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**Egyenlőtlenségek és a magyarországi
népegészségügyi termékadó – Empirikus elemzés**
**Inequalities and the Hungarian
public health product tax – An empirical analysis**

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I. Introduction

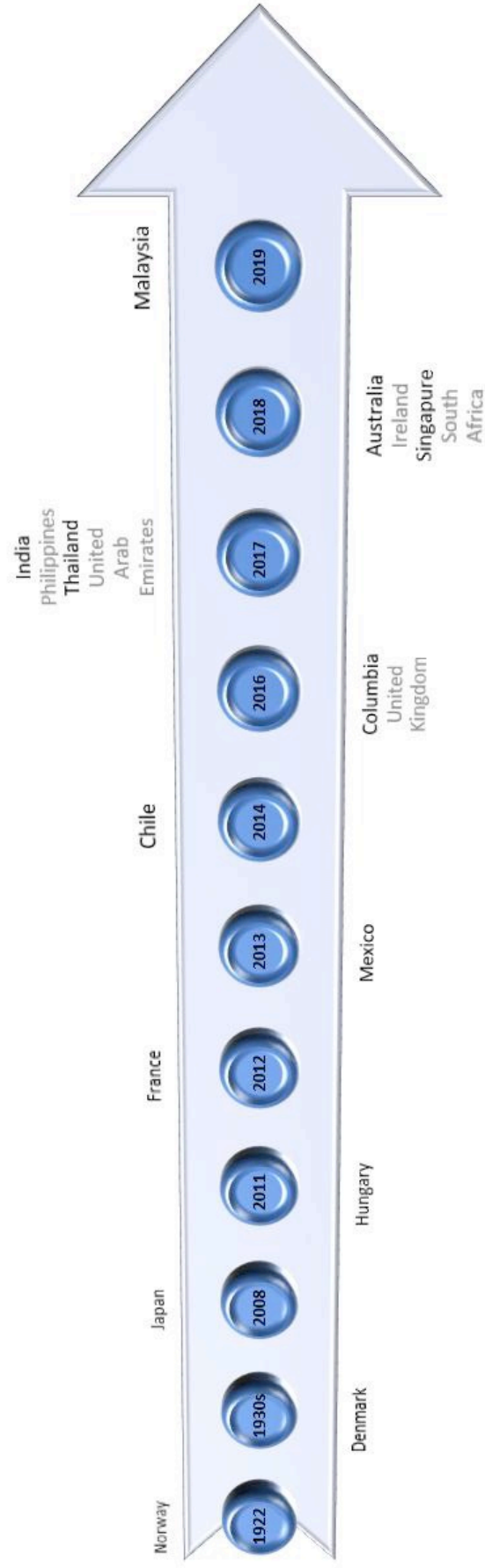
In this essay I would like to present the public health product tax in Hungary (PHPT, commonly known as Chips Tax). In Chapter 3, regarding this type of tax I will give a short overview of where and in what form it was introduced in other countries. In Chapter 4, I will give detailed description of PHPT tax in Hungary. Chapter 5 deals with the effect it has had on domestic consumption. Then in Chapter 6, some examples will be presented of how food manufacturing companies have responded to the new tax: what kind of taxed products are available in larger hypermarket today, what ingredients they contain. In Chapter 7, I will summarize the international and Hungarian publications related to public health product tax and examine how positive and negative public and professional opinion is distributed. Chapter 8 is about my own 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 PHPT. Finally, in Chapter 9, I am going to summarize the results and share my personal opinion, and experience on this subject.

II. International overview and history of health-related public tax

In this chapter, I will introduce 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 1. Figure, since the 2000s more countries have decided to introduce such levies with the aim of reducing the intake of certain types of food, and to 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 will be according to normal BMI. The United States is not included in the figure because there is not a uniform law in this topic. Every state can introduce such tax on its own: e.g., Philadelphia and California have already done this. (WHO;2015a) (Wikipedia; 2021a)

The first such tax in this area was introduced in Norway in 1922. The main goal of it was to reduce sugar consumption. (Wikipedia; 2021a) (Tisdall;2007)

The WHO regularly publishes publications on food taxes. In the international review, I would like to mention at first which countries the rest of the world should learn from. Also, which country taxes which groups of products, and in case of some countries it is interesting to mention the high rate of tax.



1. Figure: The introduction year of sugary drinks or other healthy lifestyle promoting product taxes

Source: Author's compilation

II.1. Denmark

After Norway, Denmark was the next country that introduced soft drink tax in the 1930s, but it was abolished in 2013. Fat tax on butter, milk, cheese, pizza, meat, oil, and processed food was also repealed in the same year. They also repealed soft drinks tax in 2014. Products contained more than 2.3% saturated fat were also taxed. (Wikipedia;2021a) (Scott-Thomas;2013) (Strom;2012)

The main goal was to reduce the intake of saturated fat as well as to improve other dietary measures and to reduce mortality from noncommunicable diseases. Product tax amounted to €2.15 per kilogram of saturated fat, plus an additional 25% VAT. (WHO;2015a)

II.2. Ecuador

The drastic increases in the rates of overweight and obesity across the population of Ecuador justified the introduction of junk food tax, as the first Latin American country that implemented in 2014. Junk food tax refers to products such as sugar-sweetened beverages and foods that have high fat, sugar, and salt content. (WHO;2015a) (Freire;2014)

II.3. Finland

Every elementary school pupil can get school meals free of charge, financed from the public purse since 1948. Students at Finnish universities have taken advantages of meals that have been subsidised if they comply with criteria of nutritional quality. Furthermore, the EU has not subsidised products with high salt or fat content since 2009. (WHO;2015a) (Sarlio-Lähteenkorva;2010)

Excise duties was imposed on chocolate, non-alcoholic beverages, and sweets in 2011. €0.95 is the excise tax rate, which is currently used in Finland for ice cream and sweets per kilogram. In case of non-alcoholic beverages consumers need to pay excise tax of €0.11 per litre but the rate of this tax is doubled when these beverages have more than 0.5% sugar per litre. Similarly to Hungary, this type of tax does not have to be paid if products have been exported from other countries. (WHO;2015a) (WHO;2015b)

II.4. France

Beverages and other liquids with added sugar or different kind of sweeteners were levied by France in 2011. Initially this rate was only €7.16 per hectolitre but four years later it was modified to €7.5 per hectolitre. The National Social Health Insurance has been the recipient of the whole amount of contribution since 2013. (WHO;2015a) (WHO;2015b)

II.5. Mauritius

Mauritius is known as a country that excels in sugar production. While sugar has always been important for the Mauritian economy, excise duty on soft drink was imposed by the government in February 2013. (WHO;2015a)

The following categories can be included in soft drinks in the country:

- aerated beverages
- syrups for dilution
- fruits squash
- cordial or fruit drink (WHO;2015a)

Similarly to Hungary, the following categories are tax-exempt:

- bottled water
- pure fruit juice and blends
- pure vegetable juice and blends
- dairy milk and products. (WHO;2015a)

The rate excise duty was changed from 2 to 3 cents per gram in 2014. (WHO;2015a)

II.6. Mexico

Two taxes were implemented in Mexico from 2014 (WHO;2015a)

- 1) The rate of excise tax on non-alcoholic beverages with added sugar has been set in 1 peso per litre (WHO;2015a)
- 2) The rate of ad valorem tax on the energy-dense foods (containing 275 calories per 100 grams or more) has been set at 8% (WHO;2015a)

II.7. Japan and India

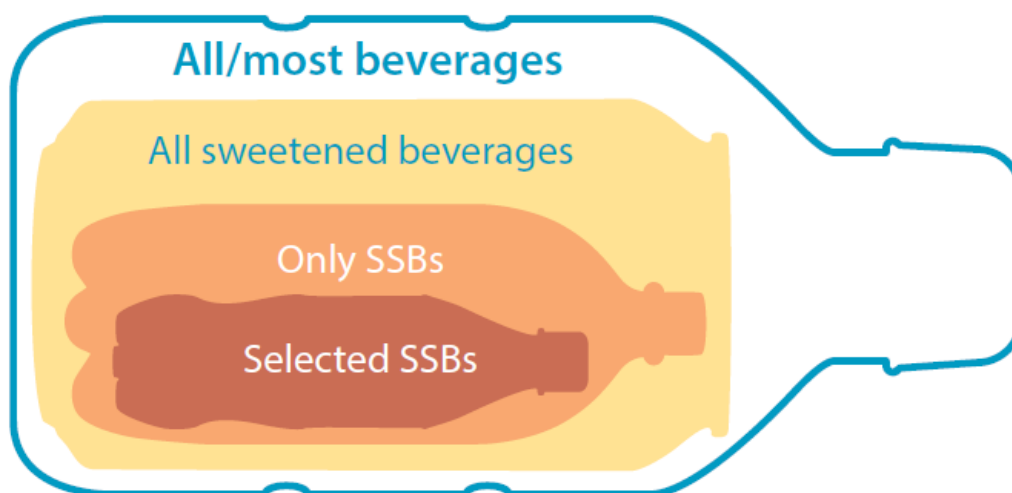
Japan and India have not been involved so far in the public health fight against sugar or sweetened products. Japan has chosen to implement the “metabo” law. (Hanson;2011)

The Indian government has introduced fat tax on burgers, pizzas, doughnuts, and tacos served in branded fast food restaurants. (Menon;2016) (Wikipedia;2021b)

Each of the countries presented above taxes products differently. The following 2. Figure illustrates well how in case of sugar-sweetened beverages (SSB) products, for example, the range of taxed products can be narrowed or expanded. Narrowing or expanding with this principle can be applied well within any product range.

Hungarian taxation applies an exception, based on composition to certain product groups or imposes a tax burden with a different weighting on a certain category of products that are linked

to composition. I am going to present these in detail later and illustrate how they have changed since their introduction to date. It is due to the fact that manufacturers, if they find any loopholes or evasions from paying tax, they like to circumvent it in hope of larger market share and profit.



2. Figure: Illustration of different tax base options for example beverages
(WHO;2015a page 20.)

III. Health related public tax in Hungary

The public health product tax (PHPT) was introduced by the Parliament on July 11, 2011. The law has since been changed several times over the years. By the end of 2020, it had been changed 15 times. This current version is effective from January 1, 2019. (Act CIII of 2011.; 2019)

In my opinion, studying the year of 2020, we can conclude that this year did not make any changes to the public health product tax only due to the COVID-19 pandemic, because the top priority was combating the pandemic and the resolution of the economic crisis that has developed in parallel to COVID-19. The reasons for the change in the law over the years could be an accounting issue, the Supreme Court, other courts' decision, or simply a parliamentary review and an update of the law based on interpretative information from the jurisprudence. (Act CIII of 2011;2019)

III.1. Background of introduction

The purpose of the law has not changed in 10 years:

"... 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)

III.2. Scope of tax liability

At the time of introduction, several products were already taxable, but they were not yet divided into smaller groups according to the amount paid the same way as nowadays. It included the following pre-packaged product groups:

- Vegetable and fruit juices and carbonated and non-carbonated mineral water flavoured with sugar or other ingredients (VTSZ 2009, 2202), with the tax exemption of more than 25% of puree, concentrates, syrups, nectars, and fruit juices. Within this, the legislator distinguished between two subgroups (Act CIII of 2011;2011.VII.)
 - o with sugar content exceeding 8 grams of sugar per 100 millilitres (hereinafter I will refer to these products as soft drinks in accordance with the law) (Act CIII of 2011;2011.VII.)
 - o products with added caffeine content of more than 10 milligrams of caffeine per 100 millilitres (hereinafter referred to as energy drinks) (Act CIII of 2011;2011.VII.)
- with reference to pre-packaged sugary products, the legislator initially also distinguished between two groups, but then there was only a difference in determining the quantity of sugar content, there is no difference in the rate of tax (Act CIII of 2011;2011.VII.)
 - o the everyday names of candies, gums, sweet biscuits, wafers and ice creams (VTSZ: 1704, 1905 and 2105) with sugar content exceeding 25 grams of sugar per 100 grams (Act CIII of 2011;2011.VII.)
 - o products containing cocoa, in addition to sugared cocoa powders, this also includes chocolate with different flavours that also contain cocoa (VTSZ 1806), if the product fits the two criteria listed here: (Act CIII of 2011;2011.VII.)
 - It has added sugar content exceeding 40 grams of sugar per 100 grams (Act CIII of 2011;2011.VII.)
 - It has cocoa content of less than 40 grams per 100 grams (Act CIII of 2011;2011.VII.)
- savoury snacks made with the use of cereals, potatoes, or oilseed, and they can be baked or roasted, flavoured and products suitable for immediate consumption (VTSZ 1905, 20052020, 2008, with the exception of bread and bakery products), if its salt content exceeds 1 gram of salt per 100 grams (Act CIII of 2011;2011.VII.)

- condiments – no baby food, soup ready for consumption, and sauce are exceptions – (VTSZ 2103 and 2104) if their salt content exceeds the amount of more than 5 grams salt per 100 grams with the exception of mustard, ketchup and those vegetable condiments that are dried, crushed, mashed, and salted whose salt content does not exceed the amount of 15 grams salt per 100 grams (Act CIII of 2011;2011.VII.)

III.2.1.2011.XI.30. modifications

In the few months after its introduction, several minor interpretive, grammatical changes were made, several tax-related adjustments arose:

1. in case of the soft drink category and pre-packaged sweetened products, the exceptions are extended to products made using at least 50% dairy material (Act CIII of 2011;2011.XI.)
2. in case of energy drinks, a compositional addition appears, covering the content of methylxanthine and taurine even if it contains one of the ingredients and if either of these conditions is satisfied (Act CIII of 2011;2011.XI.)
 - a. if the content of methylxanthine exceeds 1 milligram of methylxanthine per 100 millilitres (Act CIII of 2011;2011.XI.)
 - b. if the content of taurine exceeds 100 milligrams per 100 millilitres (Act CIII of 2011;2011.XI.)
3. salty snacks are supplemented with the exception that 2 grams of salt per 100 grams applies to salty bakery products (Act CIII of 2011;2011.XI.)
4. taxable products include flavoured beer and alcoholic refreshments (VTSZ 2007 and 2208) both categories contain more than 5 grams of sugar per 100 millilitres (Act CIII of 2011;2011.XI.)
5. fruit flavour with the exception of extra jams, extra jellies, marmalades, and jams according to the Hungarian Food Book (VTSZ 2007) and there is no quantitative restriction in this category (Act CIII of 2011;2011.XI.)

III.2.2.2011.XII.22 modification

This modification, which entered into force on 22 November 2011, did not include a quantitative restriction on fruit flavour, which is then adjusted, and the tax only applies to products with sugar content exceeding 35 grams of sugar per 100 millilitres (Act CIII of 2011;2011.XII.)

III.2.3.2013.I.1. modification

In case of energy drinks, a more complex addition to the composition reappears as producers have modified the recipe and with this addition the majority of energy drinks became taxable. 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)

III.2.4.2014.I.1. modification

In case of soft drinks, an interpretative supplement is included, according to which tax liability must be applied to syrups with sugar content of less than 25% but more than 8% sugar. (Act CIII of 2011;2014)

III.2.5.2015.I.1. modification

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 in that case. (Act CIII of 2011;2015)

Another change, however, is that in case of alcoholic beverages, the beverage is made using at least seven different herbs which does not contain additives, or the fruit distillate is excluded from the list of products subject to tax. (Act CIII of 2011;2015)

III.2.6.2017.I.1. modification

The increased prevalence of sweeteners, and changes in case of aromatised beers and alcoholic refreshments made it necessary to determine the sugar content, that the product is also taxable for sweeteners with a sweetener content of more than 5 grams sweetener per 100 millilitres. In addition, it has been clarified that products below 5% alcohol content are alcohol refreshments, and soft drinks with a higher alcohol content are subject to a band tax liability according to the alcoholic beverage. (Act CIII of 2011;2017)

III.2.7.2019.I.1. modification

Fruit spirits and herbal drinks are excluded from the exceptions for alcoholic beverages and from then on, the general band tax obligation applies. (Act CIII of 2011;2019)

III.3. The degree of tax obligations and its changes

The tax rate has changed several times during the period studied, which change I summarize in the following page 1. Table.

III.4. Some additional information

As with all taxes, there are some general exemptions from the tax:

- less than 50 liters or kilograms are sold (Act CIII of 2011;2011.VII.)
- sold abroad (Act CIII of 2011;2011.VII.)
- additional sales (Act CIII of 2011;2011.VII.)
- used by the taxable person to produce their own taxable product (Act CIII of 2011;2011.VII.)

1. Table: The degree of tax obligations and its changes

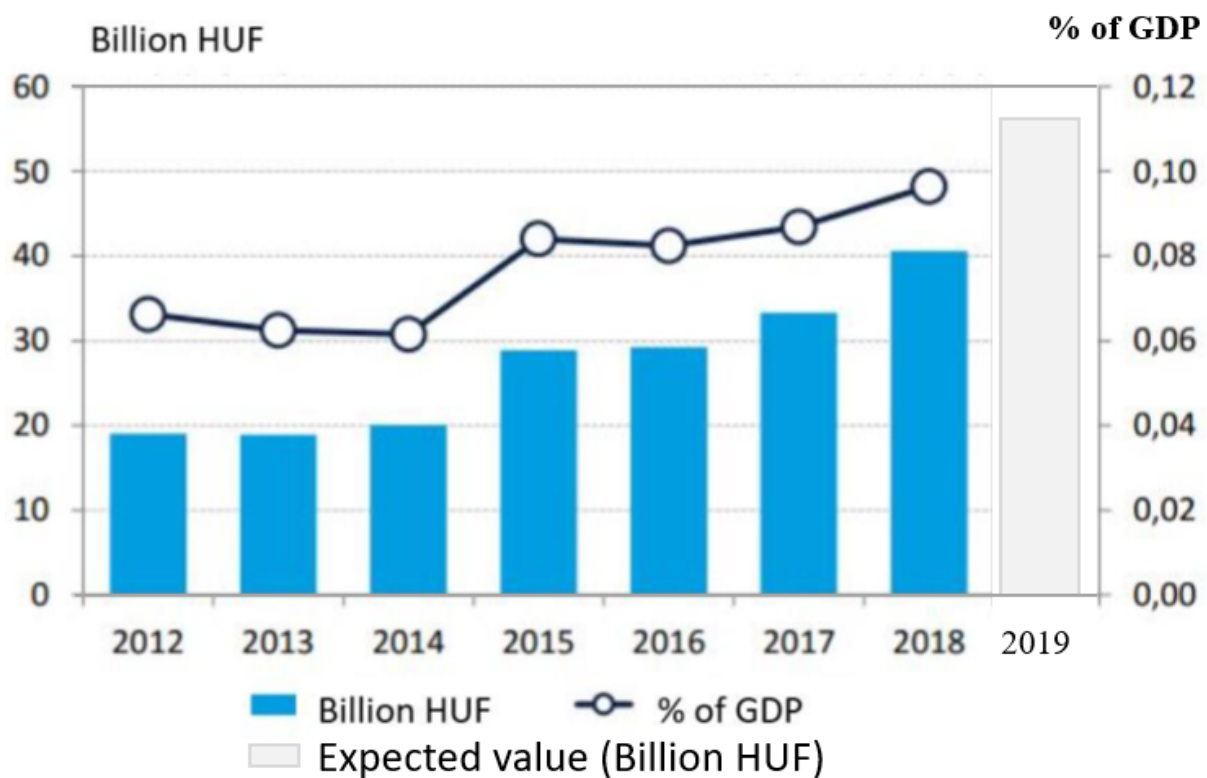
Taxable group	Publication status					The extent of change since its introduction	
	2011.VII.19 - 2011.XI.29. (Act CIII of 2011;2011.VII.)	2011.XI.30 - 2012.XII.31. (Act CIII of 2011;2011.XI)	2013.I.1. - 2014.XII.31. (Act CIII of 2011;2013)	2015.I.1. - 2018.XII.31. (Act CIII of 2011;2015)	2019.I.1. - (Act CIII of 2011;2019)	in HUF	percent
Puree, concentrate or syrup (from 30.11.2011) (Ft/l)	-	<u>200</u>	200	200	240	40	120%
Soft drinks (all products were included in this category until 11.30.2011.) (Ft/l)	5	7	7	7	15	10	300%
Energy drinks (methylxanthine 15mg/100ml from 01.01.2013.) (Ft/l)	250	250	250	250	300	50	120%
Energy drinks (content of taurine and methylxanthine is >1mg/100ml or taurine >100mg/100ml from 01.01.2013.) (Ft/l)	-	-	<u>40</u>	40	50	10	125%
Sugary cocoa powder (from 30.11.2011) (Ft/kg)	-	<u>70</u>	70	70	85	15	121%
Pre-packaged added sugary products (Ft/kg)	100	130	130	130	160	60	160%
Salty snack (Ft/kg)	200	250	250	250	300	100	150%
Condiments (Ft/kg)	200	250	250	250	300	100	150%
Flavoured beer alcoholic refreshment (Ft/l)	-	<u>20</u>	20	20	25	5	125%
Fruit flavour (Ft/kg)	-	<u>500</u>	500	500	600	100	120%
Alcoholic beverage with 1,2-5 volume % (Ft/l) (Ft/l)	-	-	-	<u>20</u>	25	5	125%
Alcoholic beverage with 5-15 volume % (Ft/l)	-	-	-	<u>100</u>	120	20	120%
Alcoholic beverage with 15-25 volume % (Ft/l)	-	-	-	<u>300</u>	360	60	120%
Alcoholic beverage with 25-35 volume % (Ft/l)	-	-	-	<u>500</u>	600	100	120%
Alcoholic beverage with 35-45 volume % (Ft/l)	-	-	-	<u>700</u>	850	150	121%
Alcoholic beverage with 45-volume % (Ft/l)	-	-	-	<u>900</u>	1 100	200	122%

Source: Author's compilation by Act CIII of 2011

IV. Statistical analysis

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

The PHPT results in a significant increase year-by-year as in HUF revenue as a percentage of GDP for the Hungarian government. The following 3. Figure shows how it evolved between 2012 and 2018. Unfortunately, when I was writing my essay, I could not find available data for 2019, but in an article from origo.hu in early 2019, HUF 57 billion was mentioned as expected PHPT revenue, which I mark with grey in the 3. Figure, from which 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 the year, which was summarised earlier in 1. Table.



3. Figure: Annual budget revenue from the PHPT

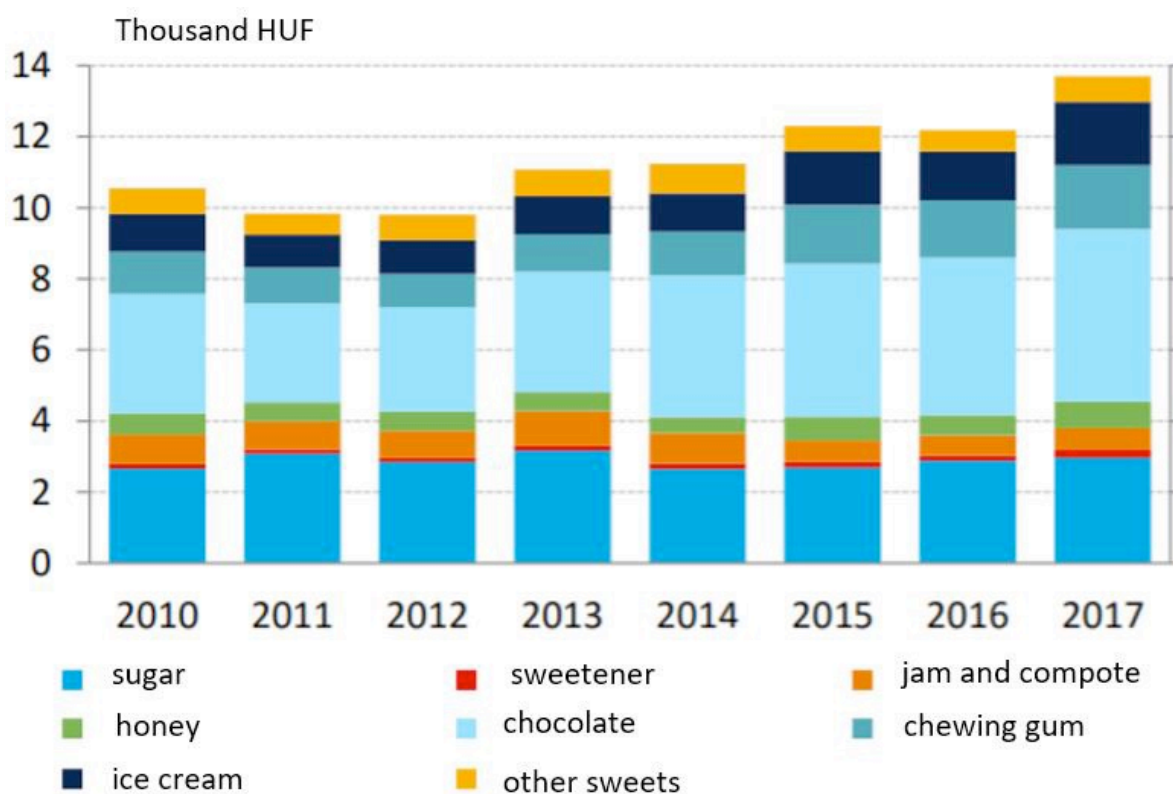
source: Berta;2019 page: 3 and Author's edited from the date 2019

As a result of the introduction of the PHPT, the sale of sugar expressed in kilograms and the consumption of fruit juices and carbonated soft drinks also decreased in litre. Then, since 2015, the consumption of carbonated soft drinks has continued to grow. The consumption of fruit juices is similar to the levels of 2010 and 2011 compared to the initial decreasing tendency. Since 2014 it has been between 12-14 litres. Sugar consumption 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. Unfortunately, data for 2020 were not available at the time of writing yet, but I think there were empty shelves in the shops as a consequence of products acquisition due to restrictions imposed as a result of the pandemic caused by the COVID19 infection, which had not been experienced before. Thus, it is expected that the consumption of sugar per capita and other products will be higher than previous year.

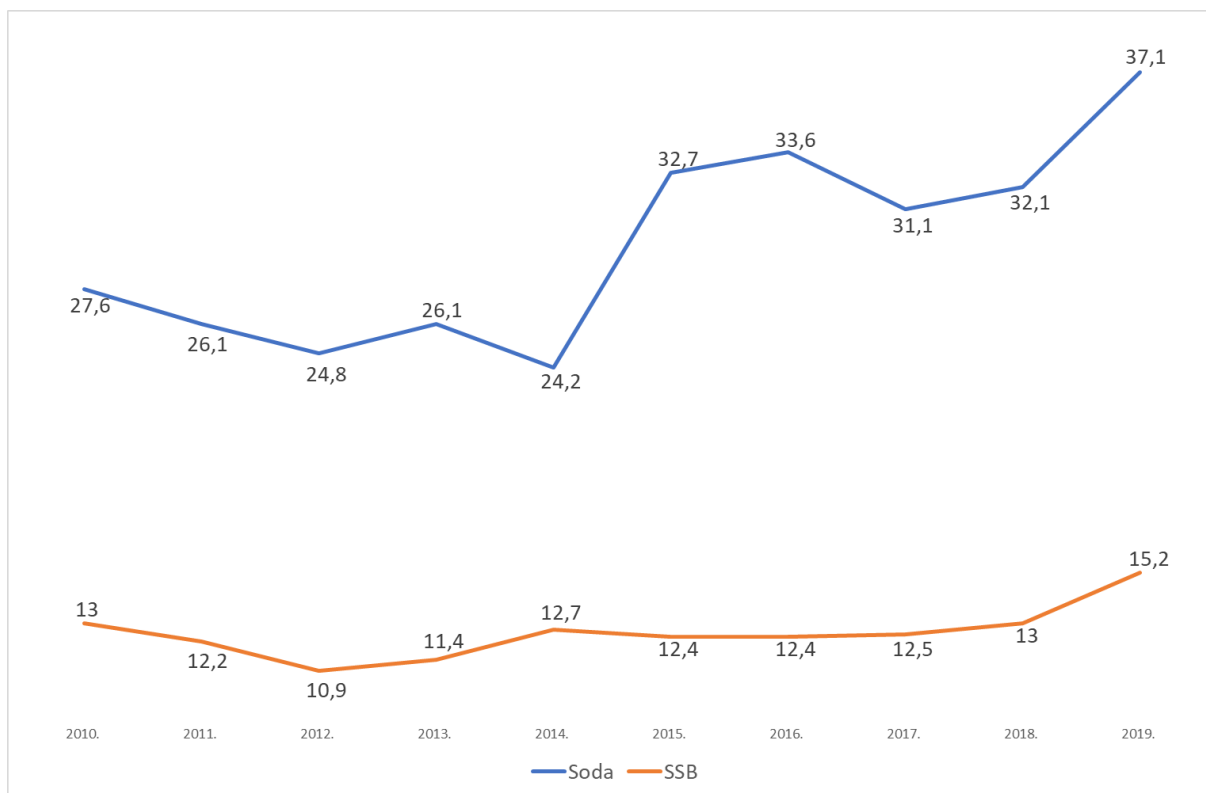
The following 4. Figure shows the increase of consumption of sugar, honey, ice cream, artificial sweetener, chocolate, jam, compote, chewing gum and other sweets in 1 000HUF/person/year. Overall, consumption decreased in the first two years, and then the total amount spent on these products in real terms increased year by year. Unfortunately, no recent data was available.

The next page, 5. Figure shows the increase of consumption of soda and SSB in kilogram per person and 6. Figure shows the dramatically increase of fruit products. This category includes the fruit flavour.

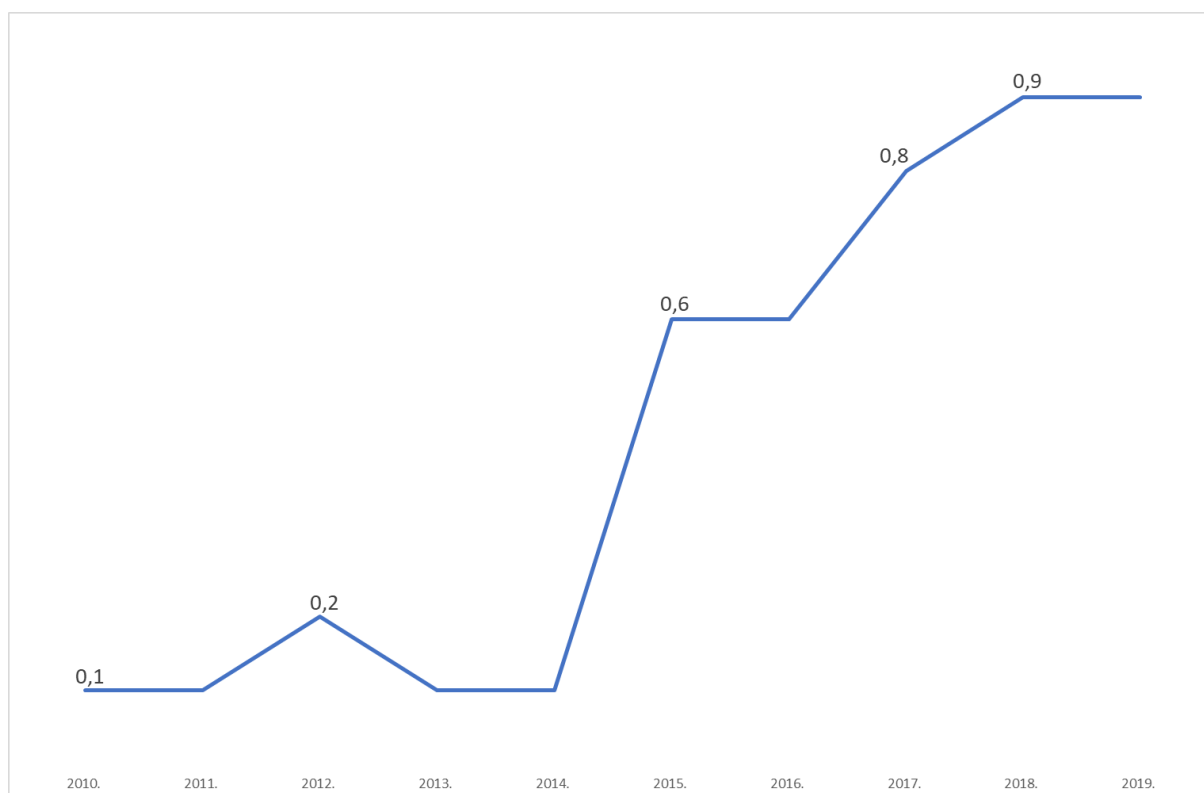


4. Figure: Per capita annual spending on sweets at current prices

Source: Berta;2019 page:4 and Author's edited from English name



5. Figure: Per capita average annual consumption of soda and SSB in kilogram per person per year, 2010-2019 Source: Author's compilation based on KSH data



6. Figure: Per capita average annual consumption of fruit products in kilogram per person per year, 2010-2019 Source: Author's compilation based on KSH data

V. Some product groups' price and their ingredients analysis

In my own study in this section, I will show that if a consumer wants to consider which crispy, sweet products (such as ice-cream), soft drinks or energy drinks to choose, they should have a 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 time 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 greatly influence the decision of buyers.

V.1. Crispy and salty snacks

320 products were found on 1st March 2021 in Tesco's online shops in the 'Crisps, and Salty Snacks' category, this can be grouped into 19 subcategories (English version 20) and 24 brands. These are the following subcategories: Potato Chips, Dried Fruit, Extruded Snacks & Crackers, Salt Sticks & Pretzel, Nits, Popcorn, Peanut, Crackers, New, Tortilla Crips, 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 2 Table 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 per 100 grams per product. The average salt content when looking at all 320 products is 1.5 grams per 100 grams, but as soon as we start examining a narrower product group, we can already see minor differences. In the 2 Table, I highlighted the 3 highest average salt contents of the group in bold italics but I will not analyse these product groups in more details later, as 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 there are pieces of salt visible to the naked eye, so manufacturers, if the salt content of these products were reduced, 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 as it can be confused with salt sticks for some products and there are a lot of different extra flavoured products in addition to salt, which are otherwise taxable.

2. Table: Groups of crispy and salty snacks category and their salt content

Products	Average salt content in 100g	Min	Max	Statistical variance	Range
<u>Potato chips</u>	<u>1,49</u>	<u>0,29</u>	<u>4,00</u>	<u>0,61</u>	<u>3,71</u>
<u>Other dried fruits</u>	<u>0,07</u>	<u>0,00</u>	<u>0,20</u>	<u>0,12</u>	<u>0,20</u>
Peanut	1,69	0,00	3,90	1,42	3,90
Cashew nuts & pistachios	0,92	0,80	1,00	0,11	0,20
Nut mixes	0,03	0,03	0,03	-	-
Crackers	2,31	0,54	4,00	0,82	3,46
Sunflower & pumpkin seeds	0,60	0,00	1,00	0,55	1,00
<u>Popcorn</u>	<u>2,03</u>	<u>0,00</u>	<u>4,00</u>	<u>1,30</u>	<u>4,00</u>
<u>Extruded snacks & crackers</u>	<u>1,49</u>	<u>0,00</u>	<u>4,20</u>	<u>0,86</u>	<u>4,20</u>
Nuts	1,26	0,00	4,50	0,90	4,50
Salted almond & corn	1,36	0,80	2,20	0,62	1,40
Salt sticks & pretzel	3,58	1,69	6,20	1,06	4,51
<u>Dried fruit mixes</u>	<u>0,09</u>	<u>0,03</u>	<u>0,16</u>	<u>0,07</u>	<u>0,13</u>
<u>Dried fruit</u>	<u>0,29</u>	<u>0,01</u>	<u>2,30</u>	<u>0,47</u>	<u>2,29</u>
<u>Dried fruit mixes</u>	<u>1,00</u>	<u>1,00</u>	<u>1,00</u>	=	=
Extruded snacks	3,00	3,00	3,00	-	-
Tortilla crisps	1,54	0,90	2,40	0,48	1,50
Tortilla dips	2,05	2,00	2,10	0,07	0,10
New	1,12	0,90	1,70	0,25	0,80
Average of total	1,50	0,00	6,20	1,16	6,20

Source: Author's compilation based on Tesco webstore (2021)

In the following, I would first like to write in more details about the extruded snacks and crackers category. This is interesting because it contains a larger number of products from several different manufacturers. The exact calories, salt, and other intake contents refer to the 3. Table. In this product range, it can be stated that the manufacturer who considers Hungarian taxation will produce a maximum of 1 gram per 100 grams of added salt.

3. Table: Average unit and package price per extruded snacks & crackers categorised by salt content

Salt content	Q	Package price (Ft)			Unit price (Ft/kg)		
		Average	Min	Max	Average	Min	Max
0	2	79	69	89	1 020	890	1 150
0,01-0,99	8	355	129	699	4 665	2 150	5 580
1-1,99	17	240	69	699	3 053	1 150	5 580
2-2,99	5	213	119	299	3 276	1 512	4 598
3-3,99	1	145	145	145	3 372	3 372	3 372
4<	1	399	399	399	3 470	3 470	3 470
Total	34	256	69	699	3 367	890	5 580

Source: Author's compilation based on Tesco's price and product information (2021)

Companies that sell a product in more than one country and may not be the primary ones in Hungary will ignore how much tax they need to pay.

The above 3. Table 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 products is 3 367 HUF/kg. Most Hungarian consumers are price sensitive, so they tend to choose a cheaper product, unless there is some other influencing factor such as what the child likes. The table clearly shows that chips below 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 order to curb the consumption of food that is said to be unhealthy when it is still the cheapest of the two products.

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 previous 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 case of chips in proportions less than only 23.7% of the products are not subject to tax. The following 4. Table 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. For the time being, I do not consider the 4 products whose salt content is unknown, thus, the most expensive products were excluded based on their package and unit price.

Most products can be classified into groups containing 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 of a consumer 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 4 smaller ones,

4. Table: Average unit and package price of potato chips categorised by salt content

Salt content	Q	package price(Ft)			Unit Price (Ft/kg)		
		Average	Min	Max	Average	Min	Max
<1	22	400	129	799	4 193	1 290	5 475
1-1,99	54	459	159	999	3 957	1 495	6 244
2-2,99	10	493	159	999	4 379	3 180	6 244
3	2	339	279	399	2 791	1 596	3 986
4	1	529	529	529	1 323	1 323	1 323
n.i.	4	987	949	1 099	5 684	5 423	6 465
Total	93	470	129	1 099	4 079	1 290	6 465

Source: Author's compilation based on Tesco's price and product information (2021)

which will be the saltiest per 100 grams the packaging price is the influencer, in all likelihood the product with low salt content is chosen. But if one looks at the unit price and sees that it is only 33 HUF more expensive, but The product that costs 129 HUF and which is 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 conscious buyer with regard to garbage formation then you will surely buy it because you only spend 13 HUF more than buying from the cheapest with 4 packages.

The chips category is similar to extruded snacks & crackers, which are shown in the following table. In case of the chips product group, only 23% have a lower salt content than one gram and here again the average price of 3 grams of salt / 100 grams of salt per package is the lowest price and unfortunately one of the cheapest chips in terms of unit price is the ones containing 4 grams of salt /100grams

There are not many products in the next category, but popcorn can be considered a very popular product. One piece of salt-free popcorn is the kind of popcorn that we can pop ourselves and flavour if we have a popcorn machine. It is interesting for other products that can be made in microwave or in case of finished goods because the saltier it is, the cheaper it is for popcorn containing more than 1 gram of salt / 100gram. And here too, in terms of unit price, the most expensive products are the ones that contain salt but is below the 1 gram of salt / 100 grams limit.

5. Table: Average unit and package price of popcorn categorised by salt content

Salt content	Q	Price of package (Ft)			Price of unit (Ft/kg)		
		Average	Min	Max	Average	Min	Max
0	1	125	125	125	1 250	1 250	1 250
0,01-0,9	5	323	299	359	3 999	3 590	4 271
1	1	399	399	399	2 347	2 347	2 347
3	8	270	179	379	1 547	830	2 390
4	1	89	89	89	890	890	890
Total	16	274	89	399	2 304	830	4 271

Source: Author's compilation based on Tesco's price and product information (2021)

And finally, in the following 6. Table, which does not show a complete product category, but in case of sunflowers and peanuts, I would like to show through some examples that although each brand has salted and unsalted products on the store shelves, there is no difference in consumer prices.

6. Table: Example that price does not depend on salt content

	Amount of salt	Price (Ft)	Unit price (Ft/l)	Energy (kcal)
Mogyi Roasted Sunflower Seeds 60g	0	119	1 983	291
Mogyi Roasted, Salted Sunflower Seeds 60g	1	119	1 983	285
Mogyi Roasted Sunflower Seeds 200g	0	319	1 595	291
Mogyi Roasted, Salted Sunflower Seeds 200g	1	319	1 595	285
Mogyi Roasted Peanuts without Salt 170g	0	349	2 053	644
Mogyi Roasted, Salted Peanuts 170g	1	349	2 053	644
Mogyi Roasted Peanuts without Salt 320g	0	549	1 716	644
Mogyi Roasted, Salted Peanuts 320 g	1	549	1 716	644

Source: Author's compilation based on Tesco's price and product information (2021)

V.2. Ice-creams

Another interesting area is sweets, where I personally want to mention two groups; the first one is the bar of chocolates and the other one is ice cream. The first group in case of bar chocolates I have not noticed any change in sugar content that would suggest that I would like to avoid paying the tax. In case of these products, it is more noticeable that several manufacturers are starting to indicate the recommended amount of chocolate to be eaten in cubes as a function of the recommended daily intake. No major differences have been observed for traditional milk chocolates in terms of added sugar. Strikingly higher sugar content can be observed for some sweetened chocolates.

7. Table: Some examples of milk chocolate

Name of chocolate			Size	One portion	Number of cubes/portion	Total sugar content	Sugar content/ portion	Price (Ft)
Milka	Alpine	Milk	100g	16,7g	4	58	9,7	279
Tesco Milk Chocolate			100g	n.i	n.i.	54	n.i.	219
Ms	Molly's	Milk	100g	n.i	n.i	58,7	n.i	219

Source: Author's compilation based on Tesco's price and product information (2021)

In case of ice cream, this kind of change can be observed more interestingly, especially in case of Magnum brand chopsticks. A total of 41 chopsticks and funnel ice cream were available on the online site of Tesco on 17 January 2021, including 11 Magnums.¹⁴ In the above 7 Table I would like to present some of the main data of these ice creams. (Tesco;2021)

8. Table: Available types of Magnum ice cream at Tesco in 17.01.2021.

Name	Size (ml)	Price		Energy (kcal)	Sugar content (g)	
		(Ft/pcs)	(Ft/l)		pcs	In 100ml
Magnum Classic Vanilla Ice Cream	120	539	4 492	260	23	20
Magnum Salted Caramel & Glazed Almonds	90	579	6 433	236	19	21
Magnum Vegan Ice Cream Almond	90	649	7 211	248	19	21
Magnum White Vanilla Ice Cream	120	539	4 492	260	26	21
Magnum Almond Ice cream	120	539	4 492	285	25	21
Magnum Ice Cream Ruby	90	649	7 211	219	20	22
Magnum Double Cherry Ice Cream	88	579	6 580	236	19	22
Magnum Double Raspberry Ice Cream with Raspberry Sauce and Milk Chocolate Coating	88	539	6 125	238	20	23
Magnum Double Chocolate Ice Cream	88	579	6 580	248	22	25
Magnum Strawberry-White Chocolate Ice Cream	110	539	4 900	250	28	25
Magnum Double Caramel Ice Cream	88	579	6 580	246	24	27

Source: Author's compilation based on Tesco's price and product information (2021)

Based on the above 8 Table, it is clear that Magnum is trying to reduce the size of the 120ml version of each type of chopstick ice cream from my childhood, taking sugar and other ingredients into account. Unfortunately, 10 years ago online shopping was not prevalent especially not for ice cream therefore, for other reasons, I could not find a different size (every Magnum was 120ml).

Magnum as a manufacturer cannot find a loophole in sugar content, but it can vary its appearance so that it is not easy for the consumer to decide which one you should actually choose to take in less sugar or calories. The above 8. Table clearly shows that if we look at the sugar content expressed in 100ml, Magnum double caramel is the most sugary compared to those that have higher energy contents, but if we considered it based on portion, it would be similar to strawberry-white chocolate, which has lower level of calorie content. Overall, in case of ice cream, no correlation can be found here between price and sugar content as opposed to chips presented earlier.

V.3. Soft drinks

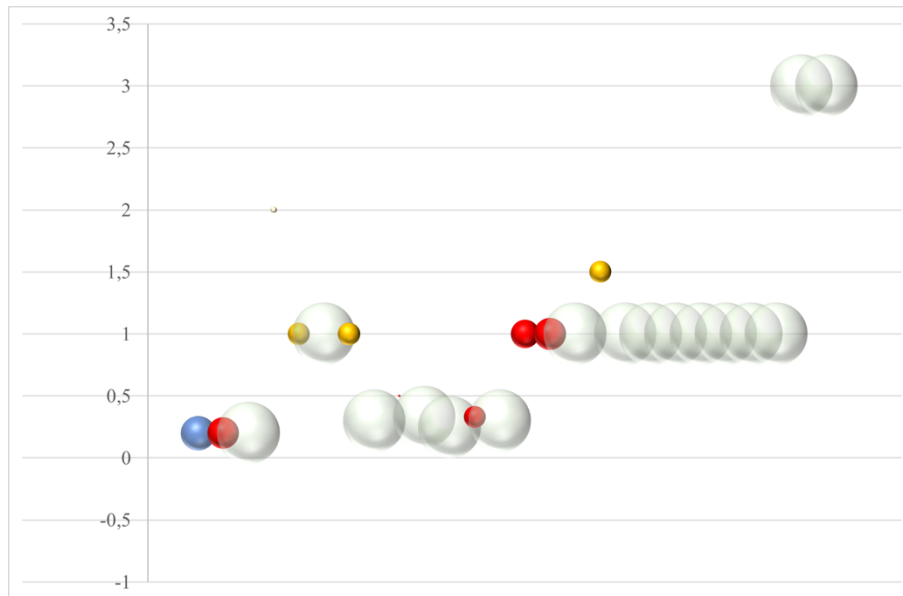
Looking at the Tesco online web-shop, there is also a large selection of fruit juices. On April 3, 2021, I found 266 different fruit juices in a total of 16 brands or 12 categories in the web store. In my opinion, these 16 brands are not enough here in the group, because if we look at Rauch products, 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, because 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, but apple juices containing added vitamin are part of my analysis. As a first step, I looked through all the products in the category one by one and I found a total of 26 in the name of which there is apple without the name of another fruit. (Tesco;2021)

Almost 10% of the category of fruit juices is apple juice or beverages containing apple. The products are produced by 9 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. (Tesco;2021)

From a tax point of view, the fruit content is emphasised because sugars and sweeteners are also contained in these drinks along with many other added ingredients.

In the following 7. Figure, I would like to illustrate the products containing tax (I mark 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 packages on the horizontal axis and the size of the circles represents the fruit content of the soft drinks. 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 of fruit drinks that can be bought in shops, which can be new information for most of the people.



7. Figure: Products (vertical axis: size of packaging, horizontal axis: price ranked from the cheapest to the most expensive and size of circles: fruit content)

source: Author's compilation based on Tesco's price and product information (2021)

9. Table: Summary of the allocation by type of sweeteners and producers

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

Source: Author's compilation based on Tesco's price and product information (2021)

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 hydrolysed 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. (Wikipedia;2021c)

From the 9. Table above, it is clear there are manufacturers who produce either only sweetened or only sugary and sweetened apple drinks. Based on the data in table, it is visible there are manufacturers who group them under a separate brand depending on what it contains. Those products that contain no added ingredients are only 100% fruit juices, which if needed to be further categorised then could be either concentrated or freshly squeezed. The PHPT affects 10 of these products that contain sugars, sweeteners, syrups used for some sweeteners. In the following 10. Table, I would therefore like to show how average prices are developing using this earlier categorisation illustrated in 9. Table

10. Table Summary of average price by type of sweeteners and producers

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

Source: Author's compilation based on Tesco's price and product information (2021)

From the table above, it is clear there is a big difference between the average price of natural fruit juices or fruit juices sweetened in some way. Yet, non-100% fruit juices all contain PHPT that aims to prioritize the consumption of healthy foods. Is the main goal of PHPT 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, but 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 compared to sugary fruit drinks, using syrup is cheaper than sugar. 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 the 10. Table above, I highlighted 4 average prices in bold italics because the target group of those drinks is kids! Of the 4, 2 are made using 100 percent 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 case of a family with one, two or three children? I will present this in the following 11. Table.

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 package. The external factor of such packaging can completely distract even a parent who wants to buy one of the 100% fruit juices to their kid, but unfortunately a latter is Micky mouse fan, in which case they will buy something completely different for the sake of the child. On the other hand, in the case if there are two products for the same price, and the parent does not pay attention to the ingredients only to the package, and 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 evolving.

The 12. Table shows how a half-litre package stands out from all the products, which is 0.1% minimum apple concentrate and if we scrutinise its ingredients in more details, 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 categorised 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.

11. Table: Weekly and monthly cost calculation of kids' drinks

Name of fruit drink or juice	Fruit content	Price	1 child		2 children	3 children
			Weekly	Monthly	Monthly	Monthly
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

Source: Author complication based on Tesco's price and product information (2021)

12. Table: Weekly and monthly cost calculation of "non kids' drinks"

Name of fruit drink or juice	Fruit content	Price	1 person		2 people	3 people
			Weekly	Monthly	Monthly	Monthly
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

Source: Author complication based on Tesco's price and product information (2021)

13. Table: Weekly and monthly cost calculation of large package' drinks

Name of fruit drink or juice	If dose = 300 ml	Fruit conte	Price	Dose price	2 people		3 people	
					Weekly	Monthly	Weekly	Monthly
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

Source: Author complication based on Tesco's price and product information (2021)

The above 13. Table is about how consumption changes when our consumers are more conscious and are able to dispense daily portions into small bottles on a daily basis. 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. But it also raises a question, can it be safely stored for a long time in the refrigerator after opening it without any deterioration in texture? Should not we be worried about infection and the risk of contamination during daily dosing, measuring?

Let me conclude with one of the most interesting product in the 12. Table, which is described as energy-free. It is not clear who they want to address with this product, but I am guessing 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 frugal, poor family, even with tax. What health effects does a drink that contains not even one, but a combination of sweeteners have on its consumer and how much will they spend on subsequent treatments?

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

V.4. Energy drinks

There are 40 different kinds of energy drinks in the web store of my choice among 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, people who are sensitive to caffeine, have high blood pressure and circulatory disorders. (Tesco;2021)

The following 14. Table shows what the minimum and maximum prices are 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 or how long it can be consumed by whoever buys it. An espresso contains 75mg of caffeine, 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 vending machines also cost more if coffee is not made at home.

14. Table: Energy drinks and their caffeine content

Caffeine content in the whole package	Size of packaging (price min-max)					Average price regardless of package size
	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

Source: Author's compilation based on Tesco's price and product information (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, which is similar in price to energy drinks.

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

In my opinion, summarising the 4 categories presented above, in case of chips and chocolates, some manufacturers reacted positively by reducing salt content, or by modifying the size of packaging similarly to ice cream, but in case of bars of chocolate a single recommending portion is displayed on the package.

In contrast, in case of fruit juices, the gap between 100% fruit juices and beverages is huge. 11. Table and 12. Table show that there is no product with a partial content of more than 30%. 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 at 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. International and national publications concerning health related public tax

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 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 stabile and growing source of revenue of the Health Insurance Fund.” (Csákvári; 2018)

In addition, the WHO even cites the Hungarian tax as an example. According to the WHO, in many countries, economic interests are preferred to health benefits. 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;2015a)

Since this summary was made in 2015 on the basis of 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 4. Figure, 5. Figure and 6. Figure. It is mentioned in the same study that product choice habits of consumers in Hungary have changed positively, but as there has been less and less talk about this in recent years, people have become accustomed to the existence of this tax and manufacturers have modified a lot of things so by nowadays consumers habits have deteriorated, which, in my opinion, have

only become worse in the pandemic situation. Based on a survey conducted in 2014, 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;2015a)

VII. Presentation of consumers' questionnaire results

In connection with the PHPT, I have formulated 16 questions, divided into 3 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 as follows:

- 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 was shared on one of the big social networking sites and I asked friends to fill it in and share it to get as many responses as possible. It was available for a total of 12 days from March 24 to April 5, during which time 192 people responded, with 107 people completing it in the first twenty-four hours. The questionnaire was available in Hungarian but can be viewed in Hungarian and English in the appendix (XI.1 and XI.2)

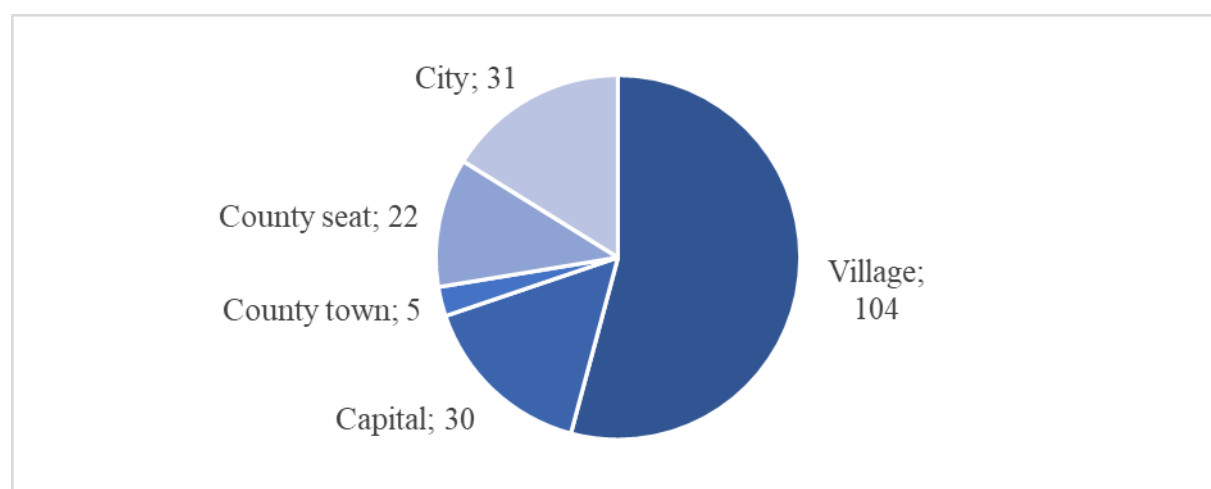
VII.1. Demography

VII.1.1. 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 as follows: 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; there were also those under 18 who filled the questionnaire in.

VII.1.2. What type of settlement do you live in?

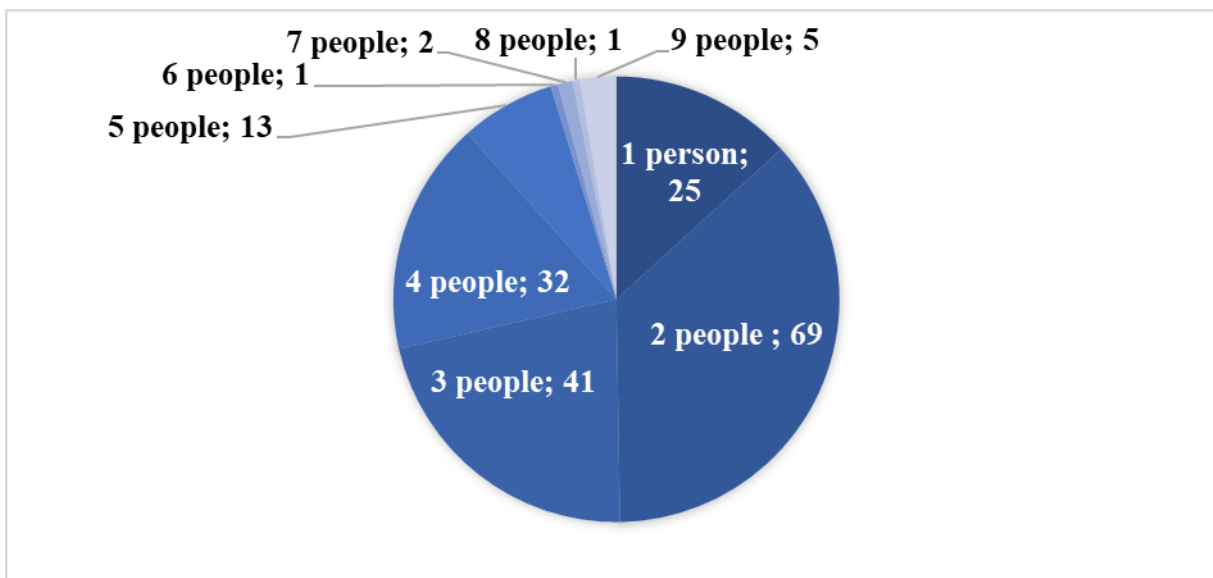
Most of the respondents live in villages, followed by the proportion of urban respondents with 19% (I have also included the category of city with country status), then the residents of the capital and finally the least of people who live in county seat. I was curious about city with county status in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



8. Figure: Distribution of the type of settlement Source: Author's research (2021)

VII.1.3. How many people live in your household?

Most of the respondents live in a 2-person household, but there were also some households consisting more than 6 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 live in the same household, but there I took the value I have calculated into consideration.



9. Figure: Distribution of household size Source: Author’s research (2021)

VII.2. Questions about shopping habits

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

15. Table: Relationship between the size of household and shopping habits

people per household	daily	several times a week	every week	every two weeks	or 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

Source: Author’s research (2021)

VII.2.1. 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 that people living in larger households go shopping for a discounted product. It might be also 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 people, 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 of a discounted product who do not go into the store specifically for a special offer.

16. Table: Relationship between having the main goal of buying products on discount and buying higher amount of a product when it has a discounted price

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?		Total	Do you buy a larger quantity if the particular product has a discounted price?		Total
	Yes	No		Yes	No	
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	

Source: Author's research (2021)

VII.2.2. Is home delivery of food products ordered online available in your place of residence?

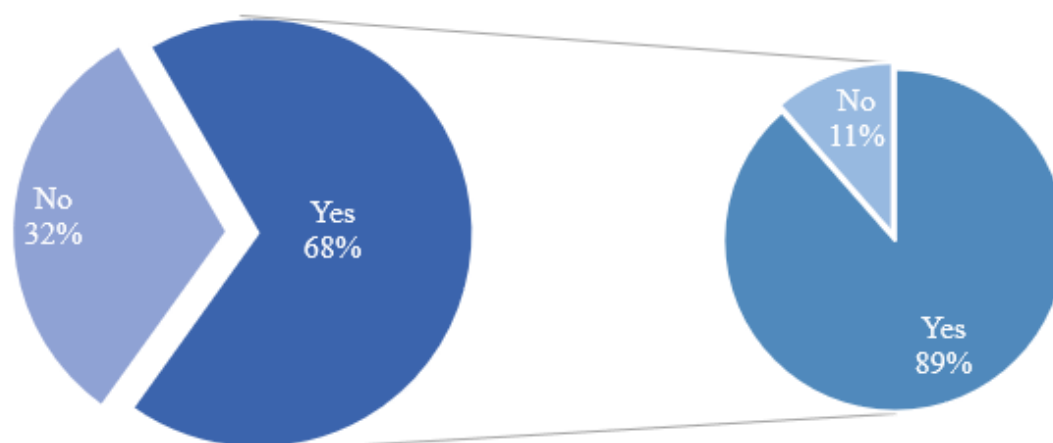
This is a tricky question because home delivery of food ordered online is currently available throughout the whole country, but 33.9 percent of respondents said no home delivery was available where they live, since most of these respondents are from villages or towns. Half of the respondents were aware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

VII.2.3. 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 the two questions together, the majority of Hungarian buyers place price in the foreground, but there are some people who decide on the basis of quality or product designation e.g. Hungarian products.

VII.2.4. Do you look at the ingredients of the product? If yes, does it affect your decision?

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



10. Figure: Do you look at the ingredients of the product? Allocation of “yes” answers affecting the decision. Source: Author’s research (2021)

VII.2.5. 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 were outstanding. I also wanted to share questionnaire in a special nutrition group, but since the questions were related to tax at the end, sharing it was not permitted, although other meal-related questionnaires are usually allowed.

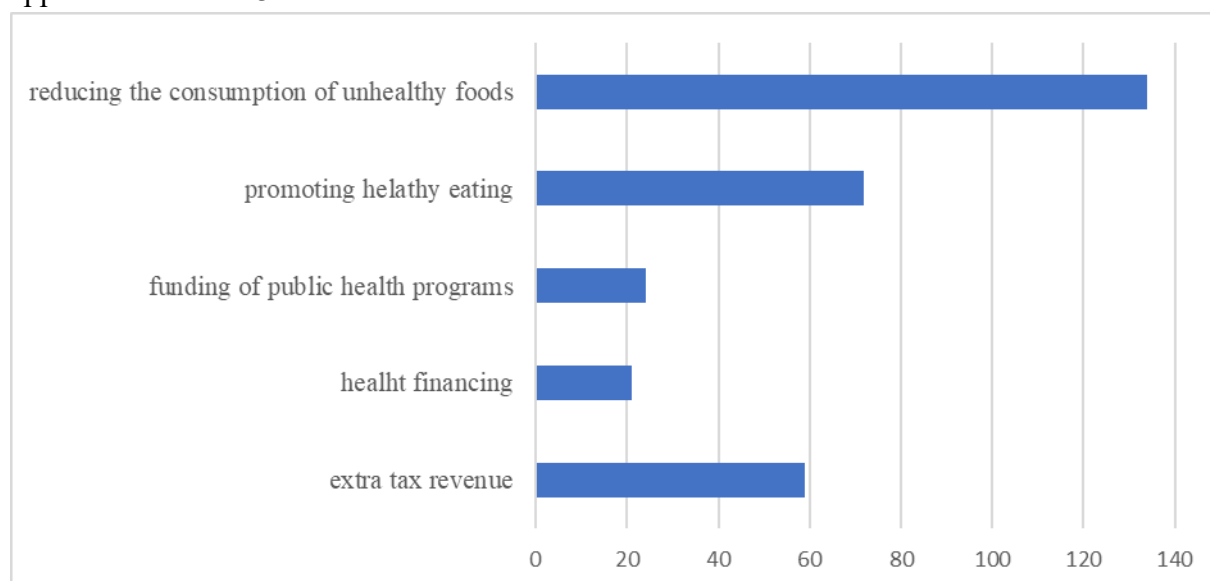
VII.2.6. Have you heard of public health product tax?

58,3% of people answered “yes” while 41.7% said “no”. This would have been interesting in relation to the next two questions, whether there is a difference between the answers, depending on whether they have already heard about it or not. For the next two questions, I included options of random answers that did not apply but arose in previous conversations with others.

VII.2.7. What is the purpose of the tax? (multiple answers possible)

- reducing the consumption of unhealthy foods
- promoting healthy eating
- funding of public health programs
- health financing
- extra tax revenue

Regarding this question, if we do not look at the combination of responses received, almost 70% of respondents know what the primary purpose of part of the tax is. Scrutinising the combination of how many people responded so that their response did not include funding for health care or extra tax revenue was only 119 people. 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. There were 40 respondents who 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 at appendix in the XI.3 Answers



11. Figure: Allocation of answers provided to the following question: What is the purpose of the tax? Source: Author's research (2021)

VII.2.8. Which of the following products do you think the tax applies to? (multiple answer possible)

There were a total of 151 different combinations of responses (192 people) received, one of which was a person who checked all the answer options. There were 66 responses that 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 do not even include confectionery products that can even be consumed locally, fast food products, quick-frozen semi-finished products and tobacco. 40 people answered previously that they have heard about the tax and 26 of them have not heard about it before.

If wine is considered not to be subject to the tax because it should not normally contain added sugar, then the proportion of those who know the answer correctly is reduced to 61. 38 people answered earlier that they had heard about the tax and 23 of them had not heard about the tax 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
- sugar products
- candied 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:

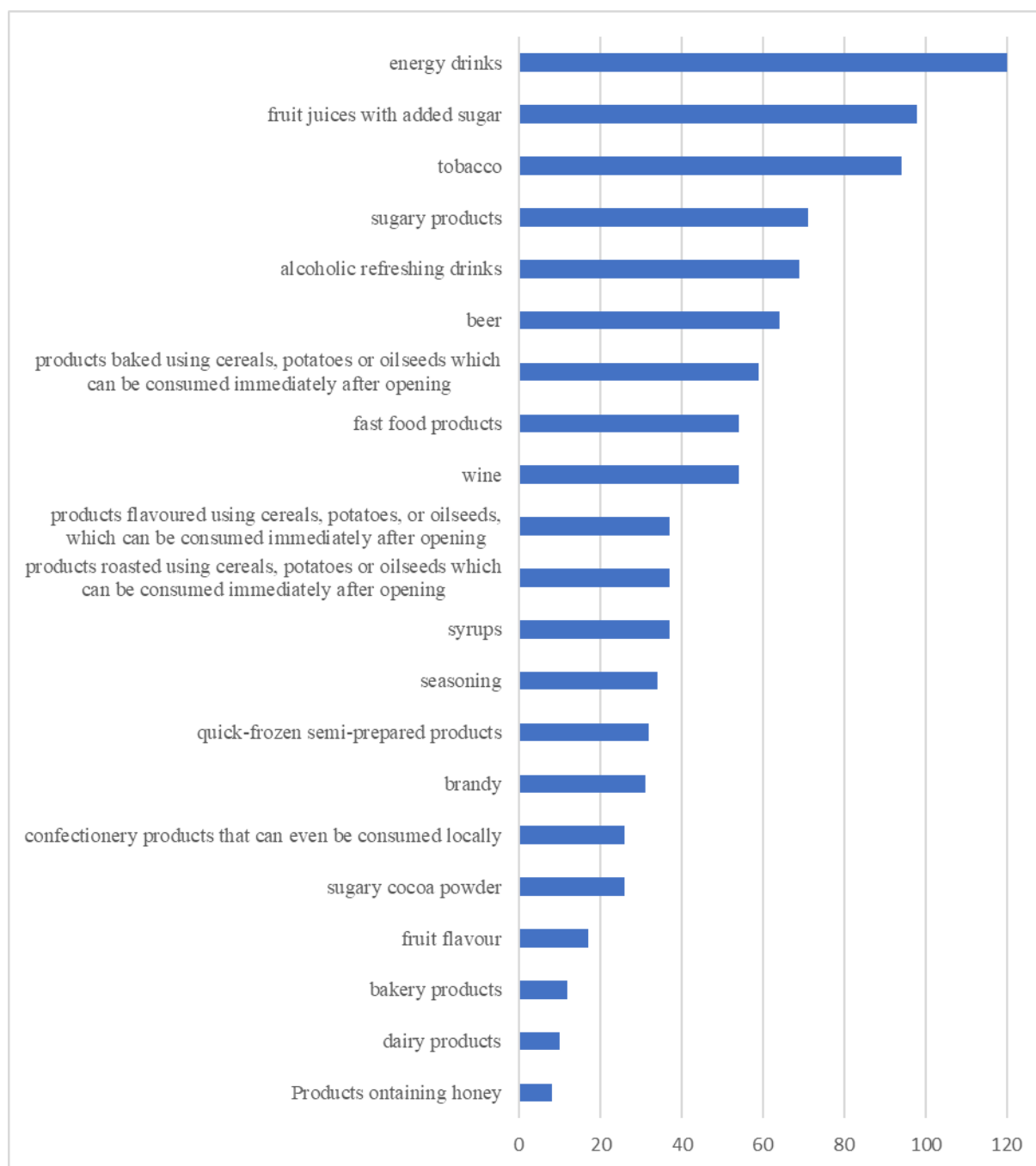
- 9 people: fruit juices with added sugar,
- 5 people: fruit juices with added sugar; energy drinks; sugary products;
- 4 people: products baked using cereals, potatoes or oilseeds which can be consumed immediately after opening; products roasted using cereals, potatoes or oilseeds which can be consumed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

- 4 people: fruit juices with added sugary; 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 combination but includes something that the tax doesn't apply to:

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

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



12. Figure: Allocation of answers provided to the following question: Which of the following products do you think the tax applies to? Source: Author's research (2021)

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, with the aim of reducing the consumption of unhealthy foods, thus promoting healthy nutrition. The proceeds are used to fund public health programs. International experience has showed that if well thought out, such a tax can be effective in achieving 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*.

The tax resulted in declining 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 the legal conditions and look for loopholes to make their product tax-free. Such was the fact that for many products the salt content was under 1 gram of salts per 100 grams, for ice creams the size was changed, for milk chocolates no size was altered, and the modification of ingredients would cause a significant change in quality, so the recommended daily dose was added to those products. In case of energy drinks, manufacturers first amended the recipe to make the sweetener or sugar content eligible for exception, but after a while 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 clear 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 they sell a quasi-healthier products, are able to offer their products at a much higher price than their competitors because they know that those who pay attention to healthier eating will buy these goods. Such pricing and consumer price sensitivity can cause a much bigger 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, which 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 case of fruit juices, a distinction can be made between beverages that have 100% fruit content and those that contain sweetener. The sweetener can be sugar, sweeteners (aspartame, acesulfame potassium...), 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. Many times, the box of sweetened products does not clearly 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, and unfortunately the consumption of products made with sweetener has a laxative effect in case of increased consumption, which has a detrimental effect on the digestive system and stomach.

In case of energy drinks, it can be said that unfortunately any energy drink can be considered cheaper than a freshly brewed 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 own survey. Nearly 200 people filled in my questionnaire in 10 days, which was related to how well the PHPT was known by them. $\frac{3}{4}$ of the respondents were female and the questionnaire was completed by those living in households with more than 5 persons. It can be seen from shopping habits that the larger a family a person has, the more often they go to the store and pay attention to prices when shopping, so when they see a discount, they are able to go to the shop specifically for a product; which is just as common for non-large families. If a product is on sale, then the majority of respondents usually buys larger quantities of a particular product. 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 cheaper 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.

Among the questions was whether the delivery of food ordered online is available, which was a misleading question, as it is available everywhere, at most deep-frozen or frozen products are not always and everywhere delivered. In case of certain products, when shopping online or from a retailer, I am thinking mainly of those living in the countryside, they could buy a product of much higher quality, but unfortunately many people still do not know that these products are delivered anywhere.

The majority of people (58.3%) has heard about the PHPT. The first question was about its purpose, disassembled into three different options and with two more deceptive answers attached, something I had heard from acquaintances earlier than what the purpose of the tax

was. Most people know or have a good idea of what the purpose of PHPT is, but a lot of people think it's just an extra tax that has no stated purpose. The last question was what product groups the tax applies to, here I have also listed some conditions which are met only partially e.g., dairy products or goods containing honey, but in other countries fast food products are also taxed so I have also included it together with tobacco products. In terms of answer distributions, there was very little that was repeated as a combination, it was more like guessing the weekend lottery numbers. That is the reason why I said at the beginning of the questionnaire that it is better known in Hungary as chips tax, helping those who do not remember it, but for example only tobacco was marked by seven people, and alcoholic beverages including beer, wine, brandy and alcohol refreshments were marked too. Based on this, I think many people confused it with excise tax or tax on tobacco products.

Summary evaluation. Overall, the use of the tax is advantageous. There is a lot of positive international experience in other countries, as well as in Hungary. Unfortunately, the positive impact is not permanent. After a while, the tax loses its influence on consumers, it fell out of public consciousness and, in addition, household income conditions changed, and modifications were also made by producers in some cases. 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, of which many consumed even more during the quarantine period, however it requires at least one year to have data on the impact of the epidemic 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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XI. Appendix

XI.1. Questionnaire Hungarian as online available version was

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

Vásárlási szokással kapcsolatos kérdések

5. Milyen gyakran jár vásárolni?
 - a. naponta
 - b. hetente többször
 - c. hetente
 - d. kéthetente

- e. vagy ritkábban
- 6. Szokott-e élelmiszerboltba menni, hogy akciós terméket vásároljon?
 - a. igen
 - b. nem
- 7. Az Ön lakóhelyén elérhető-e az online rendelt élelmiszerek házhoz szállítása?
 - a. igen
 - b. Nem bízom a házhoz szállításban élelmiszerek esetében
 - c. Nincs házhoz szállítás
- 8. Abban az esetben, amennyiben egy termékből több kiszerelés elérhető mi alapján szokott dönteni, hogy melyiket vásárolja meg?
 - a. termék ár, amelyik a legolcsóbb kiszereléstől függetlenül
 - b. termék egységára (pl. Ft/kg)
 - c. amelyik akciós éppen
 - d. egyéb: _____
- 9. Amennyiben egy termékből több gyártó is gyárt hasonlót csak más név alatt, mi alapján dönt, hogy melyiket választja?
 - a. márka hű vagyok
 - b. mindig az aktuálisan legolcsóbbat veszem meg
 - c. mindig azt veszem meg, amely éppen elérhető az adott áruházban
- 10. Szokott-e nagyobb mennyiséget vásárolni, ha akciós az adott termék?
 - a. igen
 - b. nem
- 11. A termék összetevőit megszokta nézni?
 - a. igen
 - b. nem
- 12. Ha igen, befolyásolja a döntését?
 - a. igen
 - b. nem
- 13. Követ-e valamilyen speciális diétát.

Népegészségügyi termékadóval kapcsolatos kérdések

- 1. Hallott már a népegészségügyi termékadóról?
 - a. igen
 - b. nem

2. Mi az adó célja? (több válasz is lehetséges)
- a. egészségtelen élelmiszerek fogyasztásának visszaszorítása
 - b. egészséges étkezés elősegítése
 - c. népegészségügyi programok finanszírozása
 - d. egészségügy finanszírozása
 - e. extra adó bevétel
3. Ön szerint az alábbiakban felsorolt termékek közül melyikre vagy melyikekre vonatkozik? (több válasz megadása is lehetséges)
- a. hozzáadott cukrot tartalmazó gyümölcslevek
 - b. szörpök
 - c. energiatitalok
 - d. cukortartalmú termékek
 - e. cukrozott kakaó por
 - f. méztartalmú termékek
 - g. tejtermékek
 - h. gabona, burgonya vagy olajos magvak felhasználásával sütött termékek, amelyek felbontás után azonnal fogyaszthatóak
 - i. gabona, burgonya vagy olajos magvak felhasználásával pörkölt termékek, amelyek felbontás után azonnal fogyaszthatóak
 - j. gabona, burgonya vagy olajos magvak felhasználásával ízesített termékek, amelyek felbontás után azonnal fogyaszthatóak
 - k. sütőipari termékek
 - l. ételízesítő
 - m. sör
 - n. bor
 - o. pálinka
 - p. alkoholos frissítő italok
 - q. gyümölcsíz
 - r. cukrászdai termékek, amelyek akár helyben is fogyaszthatóak
 - s. gyorséttermek termékei
 - t. gyorsfagyasztott félkésztermékek
 - u. dohány

XI.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:
 - a. Woman
 - b. Man
2. What type of settlement do you live in?
 - a. Capital
 - b. County seat
 - c. County town
 - d. City
 - e. Village
3. Which group do you belong to?
 - a. under 18
 - b. 18-25
 - c. 26-35
 - d. 36-45
 - e. 46-55
 - f. 56-65
 - g. 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?
 - a. daily
 - b. several times a week
 - c. every week
 - d. every two weeks

- e. or less frequently
- 6. Do you go to the grocery store to buy discounted products?
 - a. yes
 - b. no
- 7. Is home delivery of food products ordered online available in your place of residence?
 - a. Yes
 - b. I do not trust home delivery in case of food products
 - c. No home delivery
- 8. If more than one package of product is available, what basis do you usually decide which one to buy?
 - a. product price which is the cheapest regardless of packaging
 - b. unit price of the product (e.g. Ft/kg)
 - c. which is on sale right now
 - d. 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?
 - a. I am loyal to the brand
 - b. I always buy the currently cheapest product
 - c. 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?
 - a. yes
 - b. no
- 11. Do you look at the ingredients of the product?
 - a. yes
 - b. no
- 12. If yes, does it affect your decision?
 - a. yes
 - b. no
- 13. Are you following any special diet?

Public health product tax issues

- 14. Have you heard of the Public Health Product Tax?
 - a. yes
 - b. no

15. What is the purpose of the tax? (multiple answers possible)
- a. reducing the consumption of unhealthy foods
 - b. promoting healthy eating
 - c. funding public health programs
 - d. financing health care
 - e. extra tax revenue
16. Which of the following products do you think the tax applies to? (multiple answers possible)
- a. fruit juices with added sugar
 - b. syrups
 - c. energy drinks
 - d. sugary products
 - e. sugary cocoa powder
 - f. products containing honey
 - g. dairy products
 - h. products baked using cereals, potatoes or oilseed which can be consumed immediately after opening
 - i. products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening
 - j. products flavoured using cereals, potatoes, or oilseed, which can be consumed immediately after opening
 - k. bakery products
 - l. seasoning
 - m. beer
 - n. wine
 - o. brandy
 - p. alcoholic refreshing drinks
 - q. fruit flavour
 - r. confectionery products that can even be consumed locally
 - s. fast food products
 - t. quick-frozen and semi-prepared products
 - u. tobacco

XI.3. Answers

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

1. How often do you go shopping for food products?
 - a. daily: 51 answers
 - b. several times a week: 80 answers
 - c. every week: 43 answers
 - d. every two weeks: 8 answers

- e. or less frequently: 7 answers
- 2. Do you go to the grocery store to buy discounted products?
 - a. yes: 143 answers
 - b. no: 50 answers
- 3. Is home delivery of food products ordered online available in your place of residence?
 - a. Yes: 92 answers
 - b. I do not trust home delivery in case of food products: 35 answers
 - c. No home delivery: 65 answers
- 4. If more than one package of product is available, what basis do you usually decide which one to buy?
 - a. product price which is the cheapest regardless of packaging: 31 answers
 - b. unit price of the product (e.g., Ft/kg): 104 answers
 - c. which is on sale right now: 43 answers
 - d. other: 14 answers
- 5. If more than one type of product is available under different brand names, on what basis do you usually decide which one to buy?
 - a. I am loyal to the brand: 69 answers
 - b. I always buy the currently cheapest product: 53 answers
 - c. I always buy what is currently available in the particular store: 70 answers
- 6. Do you buy a larger quantity if the particular product has a discounted price?
 - a. yes: 118 answers
 - b. no: 74 answers
- 7. Do you look at the ingredients of the product?
 - a. yes: 131 answers
 - b. no: 61 answers
- 8. *If yes, does it affect your decision?*
 - a. yes: 121 answers
 - b. no: 51 answers
- 9. 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

- 10. Have you heard of the Public Health Product Tax?

- a. yes: 112 answers
- b. no: 80 answers

11. What is the purpose of the tax? (multiple answers possible)

- a. reducing the consumption of unhealthy foods: 134 answers
- b. promoting healthy eating: 72 answers
- c. funding public health programs: 24 answers
- d. financing health care: 21 answers
- e. extra tax revenue: 59 answers

Answer groups:

- 62: reducing the consumption of unhealthy foods
- 35: reducing the consumption of unhealthy foods; promoting healthy eating
- 23: extra tax revenue
- 14: promoting healthy eating
- 13: reducing the consumption of unhealthy foods; extra tax revenue
- 6: reducing the consumption of unhealthy foods; promoting healthy eating; extra tax revenue
- 6: financing health care
- 4: reducing the consumption of unhealthy foods; funding public health programs
- 4: reducing the consumption of unhealthy foods; funding public health programs; extra tax revenue
- 3: promoting healthy eating; extra tax revenue
- 2: promoting healthy eating; financing health care
- 2: reducing the consumption of unhealthy foods; promoting healthy eating; funding public health programs
- 2: reducing the consumption of unhealthy foods; promoting healthy eating; funding public health programs; financing health care; extra tax revenue
- 2: reducing the consumption of unhealthy foods; financing health care
- 2: funding public health programs; financing health care; extra tax revenue
- 1: promoting healthy eating; financing health care; extra tax revenue
- 1: promoting healthy eating; funding public health programs
- 1: promoting healthy eating; funding public health programs; financing health care
- 1: promoting healthy eating; funding public health programs; financing health care; extra tax revenue

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

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

- a. fruit juices with added sugar: 98 answers
- b. syrups: 37 answers
- c. energy drinks: 120 answers
- d. sugary products: 71 answers
- e. sugary cocoa powder: 26 answers
- f. products containing honey: 8 answers
- g. dairy products: 10 answers
- h. products baked using cereals, potatoes or oilseed which can be consumed immediately after opening: 59 answers
- i. products roasted using cereals, potatoes or oilseed which can be consumed immediately after opening: 37 answers
- j. products flavoured using cereals, potatoes, or oilseed, which can be consumed immediately after opening: 37 answers
- k. bakery products: 12 answers
- l. seasoning: 34 answers
- m. beer: 64 answers
- n. wine: 54 answers
- o. brandy: 61 answers
- p. alcoholic refreshing drinks: 69 answers
- q. fruit flavour: 17 answers

- r. confectionery products that can even be consumed locally: 26 answers
- s. fast food products: 54 answers
- t. quick-frozen and semi-prepared products: 32 answers
- u. 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