



ECONOMIC EFFECTS OF HIGH EXCISE DUTIES ON BEER IN THE BALTIC STATES

- FINAL REPORT -

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Amsterdam, June 2018

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Executive Summary

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Executive Summary

Regioplan Policy Research and EY joined forces to carry out a study focusing on the economic impact of high and increasing excise duties on beer for the Baltic States (Estonia, Latvia and Lithuania).

Key messages

- 27% of all Baltic beer consumers purchase beer abroad. High excise duties on beer play an important role in cross-border shopping for beer by Baltic people.
- We estimate that inhabitants of Lithuania, Estonia and Latvia respectively buy 49.5, 17.6 and 9.4 million litres of beer outside national borders annually. This means that for all three Baltic countries, approximately 255 million euros worth of beer volume in total is bought outside national borders. This results in the following conclusions and economic effects:
 - a direct loss of beer generated VAT and excise duty revenues, due to cross-border shopping, of approximately 40, 25 and 11 million euros for the Lithuanian, Estonian and Latvian national governments respectively. These figures would be significantly higher if VAT and excise duty revenue losses on all alcoholic products (including wine, hard liquor etc.) would be taken into account as well;
 - buying beer is often a traffic builder prompting the purchase of other products abroad. For every euro that is not spent on beer in Baltic retail outlets (due to cross-border shopping for beer), consumers also spend 4.40 euros on other products abroad;
 - over 1 billion euros spent by Baltic people on products other than beer when travelling abroad to buy beer, resulting in additional losses of VAT revenue of approximately 131 million euros, 39 million euros and 22 million euros for the Lithuanian, Latvian and Estonian national governments respectively. Cross-border beer shopping is co-responsible for these losses;
 - around 1,270 fewer beer-generated jobs in the retail sector alone (due to lower domestic beer sales), resulting in a loss of over 4 million euros in income tax and social contribution revenues;
 - taking into account that a certain part of the tax losses in one Baltic State may be to the benefit of another Baltic State – since Baltic consumers also shop within other Baltic countries (e.g. Estonians that shop for beer or other products in Latvia) – cross-border shopping for beer can account for an estimated total loss of government revenues amounting to approximately 170 million euros;
 - an additional 3.7 billion kilometres travelled by car, resulting in approximately 487,400 tonnes of additional CO₂ emissions. Cross-border shopping is not limited to Baltic consumers that live in near-borders regions. Our study shows that, especially in Lithuania and Estonia, consumers from all over the countries shop abroad for beer.

Strong excise increases in the Baltic states

Of all EU Member States that increased their excise duties on beer in 2017, Lithuania incorporated the highest excise duty rate increase (+112% in comparison with 2016), while the excise duty increases on beer by Estonia and Latvia were also significant that year (+87% and +7% respectively).

The increase in excise duties on beer incorporated by Estonia during the specified period (2016-2017) was only exceeded by Greece (+100%) and Lithuania, while the Latvian excise duty increases were exceeded by those of Spain (+33%), Estonia, Greece and Lithuania (see figure 2.2). Estonian excise duties on beer are now among the highest in the EU, only to be exceeded by the beer taxes in Finland, Ireland, the United Kingdom and Sweden.

Excise increases as a cause for cross-border shopping

High excise duty rates on beer lead to higher beer prices, causing sales volumes to come under pressure. As a result, consumers are stimulated to buy beer abroad if beer prices are lower there. This, in turn, has negative consequences for beer-generated government revenues, as domestic VAT and excise revenues decrease.

Our study shows that cross-border shopping for beer (and other products/groceries) is a most common phenomenon in the Baltic States and has a high impact on the national economies and society.

One out of four Baltic beer consumers buys beer abroad

27 percent of all Baltic beer consumers bought beer across the border in 2017.¹ High excise duty rates on beer and recently incorporated increases of beer taxes play an important role in this cross-border shopping behaviour of Baltic people. Inhabitants of the Baltic States purchase more than 75 million litres of beer outside national borders annually. This figure only indicates beer volumes purchased abroad caused by legal cross-border shopping by Baltic consumers. If beer purchases abroad caused by illegal trade were to be included as well, the figure would be even higher. In addition, from the large amounts of beer that are bought outside national borders it may also be concluded that the desired health benefits from increasing beer taxes are not fully achieved, as Baltic people continue to consume beer that was bought abroad.

Cross-border shopping negatively impacts the national economy

Cross-border shopping causes substantial harm to national economies and the environment. When Baltic beer consumers decide to buy beer abroad instead of at home, this causes a decline in domestic beer sales. The loss of VAT and excise duty revenues arising directly from cross-border shopping for beer by Baltic people amounts to approximately 40, 25 and 11 million euros for the Lithuanian, Estonian and Latvian national governments respectively. It should be noted that these figures exclusively concern tax losses due to cross-border shopping for beer. The total tax losses would be significantly higher if cross-border shopping behaviour for all alcoholic products (including wine, liquors etc.) would be taken into account as well.

In addition to this, cross-border shopping for beer leads to employment losses in the retail sector. This decrease of retail employment is most noticeable in Lithuania (estimated loss of 960 retail jobs). Also in Latvia and Estonia, jobs in the retail sector are lost because of cross-border shopping (a loss of 230 and 80 jobs respectively).

Furthermore, we estimate that Baltic consumers spend over 1 billion euros in total on other products when they travel abroad to buy beer, resulting in VAT losses of 131 million euros, 39 million euros and 22 million euros for the Lithuanian, Estonian and Latvian national governments respectively.

Cross-border shopping for beer by Baltic people is a nationwide phenomenon

Since the average traveling distance to buy beer abroad is 340 kilometres and as most of the cross-border shopping is done by car, Baltic consumers are practically willing to travel through their entire country to shop for beer abroad (given the geographic dimensions of the Baltic countries). This means that cross-border shopping for beer is not just a local phenomenon, limited to consumers that live in near-border regions, but occurs nationwide.

In addition to the negative economic effects of cross-border shopping for beer, the phenomenon has a seriously negative impact on the environment. We estimate the total additional CO₂ emissions resulting from the extra kilometres travelled for cross-border shopping (3.7 billion kilometres by car alone) to be approximately 487,400 tonnes.

Illegal trade

In line with the principles of the internal market, consumers are allowed to buy beer abroad in limited amounts without having to pay import tax. Increasing rates of taxation for beer may also encourage consumers to explore more affordable options however, including illegal trade.

This mainly applies to cross-border purchases of large amounts of beer (exceeding the admissible quantities) for domestic use or with the purpose of selling it on to consumers in the home country. Publications by both governmental authorities and the academic community point out that illegal trade in alcoholic beverages has many negative consequences including detrimental economic effects and health issues related to its availability to underaged persons.²

¹This figure represents consumers that purchase beer abroad themselves and/or let someone else purchase beer abroad on their behalf.

² Underaged refers to those people under the legal purchasing age for consuming alcohol in the countries concerned.



Introduction

1

1 Introduction

The brewing sector creates significant value for European economies and generates a range of positive economic effects. Around 2.3 million jobs are created by the production and distribution of beer, either through direct employment with the approximately 8.500 European breweries or indirectly via the supply, agriculture, retail and hospitality sectors.³

The beer industry is also a strong contributor to national government revenues, as beer sales generate VAT and excise duty revenues.⁴

Excise taxes important source of government revenue

For many EU Member States, the excise duties levied on beer are an important source of government revenue. In the EU, excise duty revenues account for more than a quarter of the total beer-generated government revenue.⁵ Within the EU, there are significant differences between excise duty rates on beer in the various Member States, resulting in differing tax burdens on beer. Over the last five years, the vast majority of EU Member States have changed their excise duty rates levied on beer – in most cases beer taxes were increased.⁶

Excise duty increases do not guarantee economic improvement

Previous studies have shown that (substantial) increases in excise duties on beer can negatively impact national economies, foremost in terms of government revenue losses, but also in terms of employment losses. These negative economic effects have been shown in studies on the Nordic countries (Denmark, Finland, Norway and Sweden)⁷ and on the Netherlands.⁸

Rising excise duties in the Baltic states

Excise duty rates on beer in the Baltic states (Estonia, Latvia and Lithuania) were raised significantly over the last years. In Estonia for example, excise duties on beer were raised by over 445 percent during the period 2012-2017, whereas the Lithuanian and Latvian government raised the excise duty rates on beer by 189 and 43 percent respectively in the same period. Of all incorporated beer tax increases in the EU, the excise duty rate increases in the Baltic States were among the highest. Only France and Greece had higher excise duty rate increases on beer than Latvia (besides the other two Baltic States) over the last five years. The Estonian beer taxes now rank fifth in the list of highest excise duty rates levied on beer in all EU Member States.

Since the Baltic governments have discussed possible plans to even further raise excise duties on beer in 2018 and onwards, Carlsberg requested Regioplan Policy Research and EY to conduct a study on the effects of high excise rates on beer and further increases of beer taxes on the national economies of the Baltic States.

1.1 Scope

The economic effects of high excise duty rates on beer in the Baltic States are assessed in this study. Amongst others, the assessed effects involve the impact of excise duty policies on cross-border shopping by Baltic inhabitants, losses of government revenue (not only excise duties and VAT revenue, but also employment-related revenues in the retail sector), due to cross-border shopping, for the national economies of Estonia, Latvia and Lithuania, the impact of cross-border shopping on the environment and illegal trade.

³ See: <http://www.brewersofeurope.org/site/countries/key-facts-figures.php>

⁴ Some 30 billion euros were generated by excise duties and VAT due to beer consumption in the EU in 2014, according to the most recent statistics of the Brewers of Europe.

⁵ 2014 figures. The remainder is made up by VAT (46%), and income and social security and other contributions from breweries (5%) and other sectors (24%).

⁶ During the period 2012-2017, 23 EU Member States made a notable change to their excise duty rates levied on beer. In 18 countries this was an increase, while in five countries (Croatia, Czech Republic, Denmark, Poland and The United Kingdom) the excise duty on beer decreased over the specified period.

⁷ Berkhout, B., Y. Bleeker, G. Kruis, W. de Wit (2014) *Economic effects of high excise duties on beer*.

⁸ Berkhout, B., M. Groenewoud, G. Kruis (2013) *Nog een rondje van de buren*.

1.2 Research activities

The following research activities were conducted in order to assess the effects of excise duty policies for beer in the three Baltic States.

Consumer survey

An online consumer survey of beer consumers in Estonia, Latvia and Lithuania was conducted to measure the extent and frequency of cross-border shopping. The survey was carried out by Spinter among 3,019 consumers (approximately 1,000 consumers per Baltic country) aged 18 and over within their representative consumer panel. In all three countries, the questionnaire was completed by consumers from all over the country.

The final version of the questionnaire was made available in the different national languages of the three Baltic countries for the respondents' convenience. The survey was conducted in December 2017 and contained questions pertaining to purchases made between October 2016 and October 2017.

1.3 Structure of the report

In chapter 2 we will discuss cross-border shopping trends in Estonia, Latvia and Lithuania. Attention will be given to the extent to which cross-border shopping is a phenomenon in these countries and to the economic effects of cross-border shopping, such as loss of excise duty revenues and employment in the retail sector. Illegal shopping abroad is also addressed in this chapter.

In the Annexes, the results of the consumer survey are illustrated (Annex I), the consulted literature is provided (Annex II) and further insights into the calculation methods are provided (Annex III).



Consequences of high excise taxes on beer



2 Consequences of high excise taxes on beer

Key messages

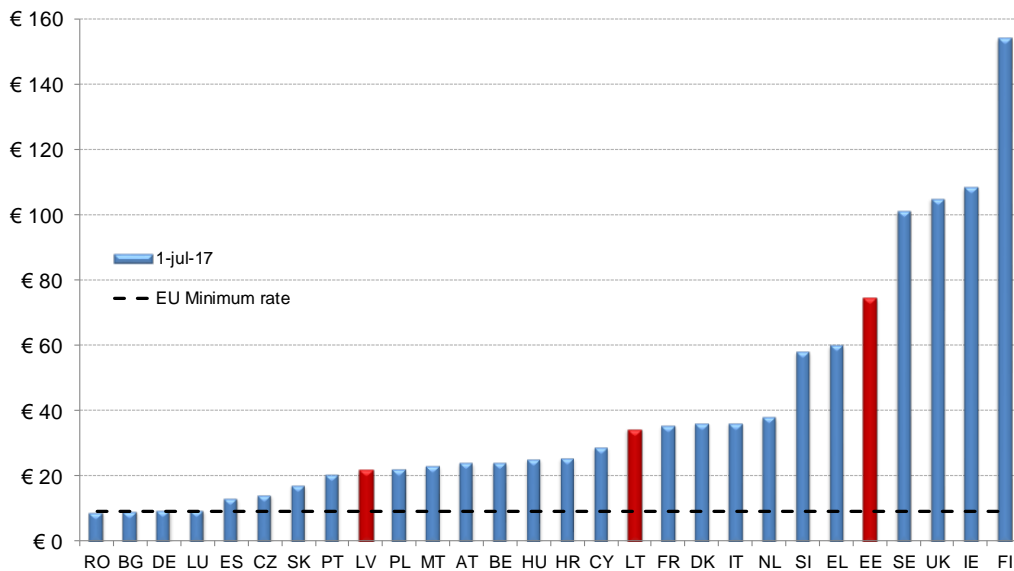
- More than a quarter of all Baltic beer consumers (27%) bought beer abroad in 2017. High excise duty rates on beer and (recent) increases of beer taxes play an important role in the cross-border shopping behaviour of Baltic people.
- Inhabitants of Lithuania, Estonia and Latvia respectively buy more than 49, 17 and 9 million litres of beer outside national borders per year (more than 75 million litres of beer in total; worth more than 255 million euros).
- For more than half of all Estonian cross-border shoppers, the purchase of beer abroad is either the most important or one of the reason(s) to travel across national borders for shopping. This also applies to one out of four Latvian and Lithuanian cross-border shoppers.
- More than a quarter of all beer consumers in Estonia – where beer taxes are among the highest of all EU Member States - are motivated to shop abroad for beer if beer is 20 percent more expensive in their home country than abroad. For Lithuanians and Latvians this applies to 22 and 19 percent of all beer consumers respectively. Latvians less frequently mention price differences as a main reason to buy beer abroad, as excise rates on beer in Latvia are lower than in most (Baltic) neighbouring countries.
- Cross-border shopping for beer causes a direct loss of VAT and excise duty revenues of approximately 40, 25 and 11 million euros for the Lithuanian, Estonian and Latvian national governments respectively. These figures exclusively concern losses due to cross-border shopping for beer. The total tax losses would be significantly higher if cross-border shopping behaviour for all alcoholic products (wine, liquors etc.) would be taken into account. Since Baltic consumers also shop within other Baltic countries (e.g. Estonians that shop in Latvia), certain losses of one Baltic country are to the benefit of another Baltic country.
- At least 1,270 beer-generated jobs in the retail sector alone are lost as a direct result of cross-border shopping, which results in a substantial loss of income tax and social contribution revenues for the governments of the three Baltic States, as well as significant losses in other industries.
- Baltic consumers spend over 1 billion euros (estimation) in total on other products when they travel abroad to buy beer. Buying beer abroad is co-responsible for an additional loss of VAT revenues on products other than beer of approximately 131, 39 and 22 million euros for the Lithuanian, Latvian and Estonian national governments respectively.
- Cross-border shopping is not limited to Baltic consumers that live in near-borders regions. Our study shows that, especially in Lithuania and Estonia, consumers from all over the countries shop abroad for beer.

2.1 Cross-border trade

In the EU, a minimum excise duty rate for beer must be levied.⁹ Individual Member States are free, however, to set their own excise duty rates, equal to or at a higher level than this minimum rate. In practice, many states apply excise rates that are higher than the EU minimum, resulting in significant differences in excise duty rates levied on beer by various Member States (see figure 2.1).

⁹ The minimum excise duty in the EU in 2017 is set at 8.976 euros per hectolitre of beer (12 degrees Plato, 4.8 percent alcohol; Article 6 of Directive 92/84EEC). For the excise rates on beer in the EU, see: https://ec.europa.eu/taxation_customs/sites/taxation/files/resources/documents/taxation/excise_duties/alcoholic_beverages/rates/excise_duties-part_i_alcohol_en.pdf

Figure 2.1 Excise duty rates per hectolitre of beer in euros (12 degrees Plato, 4.8% alcohol) in the EU Member States on 1 July 2017. The Baltic countries are shaded in red



EU cross-border tax and trade principles

According to EU law, taxes and excise duties are paid in the country where the product is bought. A fundamental tax principle that is applied by all EU Member States is that the end consumer does not have to pay additional taxes if he or she takes the product to another country. This applies to goods bought in person by the consumer up to a certain amount and not to online purchases.

Free movement of goods, capital, services and people is promoted in the EU’s internal market, so that consumers from all countries have the opportunity to shop abroad. Any purchases made by consumers from sellers or providers located in a country other than the one in which they themselves are resident are categorized as cross-border trade. In line with these principles, consumers are allowed to buy beer abroad in limited amounts without having to pay import tax, excise duty or VAT in their home countries.¹⁰

Rising excise rates on beer in the EU and the Baltics

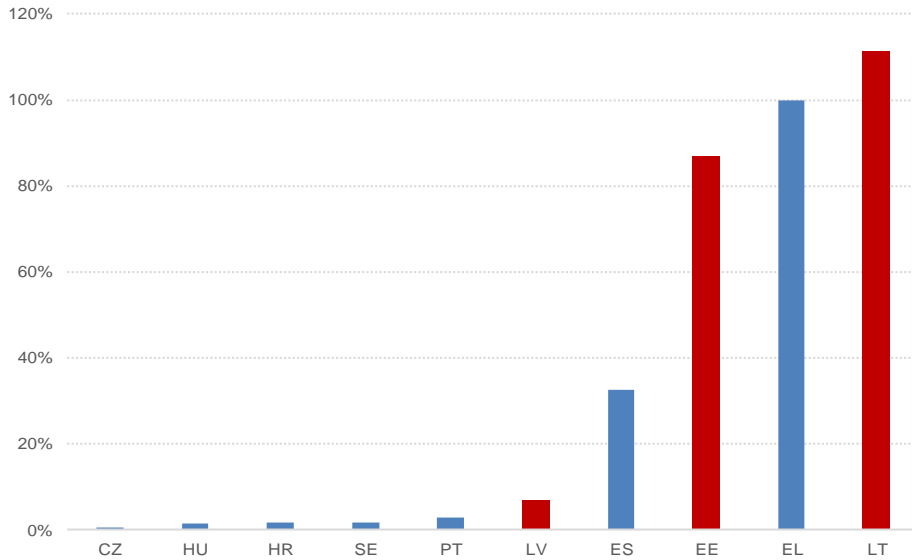
Over the last years, the vast majority of EU Member States have changed their excise duty rates levied on beer. In most cases, beer taxes were increased.¹¹ Of all EU Member States that increased their excise duties on beer in 2017, Lithuania incorporated the highest excise duty rate increase (+112% in comparison with 2016), while the excise duty increases on beer by Estonia and Latvia were also significant that year (+87% and +7% respectively).

The increase in excise duties on beer incorporated by Estonia during the specified period (2016-2017) was only exceeded by Greece (+100%) and Lithuania, while the Latvian excise duty increases were exceeded by those of Spain (+33%), Estonia, Greece and Lithuania (see figure 2.2). Estonian excise duties on beer are now among the highest in the EU, only to be exceeded by the beer taxes in Finland, Ireland, the United Kingdom and Sweden. The excise duty increases have further contributed to differences in beer taxes with neighbouring countries.

¹⁰ European Commission (2017) *Consumer attitude towards cross border trade and consumer protection 2016*.

¹¹ During the period 2012-2017, 23 EU Member States made a notable change to their excise duty rates levied on beer. In 18 countries this change concerned an increase, while in five countries (Croatia, Czech Republic, Denmark, Poland and The United Kingdom) the excise duty on beer decreased over the specified period.

Figure 2.2 Increases of excise duty rates on beer in local currency 2016-2017 (12 degrees Plato, 4.8% alcohol) in the EU Member States (Baltic states are shaded in red)



Source: European Commission

Differences in excise duty rates lead to cross-border shopping

The large differences between European countries in excise duty rates levied on beer (also see figure 2.1) and the above-mentioned EU tax and free movement of goods principles lead to cross-border shopping for beer. In practice, consumers from countries with relatively high excise duty rates compared to their neighbouring countries, are the consumers that do most of the cross-border shopping and thus buy the most beer abroad.

This impact of high levels of excise taxes on cross-border trade of beer is broadly known. It was shown in our previous study on the Nordic countries and on the Dutch brewing industry, and has been described in many scientific publications (e.g. Fleenor 1999, p.17¹²; Bentzen, 2013, p.15¹³). It is also broadly known that cross-border trade can have negative consequences for national economies, amongst others in terms of losses in domestic employment and VAT and excise duty revenues, due to reduced national beer sales.

2.1.1 Differences in purchasing power with other EU countries

Residents of countries with relatively high standards of living, such as Germany and the Netherlands, have considerably higher net wages than residents of the Baltic States. When comparing the price of beer sold through off-trade channels (supermarkets, retail outlets) in the Baltics with German and Dutch off-trade beer prices, however, we see that beer in Estonia and Lithuania is more expensive than in Germany and the Netherlands, despite the income differences. Beer prices in Latvia are, more or less, the same as those in Germany (see table 2.1). As a result, the purchasing power of Baltic people to buy off-trade beer¹⁴ is considerably lower than in Germany and in the Netherlands. High beer taxes in the Baltics are a contributive factor in this. This also means that increasing beer taxes by the same amount in the countries described, can have a more negative effect on the purchasing power of Baltic beer consumers than on the purchasing power of German and Dutch consumers to buy beer, as Baltic people have considerably smaller budgets to spend on beer.

¹² Fleenor, P. (1999) *How Excise Tax Differentials Affect Cross-Border Sales of Beer in the United States*.

¹³ Bentzen, J. (2013) *Cross-Border Trade 2013: Effects on Revenues Given a 50 per cent Reduction of Excise Duties on Beer and Soft Drinks*.

¹⁴ In this chapter, purchasing power to buy beer is defined as the amount of beer (in litres) that can theoretically be bought from the average net salary per person per country, if the entire salary is spent on beer.

To conclude, if we look at the purchasing power to buy beer of residents of the Baltic States separately, substantial differences also arise. Even though average net salaries in Estonia are substantially higher than in Latvia and Lithuania, Estonians can buy less beer from their salaries than Latvians, as Estonian excise rates make up a considerably higher share of the total beer price (see table 2.1).

Table 2.1 Comparison of purchasing power to buy beer between residents of the Baltic States and residents of Germany and the Netherlands (2017 data and figures)

Country	Estonia	Latvia	Lithuania	Germany	Netherlands
Price per litre of beer (off-trade) ¹⁵	2.15	1.27	1.56	1.28	1.49
Excise taxes per litre of beer (in euros)	.745	.216	.341	.094	.380
Excise tax as a share of total price	35%	17%	22%	7%	26%
Net monthly wage (in euros) ¹⁶	1,000	676	659	2,280	2,270
Litres of beer that can be bought from salary	465	532	422	1,781	1,524

2.1.2 Degree of cross-border shopping for beer by Baltic consumers

According to our consumer survey, at least one out of four adult Baltic beer and/or other alcoholic beverages consumers (27%) purchased beer abroad themselves and/or let someone else purchase beer on their behalf in 2017 (see Annex I for the complete set of survey questions and results).

One out of three beer consumers in Estonia – where beer excises are among the highest of all EU Member States – buy beer outside national borders (see table 2.2). Also Lithuanians (27% of all Lithuanian adult beer consumers) and Latvians (33%) are quite familiar with shopping for beer abroad. Beer is one of the most frequently bought alcoholic products abroad, along with wine and hard liquor (vodka, whiskey, gin etc.). Two out of three Estonian and Lithuanian consumers that shop abroad for alcoholic products buy beer abroad, while more than half of Latvian consumers that shop for alcoholic products beyond national borders buy beer. In all three Baltic countries, more men indicated that they shop for beer abroad than women.

Table 2.2 Did you (or someone else within your household) buy beer abroad in the last twelve months?

Country	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)	Total (n=3,019)
Yes ¹⁷	33%	23%	27%	27%
No	67%	77%	73%	73%

Source: Consumer survey by Regioplan/EY/Spinter (2017)

¹⁵ Beer prices in the Baltics and in Germany were retrieved from research company Nielsen, while beer prices in the Netherlands were retrieved from Statistics Netherlands (*Centraal Bureau voor de Statistiek*, CBS).

¹⁶ The average wages in the Baltics were retrieved from Statistics Estonia, the Central Statistical Bureau of Latvia and The Lithuanian Department of Statistics. Average wages in the Netherlands and Germany were respectively retrieved from the Netherlands Bureau for Economic Policy Analysis (*Centraal Planbureau*, CPB) and Statistisches Bundesamt.

¹⁷ Respondents that consume beer or other alcoholic beverages. Including respondents who let someone else (for example a friend or relative) purchase beer abroad on their behalf.

We estimate that inhabitants of Lithuania, Estonia and Latvia respectively buy 49.5, 17.6 and 9.4 million litres of beer outside national borders annually, based on outcomes of our survey (see Annex III for insight into the calculations). This means that for all three Baltic countries, approximately 255 million euros worth of beer volume in total is bought outside national borders.¹⁸

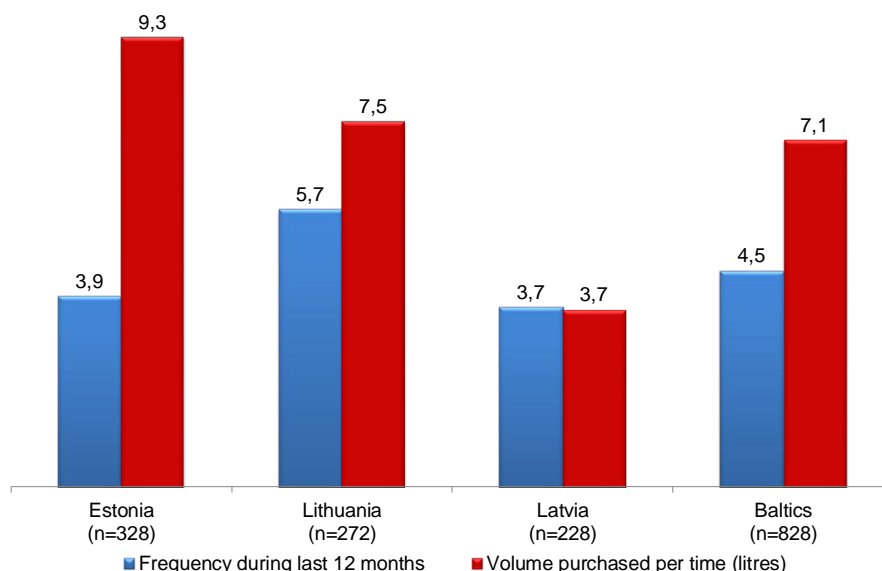
Not all of this cross-border shopping happens beyond Baltics borders, however, as inhabitants from all three Baltic countries also frequently shop in other (neighbouring) Baltic countries. For a larger part this applies to Estonian cross-border shoppers, who often buy cheaper beer in neighbouring country Latvia (and less frequently in Lithuania) and to Lithuanian consumers, who often buy beer in Latvia (and sometimes in Estonia; see section 2.1.3). Nevertheless, a significant share of the beer volumes bought by Baltic consumers abroad was not bought within Baltic borders.

Finally, from the large amounts of beer that are bought outside national borders it may also be concluded that the desired health benefits from increasing beer taxes are not fully achieved, as Baltic people continue to consume beer that was bought abroad.

Frequency with which beer is bought abroad and purchases per visit

Baltic consumers that shop for beer across the national border, travel 4-5 times abroad on a yearly basis to buy beer (see figure 2.3). Per visit, 15 bottles of beer are bought on average¹⁹, while the average spending on beer amounts to approximately 15-35 euros per visit.²⁰ On average, Lithuanians that buy beer abroad do this 5-6 times per year, purchasing around 13 bottles of beer per visit. Estonian cross-border shoppers travel 4 times per year across national borders to buy beer, buying more than 16 bottles per visit. Latvians that buy beer abroad do this around 3-4 times per year, buying approximately 7 bottles per visit across national borders. For an estimation of the total amount spent (in euros) on beer abroad by Baltic consumers, see the above section.

Figure 2.3 How many times did you (or someone else within your household) shop for beer abroad during the last twelve months and how many litres of beer on average were purchased per visit abroad?



Source: Consumer survey by RegioPlan/EY/Spinter (2017)

¹⁸ Based on the number of Baltic households that buy beer abroad, the reported number of times they shop abroad for beer and based on reported amounts (in euros) spent on beer by Baltic consumers per visit abroad. See Annex III for further insight into the calculations.

¹⁹ Assuming beer cans and bottles are bought in pints (0,568 litres), which is the most common volume in which Baltic people buy beer.

²⁰ See Annex I, figure AI.14 for more details on the amounts spent on beer abroad.

2.1.3 Cross-border shopping destinations

Baltic consumers shop both outside Baltic borders (for example in neighbouring countries Poland and in Belarus), as well as within other Baltic countries. Inhabitants of Lithuania most often do their cross-border shopping for beer in Poland²¹, while Estonians most often shop for beer in Latvia. This consumer behaviour is primarily caused by the significant difference in excise duty rates levied on beer between Poland and Lithuania²² and between Estonia and Latvia (also see figure 2.1). It should be noted that a significant share of Lithuanian cross-border beer shoppers (51%) also shops for beer in Latvia.²³ Also in this case, the difference in excise rates on beer – Lithuanian excise duties levied on beer in 2017 were 58 percent higher than those in Latvia – is a chief contributive factor in this cross-border shopping behaviour.

Most of the cross-border shopping for beer by Latvians takes place in the neighbouring country Lithuania, even though excise duties on beer are slightly higher in Lithuania than in Latvia. Latvians also frequently shop in other countries outside Baltic borders however (see table 2.3).

Table 2.3 In which country did you (or someone else within your household) buy beer abroad in the past twelve months?

Country in which beer is bought*	Country of inhabitant		
	Lithuania (n=272)	Estonia (n=328)	Latvia (n=228)
Poland	71%	8%	23%
Latvia	51%	76%	-
Estonia	7%	-	40%
Belarus	7%	1%	9%
Russia	4%	9%	10%
Sweden	3%	6%	9%
Finland	0.4%	13%	5%
Lithuania	-	8%	55%
On a boat / ferry / at the airport (tax free)	14%	24%	24%
Other	21%	14%	42%

* The sum of percentages per country adds up to more than 100 percent because respondents can choose from multiple answers.
Source: Consumer survey by Regioplan/EY/Spinter (2017)

Cross-border shopping is not limited to countries nearby

As stated, Baltic inhabitants do not just shop for beer in the most nearby countries. Estonians for example, also buy beer (besides other groceries) in Poland and Belarus, whereas Lithuanians also shop for beer in Russia. Baltic consumers are thus willing to travel substantial distances over land for their beer (and grocery) purchases abroad (mainly by car; see also section 2.5). In addition, Baltic consumers also shop for beer on boats, ferries and at the airport, where tax free beer can be bought.

Inhabitants from all three Baltic countries (albeit a smaller part of all cross-border shoppers) are also willing to travel over water to buy beer in Finland and Sweden. Since the excise rates on beer in the latter two Nordic countries are higher than in the Baltics, however, the reason to shop for beer in these countries is most likely not price-motivated (see section 2.1.4). Possibly, Baltic consumers shop for beer in these Nordic countries while on vacation there, or they buy beer as a gift for home.

²¹ According to the Central Statistical Office of Poland, Lithuanians are increasingly visiting Poland. In 2016, 5.5 million Lithuanians visited Poland (an increase of 2.8% in comparison with 2015). Meanwhile, total expenditures by Lithuanians in Poland (not just limited to beer) amounted to 330 million euros in 2016, which is an increase of 3.7 percent in comparison with 2015. Given the further increase of excise taxes in Lithuania in 2017, the total visits by Lithuanians to Poland and their expenditures may have risen even further in 2017.

²² According to a national survey, the main goal of Lithuanians with lower incomes to shop in Poland is to save money on differences in food prices. Lithuanians with higher incomes also shop for cheaper medicines in Poland (Dubnikovas, 2017).

²³ Primarily Lithuanians of higher income groups shop for beer in Latvia.

2.1.4 Reasons to shop abroad for beer

In explaining cross-border purchases of beer, high excise duties play a crucial role. This can be concluded from literature (Estonian Institute of Economic research²⁴, 2017; Dubnikovas²⁵, 2017; Lavik & Nordlund²⁶, 2009), from expert interviews²⁷, and is underlined by the results of our survey that was conducted among Baltic inhabitants in 2017. The main conclusion from all mentioned sources is that high excise duty rates lead to differences in beer prices in comparison with neighbouring countries and consequently result in intensive and frequent cross-border shopping.

Moreover, our survey shows that for more than half of all Estonian cross-border shoppers (53%), the purchase of beer abroad is (one of) the most important reason(s) to shop beyond national borders. This also applies to one out of four Latvian and Lithuanian (both 26%) cross-border shoppers (also see Annex I; AI.13).

Lower prices key reason for Estonians and Lithuanians to shop abroad

Respectively 77 and 74 percent of all cross-border beer shoppers from Estonia and Lithuania²⁸ consider lower prices a fundamental reason to buy beer abroad. This underlines that price differences (resulting from differences in excise duties levied between countries) are the primary reason to buy beer abroad for most cross-border shoppers, as they are confronted with higher prices for beer at home than in neighbouring countries (see table 2.4).

Lower prices are relatively less important for Latvians, due to lower excises

Price differences are less frequently mentioned by Latvians as a reason to shop abroad for beer, as Latvian excise duty rates are relatively low compared to beer excises levied by neighbouring²⁹ countries. Excise duties on beer are lower in neighbouring country Belarus³⁰ however, which is in fact a country where Latvians travel to for cross-border shopping (see also table 2.3).

Since price differences are less important for Latvians than for Estonians and Lithuanians to buy beer abroad, Latvians more often mention the availability of more types of beer abroad and the level of comfort that foreign shops offer as important reasons to buy beer beyond national borders.

Table 2.4 Why do you (or someone else within your household) buy beer abroad?

	Country*			
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)	Total (n=828)
Beer is cheaper there	77%	26%	74%	62%
I buy other groceries there	21%	36%	39%	31%
There are more types of beer available	20%	34%	18%	23%
Shopping is more comfortable there	4%	13%	7%	7%
Other	17%	33%	17%	21%

* The sum of percentages per country adds up to more than 100 percent because respondents can choose multiple answers.

Source: Consumer survey by RegioPlan/EY/Spinter (2017)

²⁴ Estonian Economic Institute of Research / Eesti Konjunktuuriinstituut (2017) 'Trends in the Estonian alcohol market due to the increase of excise taxes'

²⁵ Dubnikovas, M. (2017) *Apsipirkimų Lenkijoje/Latvijoje apklausa*

²⁶ Lavik, R., S. Nordlund (2009) *Norway at the border of EU – cross-border shopping and its implications.*

²⁷ In 2014, we conducted several interviews with academic professionals, experts on trade (food and drinks) and economists on the effects of high excise taxes. All experts came to the conclusion that high excise duty rates on beer are a reason for consumers to shop abroad and that these high excise rates can have negative consequences for national economies.

²⁸ According to a survey (different from ours) held among inhabitants of Lithuania, 90 percent of Lithuanian consumers that shop in Latvia for beer only travel there to shop for beer. While abroad, they buy more alcoholic products than usual (Dubnikovas, 2017).

²⁹ The excise duty rate on beer in Latvia in 2017 is not only lower than the EU neighbouring countries Estonia, Finland, Lithuania and Sweden (also see figure 2.1). Latvian excise duties on beer (22 euros per hectolitre of beer; 4.8 percent alcohol) are also lower than Russian beer excises (25 euros per hectolitre of beer; 0.5 - 8.6 percent alcohol).

³⁰ According to Euromonitor, the excise duty on beer in Belarus amounts to 15 euros per hectolitre of beer (0.5 - 7 percent alcohol). See: <http://www.euromonitor.com/beer-in-belarus/report>

Critical price differences to shop abroad for beer

More than a quarter (27%)³¹ of all Estonian beer consumers³², are encouraged to shop abroad for beer when beer is 20 percent more expensive in their home country than abroad. For Lithuanians and Latvians this applies to 22 and 19 percent of all beer consumers respectively. Almost one out of ten Estonian beer consumers (Estonian excise duties are among the highest in the EU) even go as far to shop abroad when beer in their home country is only 10 percent more expensive than abroad. Almost three out of four (73%) Estonian, two out of three (66%) Lithuanian and nearly half (49%) of all Latvian beer consumers would shop abroad for beer if the beer prices at home would be twice the amount that is charged for beer abroad (also see Annex I; AI.19).

With the same reasoning as above, higher prices in neighbouring countries can be a reason for consumers not to travel there for cross-border shopping. For example, almost a quarter of surveyed Polish consumers indicated never to shop in neighbouring country Lithuania, mainly because of the higher charged prices for beer in Lithuania (Dubnikovas, 2017).³³

Buying cheaper beer among most important reasons to shop abroad

For Lithuanian and Estonian cross-border shoppers, buying cheaper beer is, along with buying cheaper food, household goods and other alcoholic products, among the most important reasons to shop abroad. Cheaper beer is more often mentioned by Lithuanian and Estonian consumers as a reason to shop abroad than for example cheaper juices, water or other non-alcoholic beverages, fuel, cigarettes and other products.

Cross-border shoppers from Latvia on the other hand – where excise rates on beer are relatively low – less frequently mention cheaper beer as a primary reason to shop abroad.

In Estonia and Lithuania, one out of five consumers even stated that consuming cheaper beer abroad, in a restaurant or in a bar, was either a major reason or one of the reasons to travel abroad to consume beer over there, whereas in Latvia (where excise duties are relatively low) this applied to one out of ten consumers (also see Annex I; AI.17; AI.18).

Other reasons mentioned in general to shop abroad for beer are the fact that consumers – especially those from Lithuania and Latvia – buy other groceries there as well and that shops abroad sell more types of beer (see table 2.4).

2.2 Consequences for employment

Cross-border beer shopping by Baltic inhabitants, as presented in the previous sections, has an obvious impact on the national economies of the Baltic States. Cross-border shopping causes domestic sales of beer to reduce, which subsequently has a negative economic impact on, amongst others, the beer related retail sector in these countries.

The lower consumption of nationally sold beer, caused by cross-border shopping, leads to an estimated loss of 1,270 beer-generated jobs in the retail sector in the Baltic States. The negative impact on employment is most noticeable in Lithuania (estimated loss of 960 retail jobs). Also in Latvia and Estonia, jobs in the retail sector are lost because of cross-border shopping (a loss of 230 and 80 jobs respectively).

³¹ Excluding consumers that would also shop abroad for beer if there is no notable difference between the beer prices at home and abroad.

³² Retail prices for alcohol between Estonia and Latvia differ by more than 50 percent close to the border according to the Estonian Institute of Economic Research (2017). This is an important reason for Estonians to buy beer in Latvia, while Estonians also shop abroad for entertainment.

³³ In Poland, the excise duty is 22 euros per hectolitre of beer (4.8 percent alcohol) in 2017, whereas in Lithuania, consumers are charged 34 euros per hectolitre of beer in 2017 (4.8 percent alcohol).

The effects of cross-border shopping Baltic inhabitants that buy beer within another (neighbouring) Baltic State (and thus increasing retail turnover and employment in this cross-border shopping destination) have been taken into account in this calculation.³⁴

The retail sector is not the only sector, however, that is affected negatively by cross-border shopping for beer. Also in other sectors – such as the brewing sector itself and those which supply it – negative employment effects arise. This means that in addition to the 1,270 retail jobs that are lost, there are also fewer beer-generated jobs in other sectors.³⁵

According to experts³⁶, cross-border trade affects the entire structure of the retail sector. For example, cross-border trade negatively affects retail near the border, leaving little scope for small-scale shops selling regional products and local beers. As a consequence, cross-border shopping has a negative impact on the number of retail outlets and associated jobs. Moreover, cross-border shopping restricts the range of products offered.

2.3 Government revenue losses per country

In this section, we describe the loss of beer-generated VAT and excise duty revenues for the Baltic States separately, arising from legal cross-border shopping for beer by Baltic inhabitants. We calculated this loss of VAT and excise revenues to be approximately 40 million euros, 25 million euros and 11 million euros for the Lithuanian, Estonian and Latvian national governments respectively.³⁷ The results of these calculations for the three countries are displayed in figure 2.4 (see Annex III for further insight into the full calculations).

It should be noted that these figures are exclusively concerned with tax losses due to cross-border shopping for beer. If cross-border shopping for all alcoholic products would be taken into account (including wine, (hard) liquors etc.) the total tax losses due to cross-border shopping for alcoholic products would be significantly higher. According to the Estonian Institute of Economic Research (2017) for example, the estimated total uncollected tax revenues on all alcoholic products in 2017 is estimated at 75,3 million euros and will further increase to 156 million euros in 2018.

As stated in 2.1.2, a smaller part of this cross-border shopping by Baltic inhabitants does not happen beyond Baltic borders (e.g. Estonians that shop for beer in Latvia). This means that a certain part of cross-border shopping by consumers of one Baltic country will be to the benefit (in tax revenues) of another Baltic country. Taking this into account, the total loss of tax revenues (due to reduced national beer sales) for all three Baltic States together will thus be lower than the sum of the tax losses of the three Baltic States separately.³⁸ However, a large part of cross-border shopping for beer does happen outside Baltic borders, which not only means that the individual Baltic governments miss out on a substantial amount of beer-related tax revenues, but also that the collectively sustained tax losses by all three Baltic countries are substantial.

³⁴ The loss of employment is calculated by dividing the net reduction in retail turnover by the average turnover per employee in the retail sectors in the respective countries (retrieved from Eurostat, 2017). The net turnover reductions were estimated at approximately 14.8, 38.9 and 16.4 million euros in the Estonian, Latvian and Lithuanian retail sectors respectively. Note that these figures are not the same as the value of purchased beer abroad per country in Annex III, as these figures do not take account of the value of beer purchased abroad by Baltic consumers within other Baltic States.

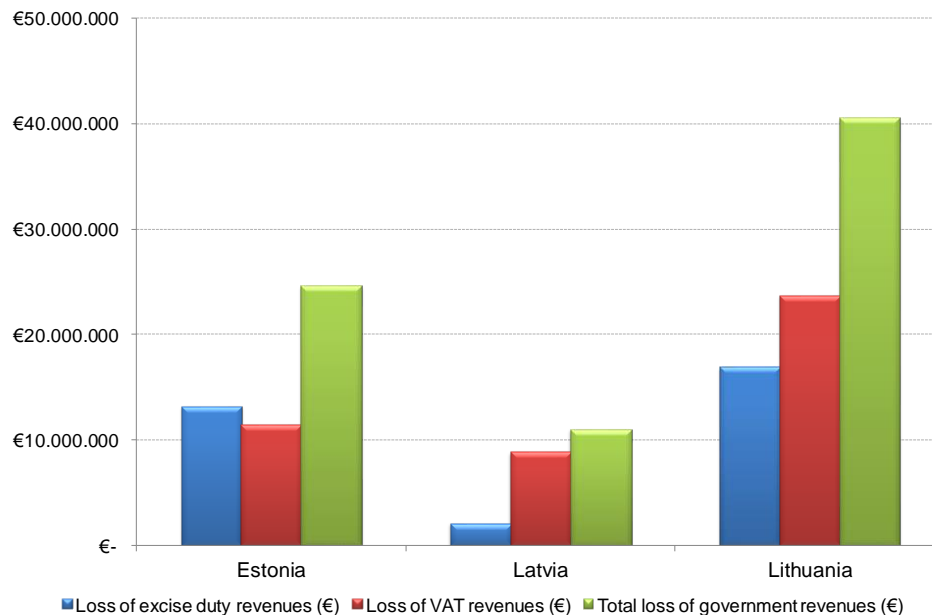
³⁶ In our previous study on the Nordic countries, we have spoken with academic experts, a trade expert (on food and drinks) and economists on this topic.

³⁷ According to the Estonian Institute of Economic Research (2017), the forecasted total collected excise revenues in Estonia in 2017, generated by all alcoholic beverages sold, is significantly lower than in 2016, as a result of recent excise duty increases.

³⁸ No data was available on the specific amounts that Baltic consumers spend within other countries than their home country. If we assume that consumers spend a comparable amount on beer abroad in each country they visit to buy beer (table 2.3), the total amount of VAT and excise duty revenues that is not collected within the Baltic States is estimated at 45 million euros annually.

It is important to note that, in addition to the losses of VAT and excise duty revenues, beer also generates less income tax and social contribution revenues for the Baltic governments, due to the loss of jobs in the retail sector (also see section 2.2). The extent of this effect is estimated at approximately 2.8 million euros in Lithuania, 1.1 million euros in Estonia and 0.2 million euros in Latvia.³⁹ It should be noted that this only includes losses arising from legal cross-border shopping by consumers. These figures would be higher if the losses caused by illegal trade were to be included as well.

Figure 2.4 Loss of VAT and excise duty revenues incurred by governments



Source: Calculations by Regioplan Policy Research / EY

2.4 Beer, a traffic builder for purchasing other products abroad

Cross-border shopping by inhabitants of Estonia, Latvia and Lithuania is not just limited to buying beer (also see table 2.4). Our study shows that buying beer abroad in fact also stimulates the purchase of other products than beer, each time Baltic consumers shop abroad. Beer can thus be called a 'traffic builder⁴⁰' for buying other products abroad as well. We estimate that buying beer abroad is co-responsible⁴¹ for a total loss of turnover on products other than beer of more than 755 million euros, 225 million euros and 133 million euros for the Lithuanian, Latvian and Estonian national governments respectively. In this calculation we assume that Lithuanian, Latvian and Estonian consumers respectively spend approximately 115, 88 and 70 euros on other products each time they shop abroad for beer (weighted averages based on table 2.5; also see Annex III). Even though Estonians buy more beer abroad than Latvians (in volume), the turnover losses on products other than beer sustained by the Latvian government are higher than those sustained by the Estonian government, as Latvians tend to spend more on other products, each time they shop abroad for beer (see table 2.5).

³⁹ Based on the job losses in the retail sector per country and the income taxes and social contribution taxes that are lost per country because of this.

⁴⁰ Traffic builder is a marketing term for products that draw consumers to a certain market or shop (in this study a foreign country), in order to buy other products there as well.

⁴¹ Since beer is only one of the (most important) reasons to shop abroad, it would go too far to state that beer is entirely responsible for this loss of turnover. For example, Baltic consumers also state that price differences in food and household goods are important reasons to shop abroad. A certain part of the loss in turnover would most likely also exist if Baltic consumers would not buy beer abroad.

Ultimately, for every euro that is not spent on beer in Baltic retail outlets (due to cross-border shopping), consumers also spend approximately 4.40 euros on other products abroad.⁴² The Baltic national governments also suffer VAT losses because of this effect. On a yearly basis, we estimate these losses to be approximately 131 million euros, 39 million euros and 22 million euros for the Lithuanian, Estonian and Latvian national governments respectively (see Annex III). With the same reasoning as in 2.3, the total amount of VAT revenue losses of products other than beer for all three countries together will be slightly lower than the sum of losses per individual Baltic country.⁴³

Table 2.5 How much do you (or someone else within your household) spend on average on other goods – for example groceries or services – when buying beer abroad?

	Country			
	Estonia (n=564)	Latvia (n=525)	Lithuania (n=498)	Total (n=1,587)
Less than 50 euros	52%	52%	38%	48%
50-100 euros	30%	25%	24%	26%
100-200 euros	13%	16%	24%	17%
200-500 euros	4%	4%	13%	7%
More than 500 euros	0.2%	3%	1%	1%
I do not purchase any other goods when I am buying beer abroad	-	-	-	-
Total	100%	100%	100%	100%

Source: Consumer survey by Regioplan/EY/Spinter (2017)

2.5 Impact on environment due to traveling to buy beer

Cross-border shopping for beer not only has a negative impact on national economies. Shopping abroad for beer is also seriously harmful for the environment. Our consumer survey reveals that, especially in Estonia and Lithuania, people who buy beer abroad mainly travel by car (see table 2.6).

Table 2.6 How do you (or someone else within your household) travel when you go abroad to buy beer? (multiple answers possible)

	Country			
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)	Total (n=828)
By car/van	85%	69%	90%	82%
By plane	13%	41%	18%	22%
By ferry	13%	13%	9%	12%
By train/bus	7%	21%	7%	11%
Other	4%	0.4%	-	2%

Source: Consumer survey by Regioplan/Ipsos (2014)

When Baltic consumers shop abroad for beer, they travel almost 340 kilometres on average. By means of comparison, people buying beer in their own country only travel 2.5 kilometres on average. These additional kilometres driven by consumers in order to buy beer abroad have an adverse environmental effect. We estimate the total number of additional kilometres travelled for cross-border shopping to be

⁴² This is a total weighted average of the amount that is spent on other products per euro spent on beer abroad, per Baltic country. This figure per country is calculated by dividing the loss of turnover on products other than beer by the value of beer bought outside national borders. See Annex III for the total expenditures on products other than beer per visit per country.

⁴³ If we assume that consumers spend a comparable amount abroad on products other than beer in each country they visit to buy beer (table 2.3), the total amount of VAT revenues that is not collected within the Baltic States is estimated at more than 120 million euros annually.

about 3.7 billion a year.⁴⁴ Assuming average CO₂ emissions of 130 grams per kilometre⁴⁵, the total additional CO₂ emissions, caused by cross-border shopping for beer by car, amount to approximately 487,400 tonnes.⁴⁶ This figure only includes additional CO₂ emissions from cars. Because emissions from boats, planes and other means of transportation are not included in our calculation, total additional CO₂ emissions will be even higher than 487,400 tonnes.

Cross-border shopping not limited to consumers that live near borders

Our study also shows that cross-border shopping is not just a local phenomenon, limited to Baltic consumers that live in near-border regions. Since the average traveling distance to buy beer abroad is 340 kilometres and as most of the cross-border shopping is done by car (especially in Lithuania and Estonia; see table 2.6), consumers from all three Baltic countries are practically willing to travel through their entire country to shop for beer abroad (given the geographic dimensions of the Baltic countries). This means that in all three Baltic States, cross-border shopping is done by inhabitants from all over the country and that cross-border shopping for beer as such, can be called a nationwide phenomenon.

2.6 Illegal trade

The EU law permits inhabitants of all EU Member States to shop for limited amounts of beer abroad for domestic consumption. High rates of taxation for beer can encourage customers to explore more affordable options, which may also include illegal trade.

Although objects of higher value than beer such as tobacco, spirits and/or wine – to which the same EU cross-border shopping principles apply – are more obvious targets for illegal trade, significant price differences between countries also result in illegal trading activities for beer. This mainly applies to the trade in large amounts of beer from abroad for domestic consumption exceeding the admissible quantities or with the purpose of selling it on to consumers in the home country. An illegal alternative is homebrewing, with the purpose of selling the brewed products on to consumers. However, such illegal brewing activities are more often applied to hard liquors than to beer.

Economic activities (cross-border trading, production and consumption) related to beer which circumvent the legal tax system have received a lot of attention in public and academic debate. According to the Estonian Institute of Economic Research (2017)⁴⁷ for example, 17 percent of Estonian consumers that bought alcohol in Latvia in 2016, had done this to fulfil the order of their acquaintances and 1 percent directly resold the alcohol bought abroad. According to estimates, a total of 1.4 million litres of illegal alcohol was consumed by Estonians in 2016 (including wine, liquors etc.), causing the state to miss out on an estimated 15.6 million euros of tax revenues.

2.6.1 Implications of illegal trade

Both legal and illegal cross-border trade have negative consequences for national economies. Besides the described (primarily negative) economic effects, experts also see a relationship between illegal trade and negative effects on public health. According to experts, it is most often the underaged who consume illegally imported beer.

To conclude, differing beer prices in neighbouring countries created by differences in excise tax levels not only lead to cross-border trade for domestic consumption, but also to cross-border trade (and to a smaller extent homebrewing) with the aim of reselling and making a profit. This is against the EU law and increases opportunities for the underaged to consume alcoholic beverages.

⁴⁴ This is calculated by multiplying the number of times inhabitants of the Baltic States travel abroad to purchase beer (see Annex III) by the additional kilometres travelled: 11,050,700 * (339 - 2.5) = 3,749,393,450.

⁴⁵ See https://ec.europa.eu/clima/policies/transport/vehicles/cars_en

⁴⁶ This calculation is based on relatively new cars. In practice, the CO₂ emissions will be even higher as many Baltic residents also use older cars.

⁴⁷ The Estonian Institute of Economic Research (2017) *Alcohol market, consumption and harms in Estonia, Yearbook 2017*



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Annexes

A

Annex I – Consumer Survey

A.I.1 RESULTS

Figure AI.1 How much beer do you (or someone else within your household) buy on average per month within Estonia / Latvia / Lithuania?

Country	Mean (in litres)	N
Estonia	6,0	1,003
Latvia	5,3	1,005
Lithuania	5,4	1,011

Figure AI.2 Did you (or someone else within your household) shop for beer abroad during the last twelve months? (multiple answers possible)

	Country		
	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)
Yes	33%	23%	27%
No	67%	77%	73%

Figure AI.3 Do any of your friends or neighbours go abroad to buy alcohol?

	Country		
	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)
Yes	69%	37%	57%
No	6%	14%	8%
I don't know	25%	49%	35%

Figure AI.4 What alcoholic products do you (or someone else within your household) purchase when you shop abroad? (multiple answers possible)

	Country		
	Estonia (n=495)	Latvia (n=423)	Lithuania (n=419)
Beer	66%	54%	65%
Hard liquor	70%	53%	59%
Wine	51%	55%	48%
Cider	38%	12%	11%
Other	3%	4%	4%

Figure AI.5 How many times did you (or someone else within your household) approximately shop for beer abroad during the last twelve months?

Country	Average number of times	N
Estonia	3,9	328
Latvia	3,7	228
Lithuania	5,7	272

Figure AI.6 In which countries did you (or someone else within your household) shop for beer during the last twelve months?

Country in which beer is bought*	Country of inhabitant		
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)
Poland	8%	23%	71%
Latvia	76%	-	51%
Estonia	-	40%	7%
Belarus	1%	9%	7%
Russia	9%	10%	4%
Sweden	6%	9%	3%
Finland	13%	5%	0.4%
Lithuania	8%	55%	-
On a boat / ferry / at the airport (tax free)	24%	24%	14%
Other	14%	42%	21%

Figure AI.7 How do you (or someone else within your household) travel when you are going abroad to shop for beer? (multiple answers possible)

	Country			
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)	Total (n=828)
By car/van	85%	69%	90%	82%
By plane	13%	41%	18%	22%
By ferry	13%	13%	9%	12%
By train/bus	7%	21%	7%	11%
Other	4%	0.4%	-	2%

Figure AI.8 Could you please indicate the approximate distance between your regular shopping place for beer and your home?

Country	Average distance in km	N
Estonia	2.4	328
Latvia	2.2	228
Lithuania	3.1	272

Figure AI.9 Could you please indicate the approximate distance between your regular shopping place for beer abroad and your home?

Country	Average distance in km	N
Estonia	270	328
Latvia	538	228
Lithuania	311	272

Figure AI.10 How many litres of beer do you (or someone else within your household) purchase on average each time when you are shopping for beer abroad?

Country	Mean (in litres)	N
Estonia	9.3	328
Latvia	3.7	228
Lithuania	7.5	272

Figure AI.11 Why do you (or someone else within your household) shop for beer abroad? (multiple answers possible)

	Country		
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)
Beer is cheaper there	77%	26%	74%
I am buying other groceries there	21%	36%	39%
There are more types of beer available	20%	34%	18%
Shopping is more comfortable there	4%	13%	7%
Other	17%	33%	17%

Figure AI.12 Which costs/considerations do you take into account when deciding to shop for beer abroad? (if relevant, please also take into account purchases someone else did for you abroad)

	Country		
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)
Fuel costs	67%	36%	48%
Rate of exchange	6%	15%	36%
VAT rates abroad	17%	13%	30%
Excise rates abroad	31%	20%	25%
Journey time	35%	35%	22%
Rates ferry	6%	10%	2%
Tolls (bridges, roads etc.)	1%	2%	2%
Other	11%	11%	10%
None	-	17%	11%

Figure AI.13 How important is the purchase of beer as a reason to shop abroad?

	Country		
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)
It is the most important reason	10%	5%	4%
It is one of the reasons	43%	21%	22%
It is a minor reason / not important	47%	74%	74%

Figure AI.14 How much do you (or someone else within your household) spend on average on beer when you are shopping for beer abroad?

	Country		
	Estonia (n=328)	Latvia (n=228)	Lithuania (n=272)
Less than 50 euros	74%	93%	93%
50-100 euros	19%	6%	5%
100-200 euros	7%	1%	2%
200-500 euros	0.3%	-	0.4%
Total	100%	100%	100%
Average price paid per litre of beer abroad (€)	3.9	5.5	2.7

Figure AI.15 How much do you (or someone else within your household) spend on average on alcoholic beverages other than beer when you are shopping for beer abroad?

	Country		
	Estonia (n=495)	Latvia (n=423)	Lithuania (n=419)
Less than 50 euros	72%	89%	89%
50-100 euros	22%	9%	9%
100-200 euros	6%	2%	2%
200-500 euros	0.2%	0.2%	0.2%
Total	100%	100%	100%

Figure AI.16 How much do you (or someone else within your household) spend on average on other goods – for example groceries or services – when buying beer abroad?

	Country		
	Estonia (n=564)	Latvia (n=525)	Lithuania (n=498)
Less than 50 euros	52%	52%	38%
50-100 euros	30%	25%	24%
100-200 euros	13%	16%	24%
200-500 euros	4%	4%	13%
More than 500 euros	0.2%	3%	1%
I do not purchase any other goods when I am buying beer abroad	-	-	-
Total	100%	100%	100%

Figure AI.17 The price differences compared to your home country of which products are important reasons to shop abroad? (multiple answers possible)

	Country		
	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)
Food	35%	51%	68%
Household goods	26%	42%	54%
Other alcoholic beverages (except beer)	53%	17%	28%
Beer	51%	10%	27%
Juices, water, other non-alcoholic beverages	13%	14%	24%
Fuel	44%	23%	19%
Cigarettes	26%	12%	11%
Other products	12%	18%	9%
Price differences are not a reason to shop abroad	23%	25%	18%

Figure AI.18 Are price difference compared to your home country a reason to travel abroad to consume beer over there (in a restaurant or bar)?

	Country		
	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)
Yes, price differences were a major reason for me to travel abroad to consume beer over there in the last twelve months.	9%	5%	6%
Yes, price differences were one of the reasons for me to travel abroad to consume beer over there in the last twelve months.	12%	6%	12%
No, I did consume beer abroad in the last twelve months but not because of price differences.	25%	42%	34%
No, I did not consume beer abroad in the last twelve months.	54%	47%	48%
Total	100%	100%	100%

Figure AI.19 I am encouraged to shop abroad for alcoholic beverages when prices in my home country for alcoholic beverages are:

	Country		
	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)
10 percent higher than abroad	8%	8%	6%
20 percent higher than abroad	19%	11%	16%
30 percent higher than abroad	20%	14%	19%
50 percent higher than abroad	17%	7%	13%
Twice or more the amount that is charged abroad	9%	9%	12%
The same as abroad	2%	5%	2%
Price differences are not relevant for my decision to shop abroad	18%	39%	24%
Other / noting	7%	3%	7%
N.A.	-	4%	1%

Figure AI.20 How did you find out about cheaper alcohol in a neighbouring country?

	Country		
	Estonia (n=1,003)	Latvia (n=1,005)	Lithuania (n=1,011)
From media	66%	14%	60%
From friends	57%	48%	55%
From social networks	35%	20%	32%
From family members	26%	12%	19%
From foreigners	6%	7%	8%
Other	4%	14%	1%
I found out myself in stores	-	-	5%
N.A.	2%	9%	2%

A.I.1 DETAILS RESPONCS

Figure AI.21 Response by country

	Frequency
Estonia	1,003
Latvia	1,005
Lithuania	1,011
Total	3,019

Annex 2 – Literature

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Annex 3 – Calculation

Calculation effect cross-border shopping on VAT and excise duty revenues*

	Estonia	Latvia	Lithuania
Households (within border regions)	573,400	835,700	1,391,600
% beer consumers	85%	83%	83%
Target group	487,400	693,600	1,155,000
Number of times per year	3.9	3.7	5.7
Total number of visits per year	1,900,900	2,566,300	6,583,500
Litres of beer bought per visit	9.3	3.7	7.5
Total volume of beer purchased abroad (litres)	17,602,000	9,367,100	49,573,800
Average reported consumer price paid per litre abroad (€)**	3.9	5.5	2.7
Total value of beer purchased abroad (€)	68,146,000	51,198,300	136,278,600
Excise duty per litre beer (€)	0.75	0.22	0.34
% VAT	20%	21%	21%
Loss of excise duty revenues (€)	13,201,500	2,060,800	16,855,100
Loss of VAT revenues (€)	11,357,700	8,885,700	23,651,700
Total loss of government revenues (€)	24,559,200	10,946,500	40,506,800
Expenses on products other than beer per visit abroad (€)	70.2	87.8	115.0
Losses of turnover on products other than beer	133,443,200	225,192,800	757,102,500
Loss of VAT revenues (€) on products other than beer	22,240,500	39,083,100	131,398,000

* Values greater than 1,000 have been rounded up to the nearest 100.

** Calculated based on the results of a survey in which consumers were asked how much they approximately spend on beer outside national borders (see Annex I; Figure AI.14).



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