	Do you go to the grocery store to buy discounted products?					
	Yes			No		
	Do you buy a larger quantity if the particular product has a discounted price?			Do you buy a larger quantity if the particular product has a discounted price?		
	Yes	No	Total	Yes	No	Total
1	15	12	27	5	7	12
2	39	28	67	7	10	17
3	22	15	37	2	6	8
4	25	8	33	0	2	2
5	15	2	17	1	1	2
6	2	0	2	1	0	1
7	0	1	1			
8	1	0	1			
Total	119	66	185	16	26	42

Table VII-4: Relationship between having the main goal of buying products on discount and buying higher amount of a product when it has a discounted price in 2022
(Source: Author's research)

discounted product. It might also be interesting to look at the answer to the other question, whether it is more common to buy something in larger quantities if it is on sale in the store. Those who tend to go to the store specifically for discounted products are more likely to buy larger quantities of these goods. But it is also the case among respondents who buy more discounted products and who do not go into the store specifically for a special offer.

If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?

By looking at these two questions together, most Hungarian buyers place price in the foreground, but some people decide based on brand and quality. 59.3% of the respondent chose the lowest unit price (Ft/kg), and the other question, 29.4%, chose the currently cheapest product.

Do you shop online? The table below lists different shopping situations related to your shopping habits. Please indicate the one, which is specific to you?

For the first question, "Do you shop online?", 63.9% of the respondent said "yes", but it will be more in reality because after different situations, some respondents selected both options and online. However, they said earlier that they had not shopped online. I would like to show an example of this situation..

Do you shop online?	Where do you usually buy electronic products?				Total
	Online	In store	Both	I don't want to answer	
Yes	21	35	88	1	145
No	6	47	29	0	82
Total	27	82	117	1	227

Table VII-5: Example for the relationship between "Do you shop online?" and "Where do you usually buy ...?" in case of electronic products (source: Author's research)

VII.3.3. Screening question about the PHPT

Have you heard of Public Health Product Tax?

53.9% of the people answered "yes" while 45.6% said "no". This is interesting because a higher percentage of people (58.3%) heard about the PHPT the last year.

VII.3.4. Questions about PHPT

What is the purpose of the tax? (Multiple answers possible in both arms)

People who have heard of the tax are more aware of what PHPT is all about. Compared to last year, fewer respondents indicated that it would be only extra tax revenue.

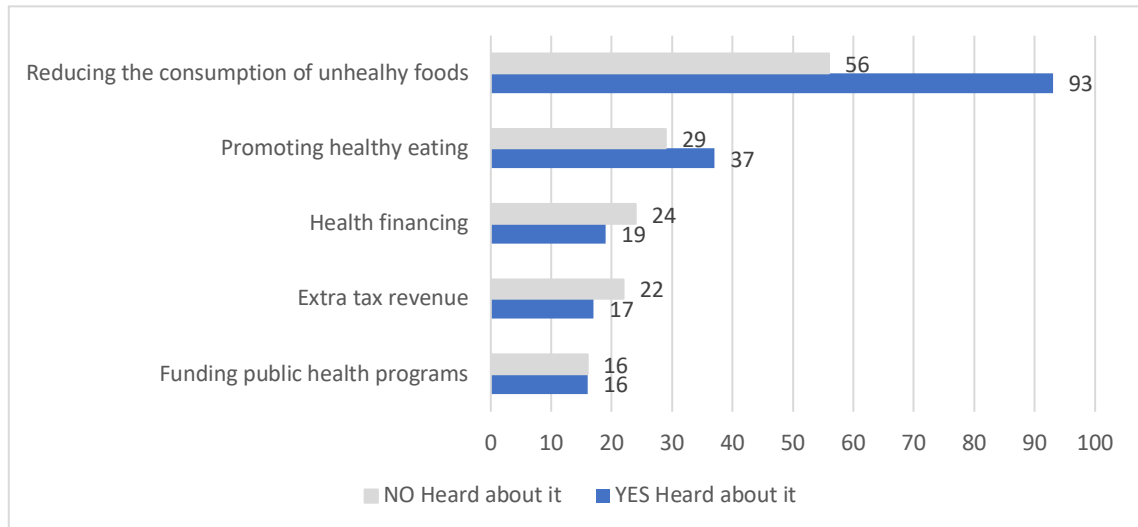


Figure VII-5: Allocation of answers provided to the following question “What is the purpose of the tax?” based on whether groups heard about it or not in 2022 (Source: Author’s research)

Which of the following products do you think the tax applies to? (Likert scale)

At this question, with the help of the Likert scale, I decided to find out a little more information than last year about how confident people are about what the tax is about or what it is not.

For those who have not heard of the PHPT tax earlier, several product groups have been written about that are not covered. It was the case with pyrotechnic devices, which were used to cause serious health injuries but were not related to eating. It surprised me that more than half of the respondents say it applies to it, while less has been written about plain baked chips, which refers to the nickname of the PHPT. Overall, a minimal rate difference can be observed among respondents between those who have heard about the tax before and who have not heard about the tax before. The distribution and grouping of responses are similar to the previous year. Based on the above mentioned, respondents' knowledge of taxation is unchanged.

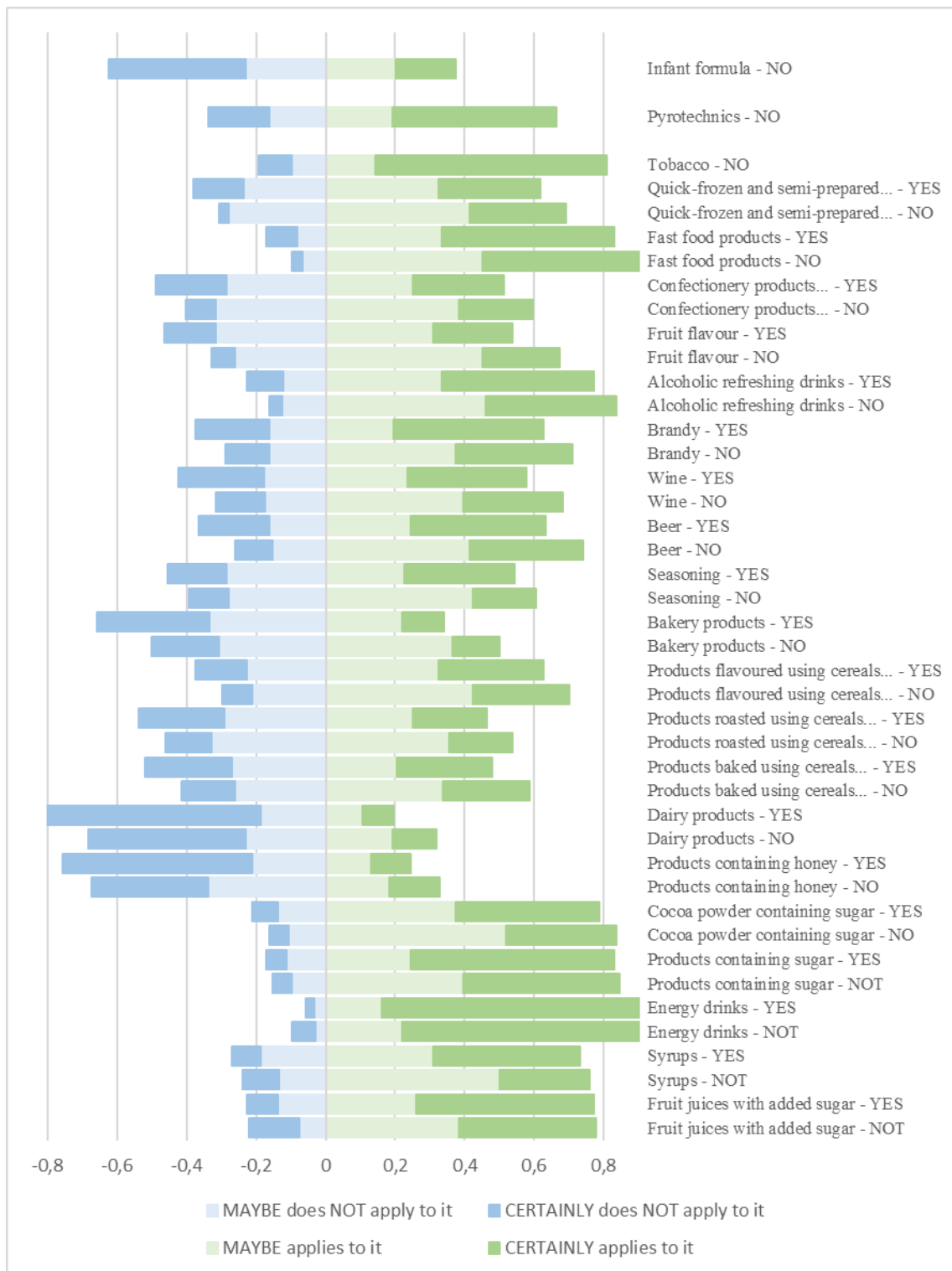


Figure VII-6: Allocation of answers provided to the following question with the use of the Likert Scale
 “Which of the following products do you think the tax applies to?” (Source: Author’s research)

VII.3.5. Questions related to product availability and price changes

How do you think the PRICES of the following listed products have changed compared to a year ago?

The majority of the respondents experienced an increase in prices in relation to last year. According to the products, prices increased by 5%, which can also be included in the inflation data published according to the KSH. Individuals who have written price reductions for small-packaged chips are indeed right about certain products because manufacturers have also reduced their prices by making packages smaller, aiming to expand the consumer base.

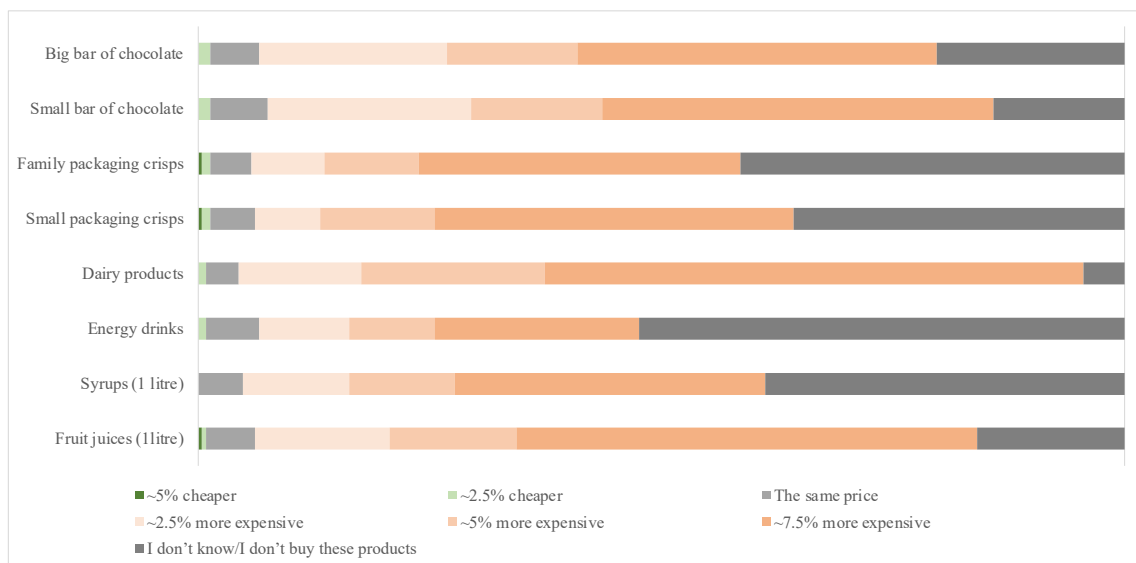


Figure VII-7: Allocation of answers provided to the following question with the use of the Likert Scale "How do you think the PRICES of the following listed products have changed compared to a year ago?" (Source: Author's research)

How do you think the PACKAGING of the following listed products have changed compared to a year ago?

With this question, my goal would have been to see how much consumers have noticed that there has been a 10 grams reduction in the case of small packages. The distribution of the answers is shown in Figure VII-8. Half of the respondents said that they overall did not buy such products. 15% of the respondents perceived or knew correctly that in the case of small-packaged chips, there was a reduction in the packaging previously summarised in Subchapter VI.2.2.

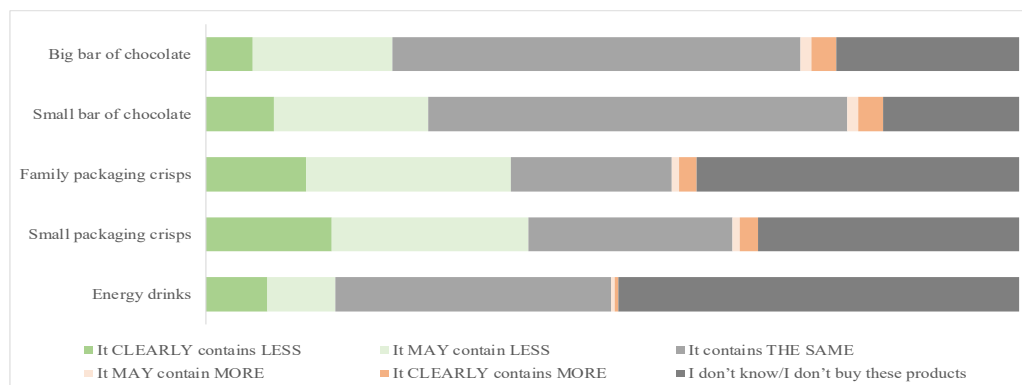


Figure VII-8: Allocation of answers provided to the following question with the use of the Likert Scale "How do you think the PACKAGING of the following listed products have changed compared to a year ago?" (Source: Author's research)

VII.3.6. Demography

Gender of respondents? To which age group do you belong?

The proportion of women who completed the questionnaire was higher than of men this time. The gender distribution of respondents was the following: women were 82.9%, and men were 17.1%. There were no individuals who were under 18 who filled in the questionnaire.

In which type of settlement do you live in?

Most of the respondents live in villages with 46.9%, followed by the proportion of urban respondents with 27.7%. The capital residents with 13.6%, and finally, the fewest number of people live in a county seat (11.8%).

How many people live in a common household?

Most of the respondents live in a 2-person household, but there were also two households, each consisting of 7 or 8 people.

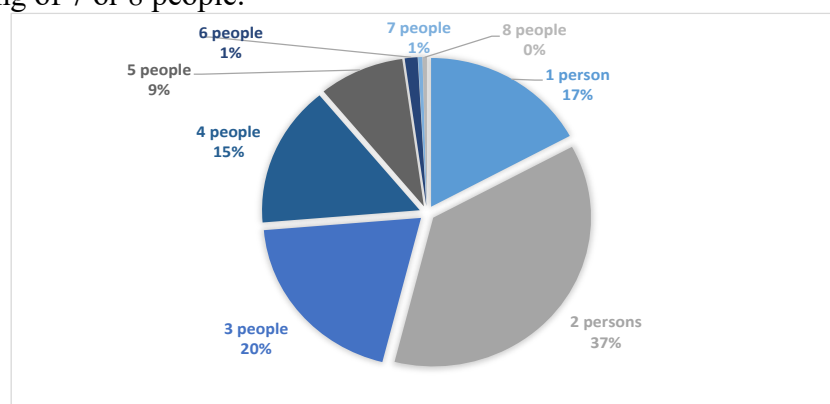


Figure VII-9: Distribution of household size (source: Author's research)

VIII. Conclusion

The problem and the changes as a result of the new tax. The Public Health Product Tax (PHPT) was introduced in Hungary in 2011 to reduce the consumption of unhealthy foods, thus promoting healthy nutrition. The proceeds are used to fund public health programs. International experience has shown that if well thought out, such a tax can be effectively achieve the goal. The WHO also recommends the use of this type of tax. In a previous WHO study, Hungary has already been considered as a positive example in *Fiscal Policies for Diet and Prevention of Noncommunicable Diseases*.

I would like to emphasize again that eating habits are a complex process consisting of several parts, with many internal and external influences. Internal genetic and hormonal traits cannot be changed, but knowledge is necessary for proper nutrition. In the case of external factors, it is difficult to orient ourselves; for example, the influence of social media and fashion from a young adult age is quite strong. It is necessary to understand all these effects to know why the tax studied in my dissertation can be effective in one area and cannot be effective in another. The reasons for the different effects mentioned earlier are why other products or product groups are taxed differently by countries and regions.

The tax resulted in a decline in consumption in the years since its introduction, but for some time, there has been a renewed increase in shopping habits for certain harmful products. On the other hand, manufacturers try to comply with legal conditions and look for loopholes to make their products tax-free. The salt content was under 1 gram of salts per 100 grams for many products. In the case of energy drinks, manufacturers first amended the recipe to make the sweetener or sugar content eligible for an exception. After a while, the legislation also followed this amendment, and all such products are now subject to tax.

In the presentation of the product group of crispy and salty snacks, it is specific products with lower salt content are usually more expensive than their less salty counterparts. So knowing Hungarian consumer habits, in some cases, the tax cannot achieve its primary purpose of reducing the consumption of these products. Manufacturers, who know that they sell quasi-healthier products, can offer their goods at a much higher price than their competitors because they know that those who pay attention to healthier eating will buy them. Such pricing and consumer price sensitivity can cause a much more significant difference between those who follow a healthy lifestyle and those who eat unhealthily.

Excessive salt intake increases the risk of both cardiovascular and fat metabolism diseases. After their development also means extra expenditure for the consumer as well as for public finances, e.g., medicine and treatment costs, absenteeism and so on.

A similar situation can be observed with fruit juices. In the case of fruit juices, a distinction can be made between beverages with 100% fruit content and those containing sweeteners. The sweetener can be sugar, sweeteners (aspartame, acesulfame potassium, etc.), the combination of the two, or glucose-fructose syrup, which is much cheaper to produce than other sweeteners.

When presenting the products, I have focused on apple juices and drinks, but the same can be experienced with any other type of fruit juices. The price of 100% fruit juices is higher than that of somehow sweetened products. The packaging of sweetened products often does not indicate what percentage of fruit juice it contains, and it can only be read on the back in small print how they are sweetened. Excessive sugar consumption can lead to the development of diabetes. Unfortunately, the consumption of products made with sweeteners has a laxative effect in case of increased consumption, which has a detrimental effect on the digestive system and stomach.

In the case of energy drinks, it can be said that, unfortunately, any energy drink can be considered cheaper than freshly made coffee in a café or a 100% fruit drink. Several energy drinks contain the amount of caffeine found in many cups of coffee besides using sweeteners. Their excessive consumption can damage the cardiovascular system as well as the digestive system and stomach at the same time.

My survey. Nearly 200 people had filled in my questionnaire in 10 days in 2021, and more than 200 people filled in my similar questionnaire in 2022, which was related to how well respondents knew about PHPT. Three-quarters of the respondents were female, and the questionnaire was completed by those living in households with more than five people on both occasions. It can be seen from shopping habits that the larger a family is, the more often they go to the store and pay attention to prices when shopping. So when they see a discount, they can go to the shop specifically for a product, which is just as common for non-large families. If a product is on sale, most respondents usually buy larger quantities of particular goods. The advantage of this may be that if the healthier product is discounted, they will buy more of it, but unfortunately, the price of these products will not be much lower than that of similar goods. The disadvantage of such discounts in terms

of health status is that they purchase even larger quantities of overly salty, sugared or sweetened products.

Most people have heard of the PHPT with little difference both times. The first question was about its purpose, disassembled into three different options coupled with two more deceptive answers, which was something I had heard from acquaintances earlier in connection with the purpose of the tax. Most people know or have a good idea of the purpose of the PHPT, but many people thought it was just an extra tax revenue that had no stated purpose in 2021, but the popularity of this idea decreased for 2022. The last question was about what product groups the tax applies to. I have also listed some conditions which are only partially met, e.g., dairy products or goods containing honey, but in other countries, fast food products are also taxed, so I also included it together with tobacco products in 2021. In the 2022 questionnaire, I used the Likert scale for this question and made two different groups based on whether they had heard about the PHPT earlier or not heard about it. Answer distributions are similar in both years, and there was very little that was repeated as a combination. It was more like guessing the weekend lottery numbers. At the beginning of the questionnaire in 2021, I said that it is better known in Hungary as chips tax, helping those who do not remember it.

Summary evaluation. Overall, the use of the tax is advantageous. Conclusion: there is much positive international experience in other countries and Hungary. Unfortunately, the positive impact is not permanent. After a while, the tax lost its influence on consumers and fell out of public consciousness. In addition, household income conditions changed, and producers, in some cases, also made modifications. In my opinion, after the COVID-19 pandemic, it would be worth considering changing the tax and drawing the public's attention to the disadvantages and dangers of these products again in the framework of public health programs. Unhealthy foods were consumed even more during the quarantine period; however, it requires at least one year to have data on the epidemic's impact on people's eating and exercise habits. One thing is for sure, after the initial successful decline, more drastic data than previously known are expected for these products.

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X. Appendix

X.1. Questionnaire 2021

X.1.1. Questionnaire in Hungarian as available online in 2021

Jónás Nikolett, a Budapesti Corvinus Egyetem mesterszakos hallgatója vagyok. Jelen kérdőív kitöltésével hozzájárul *A népegészségügyi termékadóval kapcsolatos egyenlőtlenségek Magyarországon, 2011-2020* című TDK dolgozatom kutatásához. A dolgozatom célja a magyarországi lakosság körében chips adóként elhíresült 2011-ben bevezetett Népegészségügyi termékadó hatása a vásárlási és fogyasztási szokásokra.

Köszönöm, hogy a kérdőív kitöltésével hozzájárul a dolgozatom eredményességéhez!

Alap demográfiai kérdések:

1. Kitöltő neme:
 - Nő
 - Férfi
2. Milyen típusú településen lakik?
 - Főváros
 - Megyeszékhely
 - Megyei jogú város
 - Város
 - Falu
3. Melyik korcsoportba tartozik?
 - 18 éven aluli
 - 18-25
 - 26-35
 - 36-45
 - 46-55
 - 56-65
 - 66 évnél idősebb
4. Hány élnek közös háztartásban? _____

Vásárlási szokással kapcsolatos kérdések

5. Milyen gyakran jár vásárolni?
 - Naponta
 - Hetente többször
 - Hetente
 - Kéthetente
 - Vagy ritkábban
6. Szokott-e élelmiszerboltba menni, hogy akciós terméket vásároljon?
 - Igen
 - Nem
7. Az Ön lakóhelyén elérhető-e az online rendelt élelmiszerek házhoz szállítása?
 - Igen
 - Nem bízom a házhoz szállításban élelmiszerek esetében
 - Nincs házhoz szállítás
8. Abban az esetben, amennyiben egy termékből több kiszerelés elérhető mi alapján szokott dönteni, hogy melyiket vásárolja meg?
 - Termék ár, amelyik a legolcsóbb kiszereléstől függetlenül
 - Termék egységára (pl. Ft/kg)
 - Amelyik akciós éppen
 - egyéb: _____
9. Amennyiben egy termékből több gyártó is gyárt hasonlót csak más név alatt, mi alapján dönt, hogy melyiket választja?
 - Márka hű vagyok
 - Mindig az aktuálisan legolcsóbbat veszem meg
 - Mindig azt veszem meg, amely éppen elérhető az adott áruházban
10. Szokott-e nagyobb mennyiséget vásárolni, ha akciós az adott termék?
 - Igen
 - Nem
11. A termék összetevőit megszokta nézni?
 - Igen
 - Nem

12. Ha igen, befolyásolja a döntését?

- Igen
- Nem

13. Követ-e valamilyen speciális diétát.

Népegészségügyi termékadóval kapcsolatos kérdések

14. Hallott már a 2011. évi CIII. törvény a népegészségügyi termékadóról?

- Igen
- Nem

15. Mi az adó célja? (több válasz is lehetséges)

- Egészségtelen élelmiszerek fogyasztásának visszaszorítása
- Egészséges étkezés elősegítése
- Népegészségügyi programok finanszírozása
- Egészségügy finanszírozása
- Extra adó bevétel

16. Ön szerint az alábbiakban felsorolt termékek közül melyikre vagy melyikekre vonatkozik? (több válasz megadása is lehetséges)

- Hozzáadott cukrot tartalmazó gyümölcslevek
- Szörpök
- Energiitalok
- Cukortartalmú termékek
- Cukrozott kakaó por
- Méztartalmú termékek
- Tejtermékek
- Gabona, burgonya vagy olajos magvak felhasználásával sült termékek, amelyek felbontás után azonnal fogyaszthatóak
- Gabona, burgonya vagy olajos magvak felhasználásával pörkölt termékek, amelyek felbontás után azonnal fogyaszthatóak
- Gabona, burgonya vagy olajos magvak felhasználásával ízesített termékek, amelyek felbontás után azonnal fogyaszthatóak
- Sütőipari termékek
- Ételízesítő
- Sör

- Bor
- Pálinka
- Alkoholos frissítő italok
- Gyümölcsíz
- Cukrászdai termékek, amelyek akár helyben is fogyaszthatóak
- Gyorséttermek termékei
- Gyorsfagyasztott félkésztermékek
- Dohány

X.1.2. Questionnaire: English translation

I am Nikolett Jónás, MA student at the Corvinus University of Budapest. This questionnaire is part of my own research for my TDK dissertation Inequality in Hungary in relation to Public Health Product Tax (PHPT) 2011-2020. The aim of my dissertation is what effects the PHPT has had on shopping and consumption habits, since its introduction in 2011. The Hungarian population call it “chips adó”.

Thank you for your answering my questionnaire and contributing to the success of my TDK dissertation!

Basic demographic issues:

1. Gender of the respondents:
 - Woman
 - Man
2. What type of settlement do you live in?
 - Capital
 - County seat
 - County town
 - City
 - Village
3. Which group do you belong to?
 - Under 18
 - 18-25
 - 26-35
 - 36-45
 - 46-55
 - 56-65
 - 66 elders
4. How many people live in a common household? _____

Questions about shopping habits

5. How often do you go shopping for food products?
 - Daily – 58 people
 - Several times a week
 - Every week
 - Every two weeks
 - Or less frequently
6. Do you go to the grocery store to buy discounted products?
 - Yes
 - No
7. Is home delivery of food products ordered online available in your place of residence?
 - Yes
 - I do not trust home delivery in case of food products
 - No home delivery
8. If more than one package of product is available, what basis do you usually decide which one to buy?
 - Product price which is the cheapest regardless of packaging
 - Unit price of the product (e.g. Ft/kg)
 - Which is on sale right now
 - Other: _____
9. If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
 - I am loyal to the brand
 - I always buy the currently cheapest product
 - I always buy what is currently available in the particular store
10. Do you buy a larger quantity if the particular product has a discounted price?
 - Yes
 - No
11. Do you look at the ingredients of the product?
 - Yes
 - No

12. *If yes, does it affect your decision?*

- Yes
- No

13. Are you following any special diet?

Public health product tax issues

14. Have you heard of the Public Health Product Tax?

- Yes
- No

15. What is the purpose of the tax? (Multiple answers possible)

- Reducing the consumption of unhealthy foods
- Promoting healthy eating
- Funding public health programs
- Financing health care
- Extra tax revenue

16. Which of the following products do you think the tax applies to? (Multiple answers possible)

- Fruit juices with added sugar
- Syrups
- Energy drinks
- Sugary products
- Sugary cocoa powder
- Products containing honey
- Dairy products
- Products baked using cereals, potatoes or oilseed which can be consumed immediately after opening
- Products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening
- Products flavoured using cereals, potatoes, or oilseed, which can be consumed immediately after opening
- Bakery products
- Seasoning
- Beer

- Wine
- Brandy
- Alcoholic refreshing drinks
- Fruit flavour
- Confectionery products that can even be consumed locally
- Fast food products
- Quick-frozen and semi-prepared products
- Tobacco

X.1.3. Answers in 2011

Basic demographic issues:

1. Gender of the respondents:
 - Woman: 145 answers
 - Man: 47 answers
2. What type of settlement do you live in?
 - Capital: 30 answers
 - County seat: 22 answers
 - County town: 5 answers
 - City: 31 answers
 - Village: 104 answers
3. Which group do you belong to?
 - Under 18: 1 answer
 - 18-25: 12 answers
 - 26-35: 42 answers
 - 36-45: 30 answers
 - 46-55: 37 answers
 - 56-65: 42 answers
 - 66 elders: 28 people
4. How many people live in your household?
 - 1 person: 25 answers
 - 2 people: 69 answers
 - 3 people: 41 answers
 - 4 people: 32 answers
 - 5 people: 13 answers
 - 6 people: 1 answer
 - 7 people: 2 answers
 - 8 people: 1 answer
 - 9 people: 5 answers

Questions about shopping habits

5. How often do you go shopping for food products?
 - Daily: 51 answers
 - Several times a week: 80 answers
 - Every week: 43 answers
 - Every two weeks: 8 answers
 - Or less frequently: 7 answers
6. Do you go to the grocery store to buy discounted products?
 - Yes: 143 answers
 - No: 50 answers
7. Is home delivery of food products ordered online available in your place of residence?
 - Yes: 92 answers
 - I do not trust home delivery in case of food products: 35 answers
 - No home delivery: 65 answers
8. If more than one package of product is available, what basis do you usually decide which one to buy?
 - Product price which is the cheapest regardless of packaging: 31 answers
 - Unit price of the product (e.g., Ft/kg): 104 answers
 - Which is on sale right now: 43 answers
 - Other: 14 answers
9. If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
 - I am loyal to the brand: 69 answers
 - I always buy the currently cheapest product: 53 answers
 - I always buy what is currently available in the particular store: 70 answers
10. Do you buy a larger quantity if the particular product has a discounted price?
 - Yes: 118 answers
 - No: 74 answers
11. Do you look at the ingredients of the product?
 - Yes: 131 answers
 - No: 61 answers

12. *If yes, does it affect your decision?*

- Yes: 121 answers
- No: 51 answers

13. Are you following any special diet?

- No: 152
- Yes: 40 (CH160g, diabetic, gluten-free, IR, dairy free, vegetarian, and others)

Public health product tax issues

14. Have you heard of the Public Health Product Tax?

- Yes: 112 answers
- No: 80 answers

15. What is the purpose of the tax? (Multiple answers possible)

- Reducing the consumption of unhealthy foods: 62 answers
- Promoting healthy eating: 14 answers
- Funding public health programs: 1 answer
- Financing health care: 6 answers
- Extra tax revenue: 23 answers
- Multiple answers:
 - 35 answers: reducing the consumption of unhealthy foods + promoting healthy eating
 - 13 answers: reducing the consumption of unhealthy foods + extra tax revenue
 - 6 answers: reducing the consumption of unhealthy foods + promoting healthy eating + extra tax revenue
 - 4 answers: reducing the consumption of unhealthy foods + funding public health programs
 - 4 answers: reducing the consumption of unhealthy foods + funding public health programs + extra tax revenue
 - 3 answers: promoting healthy eating + extra tax revenue
 - 2 answers: promoting healthy eating + financing health care
 - 2 answers: reducing the consumption of unhealthy foods + promoting healthy eating; funding public health programs

- 2 answers: reducing the consumption of unhealthy foods + promoting healthy eating; funding public health programs + financing health care + extra tax revenue
- 2 answers: reducing the consumption of unhealthy foods + financing health care
- 2 answers: funding public health programs + financing health care + extra tax revenue
- 1 answer: promoting healthy eating + financing health care + extra tax revenue
- 1 answer: promoting healthy eating + funding public health programs
- 1 answer: promoting healthy eating + funding public health programs + financing health care
- 1 answer: promoting healthy eating; funding public health programs + financing health care + extra tax revenue
- 1 answer: promoting healthy eating; funding public health programs + extra tax revenue
- 1 answer: reducing the consumption of unhealthy foods + promoting healthy eating; financing health care
- 1 answer: reducing the consumption of unhealthy foods + promoting healthy eating; funding public health programs + financing health care
- 1 answer: reducing the consumption of unhealthy foods + promoting healthy eating; funding public health programs + extra tax revenue
- 1 answer: reducing the consumption of unhealthy foods + funding public health programs; financing health care + extra tax revenue
- 1 answer: funding public health programs + financing health care
- 1 answer: funding public health programs + extra tax revenue

16. Which of the following products do you think the tax applies to? (multiple answers possible)

- Fruit juices with added sugar: 98 answers
- Syrups: 37 answers
- Energy drinks: 120 answers
- Sugary products: 71 answers

- Sugary cocoa powder: 26 answers
- Products containing honey: 8 answers
- Dairy products: 10 answers
- Products baked using cereals, potatoes or oilseed which can be consumed immediately after opening: 59 answers
- Products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening: 37 answers
- Products flavoured using cereals, potatoes, or oilseed, which can be consumed immediately after opening: 37 answers
- Bakery products: 12 answers
- Seasoning: 34 answers
- Beer: 64 answers
- Wine: 54 answers
- Brandy: 61 answers
- Alcoholic refreshing drinks: 69 answers
- Fruit flavour: 17 answers
- Confectionery products that can even be consumed locally: 26 answers
- Fast food products: 54 answers
- Quick-frozen and semi-prepared products: 32 answers
- Tobacco: 94 answers

Answer groups than more 1 people choice

- 9 answers: fruit juices with added sugar
- 7 answers: tobacco
- 5 answers: fruit juices with added sugar + energy drinks + sugary products
- 4 answers: energy drinks + beer + wine + brandy + tobacco
- 4 answers: fruit juices with added sugar + energy drinks
- 3 answers: energy drinks
- 3 answers: products baked using cereals, potatoes or oilseed which can be consumed immediately after opening
- 3 answers: products baked using cereals, potatoes or oilseed which can be consumed immediately after opening + products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening + products

flavoured using cereals, potatoes, or oilseed, which can be consumed immediately after opening

- 2 answers: energy drinks + sugary products + seasoning
- 2 answers: energy drinks + tobacco
- 2 answers: energy drinks + products baked using cereals, potatoes or oilseed which can be consumed immediately after opening
- 2 answers: energy drinks + beer + wine + brandy + alcoholic refreshing drinks + tobacco
- 2 answers: fruit juices with added sugar + energy drinks + seasoning
- 2 answers: fruit juices with added sugar + syrups + energy drinks + sugary products + products baked using cereals, potatoes or oilseed which can be consumed immediately after opening+ products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening + products flavoured using cereals, potatoes, or oilseed, which can be consumed immediately after opening + beer + alcoholic refreshing drinks + fast food products + quick-frozen and semi-prepared products + tobacco
- 2 answers: beer + wine + brandy + tobacco

X.2. Questionnaire 2022

X.2.1. Questionnaire Hungarian version in 2022

Élelmiszer vásárlási szokások

Jónás Nikolett, a Budapesti Corvinus Egyetem mesterszakos hallgatója vagyok. Jelen kérdőív kitöltésével hozzájárul A Magyarországi Népegészségügyi termékadó 2011-2021 című szakdolgozatom kutatásához. A dolgozatom célja a lakosság körében a termékeket terhelő adók ismeretének és vásárlási szokásaiknak a vizsgálata. A kérdőív anonim.

For the English version, change the language above .

Bevezető kérdések - Lakóhely

1. Jelenleg Ön Magyarország területén él?
 - Igen
 - Nem
2. Kérem nevezze meg azt az országot, ahol jelenleg Ön él? (Ha az előző kérdésre „nem” a válasz)
3. Tud bármilyen adóról az Ön országában, ahol él jelenleg, amelynek a célja az egészségtelen vagy egészségre káros alapanyagok vagy termékek visszaszorítása. Hogyan nevezik azt?
4. Mennyi időt töltött Magyarország területén az elmúlt egy év alatt?
 - Nem tartózkodtam
 - Kevesebb mint egy hetet tartózkodtam
 - Kevesebb mint egy hónapot
 - Kevesebb mint félévet
 - Többet, mint félévet

Vásárlási szokással kapcsolatos kérdések

5. Milyen gyakran jár élelmiszert vásárolni?
 - Naponta
 - Hetente többször
 - Hetente
 - Kéthetente
 - Ritkábban

6. Szokott-e élelmiszerboltba menni azért, hogy akciós terméket vásároljon?
- Igen
 - Nem
7. Hogyan szokott értesülni egy adott bolt akciójáról?
- Újság
 - Internetes hirdetés
 - TV reklám
 - Rádió reklám
 - Szórólap
 - Egyéb _____
8. Szokott-e nagyobb mennyiséget vásárolni, ha akciós az adott termék?
- Igen
 - Nem
9. Abban az esetben, amennyiben egy termékből több kiszerelés elérhető, mi alapján szokott dönteni, hogy melyiket vásárolja meg?
- Termék ára, amelyik a legolcsóbb kiszereléstől függetlenül
 - Amelyik akciós éppen
 - Termék egységára (pl. Ft/kg)
 - Egyéb _____
10. Amennyiben egy termékből több gyártó is gyárt hasonlót csak más név alatt, mi alapján dönt, hogy melyiket választja?
- Mindig az aktuálisan legolcsóbbat veszem meg
 - Márka hű vagyok
 - Mindig azt veszem meg, amely éppen elérhető az adott áruházban
11. Szokott online vásárolni?
- Igen
 - Nem

12. Az alábbi táblázatban vásárlási szituációk lesznek felsorolva a vásárlási szokásaival kapcsolatosan. Kérem, jelölje be, hogy melyik jellemző Önre?

Online: az interneten leadott rendelést értem, amit futár cég szállít ki az Ön részére vagy veszi át személyesen egy kiválasztott átvevő ponton

Boltban: hagyományos személyes vásárlási forma

	Online	Boltban	Mindkettő	Nem szeretnék válaszolni
Hol szokott élelmiszert vásárolni?				
Hol szokott háztartási tisztítószeret, eszközöket vásárolni?				
Hol szokott elektronikai termékeket vásárolni?				
Hol szokott bútort vásárolni?				
Hol szokott ruházati termékeket vásárolni?				

Table X-1.: Question about different shopping situations related to your shopping habits. Please indicate the one, which is specific to you. (Hungarian version; source: Author's research)

Népegészségügyi termékadóval kapcsolatos kérdések 1/2

13. Hallott már a népegészségügyi termékadóról? *

- Igen
- Nem

Népegészségügyi termékadóval kapcsolatos kérdések 2/2 (12. kérdésre „igen” a válasz)

14. Mi az adó célja?

- Egészséges étkezés elősegítése
- Egészségügy finanszírozása
- Extra adó bevétel
- Népegészségügyi programok finanszírozása
- Egészségtelen élelmiszerek fogyasztásának visszaszorítása

15. Ez az adó vonatkozik a dohány termékekre is?

- Igen
- Nem

16. Ön szerint az alábbi táblázatban felsorolt termékek közül melyikre vonatkozik és melyikre nem vonatkozik a népegészségügyi termékadó? *

	BIZTOSAN NEM vonatkozik rá	TALÁN NEM vonatkozik rá	TALÁN vonatkozik rá	BIZTOSAN vonatkozik rá
Hozzáadott cukrot tartalmazó gyümölcslevek				
Szörpök				
Energia italok				
Cukortartalmú termékek				
Cukrozott kakaópor				
Méztartalmú termékek				
Tejtermékek				
Gabona, burgonya vagy olajos magvak felhasználásával sült termékek, amelyek felbontás után azonnal fogyaszthatóak				
Gabona, burgonya vagy olajos magvak felhasználásával pörkölt termékek, amelyek felbontás után azonnal fogyaszthatóak				
Gabona, burgonya vagy olajos magvak felhasználásával ízesített termékek, amelyek felbontás után azonnal fogyaszthatóak				
Sütőipari termékek				
Ételízesítő				
Sör				
Bor				
Pálinka				
Alkoholos frissítő italok				
Gyümölcsíz				
Cukrászdai termékek, amelyek akár helyben is fogyaszthatóak				
Gyorséttermek termékei				
Gyorsfagyasztott félkész termékek				

Table X-2.: Question about which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (Hungarian version; Source: Author's research)

17. Hallotta már azt az elnevezést, hogy chips adó?

- Igen
- Nem

Népegészségügyi termékadóval kapcsolatos kérdések 2/2 (12. kérdésre „nem” a válasz)

18. Mi az adó célja?

- Egészséges étkezés elősegítése
- Egészségügy finanszírozása
- Extra adó bevétel
- Népegészségügyi programok finanszírozása
- Egészségtelen élelmiszerek fogyasztásának visszaszorítása

19. Ön szerint az alábbi táblázatban felsorolt termékek közül melyikre vonatkozik és melyikre nem vonatkozik a népegészségügyi termékadó?

	BIZTOSAN NEM vonatkozik rá	TALÁN NEM vonatkozik rá	TALÁN vonatkozik rá	BIZTOSAN vonatkozik rá
Hozzáadott cukrot tartalmazó gyümölcslevek				
Szörpök				
Energia italok				
Cukortartalmú termékek				
Cukrozott kakaó por				
Méztartalmú termékek				
Tejtermékek				
Gabona, burgonya vagy olajos magvak felhasználásával sült termékek, amelyek felbontás után azonnal fogyaszthatóak				
Gabona, burgonya vagy olajos magvak felhasználásával pörkölt termékek, amelyek felbontás után azonnal fogyaszthatóak				
Gabona, burgonya vagy olajos magvak felhasználásával ízesített termékek, amelyek felbontás után azonnal fogyaszthatóak				

Table X-3.: Question about which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (Hungarian version; Source: Author's research)

20. Ön szerint az alábbi táblázatban felsorolt termékek közül melyikre vonatkozik és melyikre nem vonatkozik a népegészségügyi termékadó? (folytatás)

	BIZTOSAN NEM vonatkozik rá	TALÁN NEM vonatkozik rá	TALÁN vonatkozik rá	BIZTOSAN vonatkozik rá
Sütiipari termékek				
Ételízesítő				
Sör				
Bor				
Pálinka				
Alkoholos frissítő italok				
Gyümölcsíz				
Cukrászdai termékek, amelyek akár helyben is fogyaszthatóak				
Gyorséttermek termékei				
Gyorsfagyasztott félkész termékek				
Cigaretta				
Pirotechnikai termékek				
Gyermek tápszerek				

Table X-4.: Question about which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (Hungarian version; Source: Author's research)

21. Hallotta már azt az elnevezést, hogy chips adó?

- Igen
- Nem

Termékek elérhetőségével és árváltozásával kapcsolatos kérdések

22. Ön szerint az alábbi táblázatban felsorolt termékek ÁRAI hogyan változtak az egy évvel korábbiakhoz képest?

	~5-kal olcsóbb	~2,5%-kal olcsóbb	Ugyanannyiba kerül, mint egy éve	~2,5%-kal drágult	~5%-kal drágult	5%-kal vagy nagyobb mértékben drágult	Nem tudom/nem szoktam illet vásárolni
Gyümölcs levek 1 literes							
Szörpök 1 literes							
Energia italok							
Tejtermékek							
Chipsek kis kiszerezés							
Chipsek családi kiszerezés							
Kis táblás csokoládék							
Nagy táblás csokoládék							

Table X-5.: Question about how the PRICES of the following listed products have changed compared to a year ago. (Hungarian version; Source: Author's research)

23. Ön szerint az alábbi táblázatban felsorolt termékek ÁRAI hogyan változtak az egy évvel korábbiakhoz képest?

	Egyértelműen kevesebbet tartalmaz	Mintha kevesebbet tartalmazna	Ugyanannyit tartalmaz	Mintha többet tartalmazna	Biztosan többet tartalmaz	Nem tudom/nem szoktam ilyet vásárolni
Energia italok						
Chipsek kis kiszerelés						
Chipsek családi kiszerelés						
Kis táblás csokoládék						
Nagy táblás csokoládék						

Table X-6: Question about how the PACKAGING of the following listed products have changed compared to a year ago. (Hungarian versions; Source: Author's research)

Demográfia

24. Kitöltő neme?

- Nő
- Férfi

25. Milyen típusú településen lakik?

- Főváros
- Megyeszékhely
- Megyei jogú város
- Város
- Falu

26. Melyik korcsoportba tartozik

- 18 éven aluli
- 18-25 év közötti
- 26-35 év közötti
- 36-45 év közötti
- 46-55 év közötti
- 56-65 év közötti
- 66 évnél idősebb

27. Hányan élnek egy közös háztartásban?

- Egyedül élek
- 2 fő háztartásban (rajtam kívül még egy fő)
- 3 fő háztartásban (rajtam kívül még 2 fő)
- 4 fő háztartásban (rajtam kívül még 3 fő)
- 5 fő háztartásban (rajtam kívül még 4 fő)
- 6 fő háztartásban (rajtam kívül még 5 fő)
- 7 fő háztartásban (rajtam kívül még 6 fő)
- 8 fő háztartásban (rajtam kívül még 7 fő)
- 9 fő háztartásban (rajtam kívül még 8 fő)
- 10 fő vagy nagyobb háztartásban (rajtam kívül még legalább 9 fő)

X.2.2. Questionnaire English version in 2022

Introduction questions - Residence

1. Do you live in Hungary?
 - Yes
 - No
2. In which country do you live? _____ (If earlier answer was "no")
3. Do you know about any taxes in your country where you currently reside that are aimed at cutting unhealthy or health-damaging ingredients or products. What is it called? _____
4. Have you lived permanently in Hungary in the last 365 days?
 - No stay (next: demographic part)
 - Less than 1 week (next: demographic part)
 - Less than 1 month (next: demographic part)
 - Less than half a year
 - More than half a year

Question about shopping habits

5. How often do you go shopping for food products?
 - Daily
 - Several times a week
 - Weekly
 - Biweekly
 - Less frequently
6. Do you go to the grocery store to buy discounted products?
 - Yes
 - No
7. How do you usually get informed of the promotions of a particular store?
 - Newspaper
 - Internet advertisement
 - Flyer
 - Radio advertisement
 - TV advertisement
 - Other _____

8. Do you buy a larger quality if the particular product has a discounted price?
- Yes
 - No
9. If more than one package of product is available, on what basis do you usually decide which one to buy?
- Unit price of the product (e.g. Ft/kg)
 - Product price regardless of the cheapest packaging
 - Product, which is on sale right now
10. If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
- I always buy the cheapest product currently
 - I always buy what is currently available in the particular store
 - I am loyal to the brand
11. Do you shop online?
- Yes
 - No
12. The table below lists different shopping situations related to your shopping habits. Please indicate the one, which is specific to you?

Online: an order placed online that is delivered to you by a courier company or picked up in person at a selected pick-up point

In store: a traditional way of personal shopping

	Online	In store	Both	I don't want to answer
Where do you usually buy food products?				
Where do you usually buy household cleaning products and tools?				
Where do you usually buy electronic products?				
Where do you usually buy furniture?				
Where do you usually buy clothes?				

Table X-7.: Question about different shopping situations related to your shopping habits. Please indicate the one, which is specific to you. (English version; source: Author's research)

Questions about the Public Health Product Tax

13. Have you heard of the Hungarian Public Health Product Tax?

- Yes
- No

Questions about the Public Health Product Tax – “yes” side

14. What is the purpose of the tax? (multiple choose)

- Reducing the consumption of unhealthy foods
- Extra tax revenue
- Funding public health programs
- Promoting healthy eating
- Financing healthcare

15. Does this tax also apply to tobacco products?

- Yes
- No

16. According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale.

	CERTAINLY does NOT apply to it	MAYBE does NOT apply to it	MAYBE applies to it	CERTAINLY applies to it
Fruit juices with added sugar				
Syrups				
Energy drinks				
Products containing sugar				
Cocoa powder containing sugar				
Products containing honey				
Dairy products				
Products baked using cereals, potatoes or oilseed which can be consumed immediately after opening				
Products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening				
Products flavoured using cereals, potatoes or oilseed which can be consumed immediately after opening				
Bakery products				
Seasoning				
Beer				
Wine				
Brandy				
Alcoholic refreshing drinks				
Fruit flavour				
Confectionery products that can even be consumed locally				
Fast food products				
Quick-frozen and semi-prepared product				

Table X-8.: Question about which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (English version; Source: Author's research)

17. Have you heard about the Hungarian “chips adó” (crisps tax)?

- Yes
- No

Questions about the Public Health Product Tax – “no” side

18. What is the purpose of the tax? (multiple choose)

- Reducing the consumption of unhealthy foods
- Extra tax revenue
- Funding public health programs
- Promoting healthy eating
- Financing healthcare

19. According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale.

	CERTAINLY does NOT apply to it	MAYBE does NOT apply to it	MAYBE applies to it	CERTAINLY applies to it
Fruit juices with added sugar				
Syrups				
Energy drinks				
Products containing sugar				
Cocoa powder containing sugar				
Products containing honey				
Dairy products				
Products baked using cereals, potatoes or oilseed which can be consumed immediately after opening				
Products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening				
Products flavoured using cereals, potatoes or oilseed which can be consumed immediately after opening				

Table X-9.: Question about which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (English version; Source: Author's research)

20. According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale. (continuation)

	CERTAINLY does NOT apply to it	MAYBE does NOT apply to it	MAYBE applies to it	CERTAINLY applies to it
Bakery products				
Seasoning				
Beer				
Wine				
Brandy				
Alcoholic refreshing drinks				
Fruit flavour				
Confectionery products that can even be consumed locally				
Fast food products				
Quick-frozen and semi- prepared product				
Tobacco				
Pyrotechnics				
Infant formula				

Table X-10.: Question about which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (English version; Source: Author's research)

21. Have you heard about the Hungarian “chips adó” (crisps tax)?

- Yes
- No

Question related to product availability and price changes

22. How do you think the PRICES of the following listed products have changed compared to a year ago?

	~5% cheaper	~2.5% cheaper	The same price	~2.5% more expensive	~5% more expensive	~7.5% more expensive	I don't know/I don't buy these products
Fruit juices (1litre)							
Syrups (1 litre)							
Energy drinks							
Dairy products							
Small packaging crisps							
Family packaging crisps							
Small bar of chocolate							
Big bar of chocolate							

Table X-11.: Question about how the PRICES of the following listed products have changed compared to a year ago. (English version; Source: Author's research)

23. How do you think the PACKAGING of the following listed products have changed compared to a year ago?

	It CLEARLY contains LESS	It MAY contain LESS	It contains THE SAME	It MAY contain MORE	It CLEARLY contains MORE	I don't know/I don't buy these products
Energy drinks						
Small packaging crisps						
Family packaging crisps						
Small bar of chocolate						
Big bar of chocolate						

Table X-12.: Question about how the PACKAGING of the following listed products have changed compared to a year ago. (English version; Source: Author's research)

Basic demographic issues

24. Gender of respondents:

- Woman
- Man

25. In which type of settlement do you live? *(Select your answer)*

- Capital city
- Country seat
- County town
- City/Town
- Village

26. To which age group do you belong? *(Select your answer)*

- Under 18 years old
- 18-25 years old
- 26-35 years old
- 36-45 years old
- 46-55 years old
- 56-65 years old
- Over 66 years old

27. How many people live in a common household? *(Select your answer)*

- I live alone
- I live in a household of 2 people (1 more person besides me)
- I live in a household of 3 people (2 more person besides me)
- I live in a household of 4 people (3 more person besides me)
- I live in a household of 5 people (4 more person besides me)
- I live in a household of 6 people (5 more person besides me)
- I live in a household of 7 people (6 more person besides me)
- I live in a household of 8 people (7 more person besides me)
- I live in a household of 9 people (8 more person besides me)
- I live in a household of 10 people or more (9+ person besides me)

X.2.3. Answers in 2022

Introduction questions - Residence

1. Do you live in Hungary?
 - Yes – 226 answers
 - No – 2 answers
2. In which country do you live? _____ (If earlier answer was "no")
 - Malta
 - Germany
3. Do you know about any taxes in your country where you currently reside that are aimed at cutting unhealthy or health-damaging ingredients or products. What is it called? _____
 - Yes (in Malta)
 - "Nem tudok" (in Germany)
4. Have you lived permanently in Hungary in the last 365 days?
 - No stay (next: demographic) – 1 answer
 - Less than half a year – 1 answer

Question about shopping habits

5. How often do you go shopping for food products?
 - Daily – 58 answers
 - Several times a week – 107 answers
 - Weekly – 54 answers
 - Biweekly – 6 answers
 - Less frequently – 2 answers
6. Do you go to the grocery store to buy discounted products?
 - Yes – 185 answers
 - No – 42 answers
7. How do you usually get informed of the promotions of a particular store?
 - Newspaper – 27 answers
 - Internet advertisement – 30 answers
 - Flyer – 52 answers
 - TV advertisement – 9 answers

- Others:
 - In the shop – 4 answers
 - I don't see it – 3 answers
 - Application – 2 answers
 - I don't know if there are promotions – 1 answer
 - Street information – 1 answer
- Multiple answers:
 - Flyer + Internet advertisement – 15 answers
 - Internet advertisement + Flyer – 9 answers
 - Newspaper + Internet advertisement – 6 answers
 - Internet advertisement + Newspaper – 5 answers
 - Internet advertisement + Newspaper + Flyer – 4 answers
 - Newspaper + Flyer – 3 answers
 - Newspaper + TV advertisement – 3 answers
 - Flyer + Newspaper – 3 answers
 - Flyer + Internet advertisement + Newspaper – 3 answers
 - Flyer + TV advertisement – 3 answers
 - Flyer + Internet advertisement + TV advertisement – 3 answers
 - TV advertisement + Internet advertisement – 2 answers
 - Flyer + Internet advertisement + Newspaper – 2 answers
 - Internet advertisement + Flyer + TV advertisement – 2 answer
 - Internet advertisement + Flyer + Newspaper – 2 answers
 - Internet advertisement + Flyer + Newspaper + TV advertisement – 2 answers
 - Internet advertisement + TV advertisement – 2 answers
 - Internet advertisement + Newspaper + TV advertisement – 2 answers
 - Internet advertisement + application – 1 answer
 - Internet advertisement + Internet flyer – 1 answer
 - Internet advertisement + Flyer + Application – 1 answer
 - Internet advertisement + TV advertisement + Flyer – 1 answer
 - Internet advertisement + Newspaper + Flyer + TV advertisement – 1 answer

- Internet advertisement + Newspaper + Flyer + TV advertisement + Radio advertisement – 1 answer
- Radio advertisement + Internet advertisement + Newspaper + Flyer + TV advertisement – 1 answer
- Radio advertisement + TV advertisement + Internet advertisement – 1 answer
- Flyer + Girlfriends – 1 answer
- Flyer + emails – 1 answer
- Flyer + TV advertisement + Internet advertisement – 1 answer
- Flyer + TV advertisement + Internet advertisement + Newspaper – 1 answer
- Flyer + TV advertisement + Newspaper – 1 answer
- TV advertisement + Internet advertisement + Flyer – 1 answer
- TV advertisement + Internet advertisement + Flyer + Newspaper – 1 answer
- TV advertisement + Internet advertisement + Flyer + Newspaper + Social platforms– 1 answer
- TV advertisement + Flyer – 1 answer
- TV advertisement + Flyer + Newspaper – 1 answer
- TV advertisement + Newspaper + Billboard – 1 answer
- TV advertisement + Newspaper + Internet advertisement – 1 answer
- TV advertisement + Newspaper + Internet advertisement + Flyer – 1 answer
- Newspaper + Application – 1 answer
- Newspaper + Flyer + Internet advertisement + TV advertisement – 1 answer
- Newspaper + Mobile applications – 1 answer
- Newspaper + TV advertisement + Internet advertisement – 1 answer
- Newspaper + TV advertisement + Flyer – 1 answer
- Newspaper + TV advertisement + Flyer + Internet advertisement – 1 answer

8. Do you buy a larger quality if the particular product has a discounted price?
- Yes – 135 answers
 - No – 92 answers
9. If more than one package of product is available, on what basis do you usually decide which one to buy?
- Unit price of the product (e.g. Ft/kg) – 124 answers
 - Product price regardless of the cheapest packaging – 32 answers
 - Product, which is on sale right now – 62 answers
 - Other _____
 - o „Ez attól függ, melyiket tartom adott helyzetben megfelelőbbnek. Ha egyszerre kisebb mennyiség fogy el belőle, inkább választom a kisebb kiszerelet, minthogy ne fogyjon el a nagyobb, s így veszendőbe menjen.” – 1 answer
 - o Quality – 3 answers
 - o I don't see it – 1 answer
 - o Warranty – 1 answer
 - o Required quantity – 3 answers
10. If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
- I always buy the cheapest product currently – 67 answers
 - I always buy what is currently available in the particular store – 72 answers
 - I am loyal to the brand – 88 answers
11. Do you shop online?
- Yes – 145 answers
 - No – 82 answers

12. The table below lists different shopping situations related to your shopping habits.

Please indicate the one, which is specific to you?

Online: an order placed online that is delivered to you by a courier company or picked up in person at a selected pick-up point

In store: a traditional way of personal shopping

	Online	In store	Both	I don't want to answer
Where do you usually buy food products?	2 answers	192 answers	33 answers	-
Where do you usually buy household cleaning products and tools?	2 answers	186 answers	39 answers	-
Where do you usually buy electronic products?	27 answers	82 answers	117 answers	1 answer
Where do you usually buy furniture?	19 answers	138 answers	56 answers	14 answers
Where do you usually buy clothes?	8 answers	96 answers	121 answers	2 answers

*Table X-13.: Answers distribution of different shopping situations related to your shopping habits.
(Source: Author's research)*

Questions about the Public Health Product Tax

13. Have you heard of the Hungarian Public Health Product Tax?

- Yes – 123 answers
- No – 104 answers

Questions about the Public Health Product Tax – “yes” side (123 people)

14. What is the purpose of the tax? (Multiples choose)

- Reducing the consumption of unhealthy foods – 64 answers
- Extra tax revenue – 6 answers
- Funding public health programs – 5 answers
- Promoting healthy eating – 15 answers
- Financing healthcare – 1 answer
- Multiple answers:
 - Reducing the consumption of unhealthy foods + Promoting healthy eating – 6 answers
 - Promoting healthy eating + Reducing the consumption of unhealthy foods – 4 answers

- Extra tax revenue + Reducing the consumption of unhealthy foods – 4 answers
- Reducing the consumption of unhealthy foods + Extra tax revenue – 3 answers
- Promoting healthy eating; + Reducing the consumption of unhealthy foods + Funding public health programs – 2 answers
- Promoting healthy eating; Funding public health programs; Reducing the consumption of unhealthy foods – 2 answers
- Funding public health programs + Promoting healthy eating – 2 answers
- Reducing the consumption of unhealthy foods + Promoting healthy eating + Extra tax revenue – 2 answers
- Reducing the consumption of unhealthy foods + Funding public health programs – 2 answers
- Promoting healthy eating; Reducing the consumption of unhealthy foods + Extra tax revenue + Financing healthcare – 1 answer
- Promoting healthy eating + Funding public health programs – 1 answer
- Reducing the consumption of unhealthy foods + Extra tax revenue; Funding public health programs + Promoting healthy eating – 1 answer
- Financing healthcare + Reducing the consumption of unhealthy foods + Promoting healthy eating – 1 answer
- Funding public health programs + Reducing the consumption of unhealthy foods + Financing healthcare – 1 answer

15. Does this tax also apply to tobacco products?

- Yes – 86 answers
- No – 37 answers

16. According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale.

	CERTAINLY does NOT apply to it	MAYBE does NOT apply to it	MAYBE applies to it	CERTAINLY applies to it
Fruit juices with added sugar	11 answers	17 answers	32 answers	63 answers
Syrups	10 answers	23 answers	38 answers	52 answers
Energy drinks	3 answers	4 answers	20 answers	96 answers
Products containing sugar	7 answers	14 answers	30 answers	72 answers
Cocoa powder containing sugar	9 answers	17 answers	46 answers	51 answers
Products containing honey	67 answers	26 answers	16 answers	14 answers
Dairy products	76 answers	23 answers	13 answers	11 answers
Products baked using cereals, potatoes or oilseed which can be consumed immediately after opening	31 answers	33 answers	25 answers	34 answers
Products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening	30 answers	36 answers	31 answers	26 answers
Products flavoured using cereals, potatoes or oilseed which can be consumed immediately after opening	18 answers	28 answers	40 answers	37 answers
Bakery products	40 answers	41 answers	27 answers	15 answers
Seasoning	21 answers	35 answers	28 answers	39 answers
Beer	25 answers	20 answers	30 answers	48 answers
Wine	30 answers	22 answers	29 answers	42 answers
Brandy	26 answers	20 answers	24 answers	53 answers
Alcoholic refreshing drinks	13 answers	15 answers	41 answers	54 answers
Fruit flavour	18 answers	39 answers	39 answers	28 answers
Confectionery products that can even be consumed locally	25 answers	35 answers	31 answers	32 answers
Fast food products	11 answers	10 answers	41 answers	61 answers
Quick-frozen and semi-prepared product	18 answers	29 answers	40 answers	36 answers

Table X-14.: Answers distribution of which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (Source: Author's research)

17. Have you heard about the Hungarian “chips adó” (crisps tax)?

- Yes – 105 answers
- No – 18 answers

Questions about the Public Health Product Tax – “no” side (104 people)

18. What is the purpose of the tax? (Multiples choose)

- Reducing the consumption of unhealthy foods – 40 answers
- Extra tax revenue – 15 answers
- Funding public health programs – 8 answers
- Promoting healthy eating – 14 answers
- Financing healthcare – 8 answers
- Multiple answers:
 - Reducing the consumption of unhealthy foods + Promoting healthy eating – 7 answers
 - Reducing the consumption of unhealthy foods + Extra tax revenue – 2 answers
 - Promoting healthy eating + Reducing the consumption of unhealthy foods – 1 answer
 - Promoting healthy eating + Reducing the consumption of unhealthy foods + Financing healthcare + Funding public health programs + Extra tax revenue – 1 answer
 - Promoting healthy eating + Financing healthcare + Extra tax revenue + Reducing the consumption of unhealthy foods + Funding public health programs – 1 answer
 - Promoting healthy eating + Funding public health programs + Reducing the consumption of unhealthy foods – 1 answer
 - Reducing the consumption of unhealthy foods + Funding public health programs + Promoting healthy eating – 1 answer
 - Financing healthcare + Funding public health programs – 1 answer
 - Extra tax revenue + Reducing the consumption of unhealthy foods + Promoting healthy eating – 1 answer
 - Extra tax revenue + Funding public health programs – 1 answer
 - Funding public health programs + Promoting healthy eating – 1 answer
 - Funding public health programs + Promoting healthy eating + Financing healthcare + Reducing the consumption of unhealthy foods + Extra tax revenue – 1 answer

19. According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale.

	CERTAINLY does NOT apply to it	MAYBE does NOT apply to it	MAYBE applies to it	CERTAINLY applies to it
Fruit juices with added sugar	15 answers	8 answers	40 answers	41 answers
Syrups	11 answers	14 answers	52 answers	27 answers
Energy drinks	7 answers	3 answers	23 answers	71 answers
Products containing sugar	6 answers	10 answers	41 answers	47 answers
Cocoa powder containing sugar	6 answers	11 answers	54 people	33 answers
Products containing honey	35 answers	35 answers	19 answers	15 answers
Dairy products	47 answers	24 answers	20 answers	13 answers
Products baked using cereals, potatoes or oilseed which can be consumed immediately after opening	16 answers	27 answers	35 answers	26 answers
Products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening	14 answers	34 answers	37 answers	19 answers
Products flavoured using cereals, potatoes or oilseed which can be consumed immediately after opening	9 answers	22 answers	44 answers	29 answers

Table X-15.: Answers distribution of which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (Source: Author's research)

20. According to your opinion, among the products listed in the table below, which ones does the Public Health Product Tax apply to? Indicate it on the following scale. (continuation)

	CERTAINLY does NOT apply to it	MAYBE does NOT apply to it	MAYBE applies to it	CERTAINLY applies to it
Bakery products	20 answers	32 answers	38 answers	14 answers
Seasoning	12 answers	29 answers	44 answers	19 answers
Beer	11 answers	16 answers	43 answers	34 answers
Wine	15 answers	18 answers	41 answers	31 answers
Brandy	13 answers	17 answers	39 answers	35 answers
Alcoholic refreshing drinks	4 answers	13 answers	48 answers	39 answers
Fruit flavour	7 answers	27 answers	47 answers	23 answers
Confectionery products that can even be consumed locally	9 answers	33 answers	40 answers	22 answers
Fast food products	3 answers	7 answers	47 answers	47 answers
Quick-frozen and semi- prepared product	3 answers	29 answers	43 answers	29 answers
Tobacco	10 answers	10 answers	15 answers	69 answers
Pyrotechnics	18 answers	17 answers	20 answers	49 answers
Infant formula	41 answers	24 answers	21 answers	18 answers

Table X-16.: Answers distribution of which of the products listed in the table the PHPT applies to. Indicate it on the following scale. (Source: Author's research)

21. Have you heard about the Hungarian “chips adó” (crisps tax)?

- Yes – 56 answers
- No – 48 answers

Question related to product availability and price changes

22. How do you think the PRICES of the following listed products have changed compared to a year ago?

	~5% cheaper	~2.5% cheaper	The same price	~2.5% more expensive	~5% more expensive	~7.5% more expensive	I don't know/I don't buy these products
Fruit juices (1litre)	1 answer	1 answer	12 answers	33 answers	31 answers	113 answers	36 answers
Syrups (1 litre)	0 answer	0 answer	11 answers	26 answers	26 answers	76 answers	88 answers
Energy drinks	0 answer	2 answers	13 answers	22 answers	21 answers	50 answers	119 answers
Dairy products	0 answer	2 answers	8 answers	30 answers	45 answers	132 answers	10 answers
Small packaging crisps	1 answer	2 answers	11 answers	16 answers	28 answers	88 answers	81 answers
Family packaging crisps	1 answer	2 answers	10 answers	18 answers	23 answers	79 answers	94 answers
Small bar of chocolate	0 answer	3 answers	14 answers	50 answers	32 answers	96 answers	32 answers
Big bar of chocolate	0 answer	3 answers	12 answers	46 answers	32 answers	88 answers	46 answers

Table X-17.: Answers distribution of how the PRICES of the following listed products have changed compared to a year ago. (Source: Author's research)

23. How do you think the PACKAGING of the following listed products have changed compared to a year ago?

	It CLEARLY contains LESS	It MAY contain LESS	It contains THE SAME	It MAY contain MORE	It CLEARLY contains MORE	I don't know/I don't buy these products
Energy drinks	17 answers	19 answers	77 answers	1 answer	1 answer	112 answers
Small packaging crisps	35 answers	55 answers	57 answers	2 answers	5 answers	73 answers
Family packaging crisps	28 answers	57 answers	45 answers	2 answers	5 answers	90 answers
Small bar of chocolate	19 answers	43 answers	117 answers	3 answers	7 answers	38 answers
Big bar of chocolate	13 answers	39 answers	114 answers	3 answers	7 answers	51 answers

Table X-18.: Answers distribution of how the PACKAGING of the following listed products have changed compared to a year ago. (Source: Author's research)

Basic demographic issues

24. Gender of respondents:

- Woman – 189 answers
- Man – 39 answers

25. In which type of settlement do you live? (*Select your answer*)

- Capital city – 31 answers
- Country seat – 27 answers
- County town – 2 answers
- City/Town – 61 answers
- Village – 107 answers

26. To which age group do you belong? (*Select your answer*)

- 18-25 years old – 28 answers
- 26-35 years old – 31 answers
- 36-45 years old – 37 answers
- 46-55 years old – 45 answers
- 56-65 years old – 46 answers
- Over 66 years old – 41 answers

27. How many people live in a common household? (*Select your answer*)

- I live alone – 39 answers
- I live in a household of 2 people (1 more person besides me) – 84 answers
- I live in a household of 3 people (2 more person besides me) – 45 answers
- I live in a household of 4 people (3 more person besides me) – 35 answers
- I live in a household of 5 people (4 more person besides me) – 20 answers
- I live in a household of 6 people (5 more person besides me) – 3 answers
- I live in a household of 7 people (6 more person besides me) – 1 answer
- I live in a household of 8 people (7 more person besides me) – 1 answer