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Impact of Changes in Excise Tax Rate for Strong Alcohol on Consumption and State Revenues in Latvia

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***Abstract*—**State tax revenues in most countries started to decrease during the recession. Government of Latvia decided to compensate the decline by increasing rates of several taxes including excise tax on strong alcohol. The total increase in 2009 constituted 42% and the rate increased from 896€ to 1 266€ for 100l of absolute alcohol. Since then this has had a negative impact on consumption volumes and the split between legal and illegal market. The legal alcohol sales decreased by almost 50% (by volume), consequentially having negative effect on the State revenues from VAT and excise tax. Estimated results for 2010 are indicating 54 million € decrease in VAT, excise tax and other taxes versus 2008 (excise tax -19 million €, VAT -30 million €, other taxes -5 million €). The paper aims to analyze impact of the increase in excise tax on consumption patterns, State revenues and competitiveness of the local companies to draw up proposals for the state authorities regarding more effective tax policies. The analysis reveals a relationship between excise tax rate, illegal alcohol market and State revenues. The results can be used to improve excise tax system and effectiveness in Latvia.

***Keywords*—**State revenues, alcohol market, excise tax, competitiveness, consumption.

I. Introduction

SCIENTISTS who are doing researches in the alcohol field mostly focus on alcohol abuse and its problems such as death rates, alcoholism, health and social costs of alcohol.

Latest data from World Health Organization (WHO) shows that harmful use of alcohol takes 2.5 million lives each year, 320 thousands of them are young people (15-29) resulting in 9% of all deaths in that age group [1].Elizabeth Brainerd and David M. Cutler in their research "Autopsy on an Empire: Understanding Mortality in Russia and the Former Soviet Union" found increase in alcohol consumption as one of the main reason of increase in mortality and decrease in life expectancy (-6.6 years in the 5 years period from 1989 to 1994). Their estimations showed that about a quarter of the increase in mortality (1.7 years) was the result of increase in alcohol use [2]. Similar results were achieved also by P. Walberg, M. McKee and V. Shkolnikov in work "Economic change, crime, and mortality crisis in Russia: a regional analysis", the results indicated how the alcohol has contributed to the regional diversity in the decline in life expectancy in the early 1990's [3]. Empirical analysis of J. Mullahy and J. L. Sindelar in research "Health, Income, and Risk Aversion: Assessing Some Welfare Costs of Alcoholism and Poor Health" showed alcoholism as a costly health problem [4] while report of the European commission on the Alcohol in Europe estimated a 270 billion € (1.3% of the EU GDP) intangible losses in the European Union from harms caused by the alcohol such as suffering, lost life that occur because of the criminal, social and health harms etc [5].

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S. Cnossen has shown that harmful alcohol use is a very important health and safety issue in the EU and suggested that earnings from excise tax should be as high as loss from the harm caused by the alcohol [6].

The paper aims to analyze impact of the increase in excise tax on consumption patterns, State revenues and competitiveness of the local companies to draw up proposals for the state authorities for more effective tax policy.

II. Alcohol Market and Consumers in Latvia

Alcoholic beverages represent a complex market characterized by:

1. heavy impact of economic downturn with anticipated recovery only starting within few years (see Table 1);
2. high impact of consumers on market development which is typical for fast moving consumer goods (FMCG) market with high turnover rate, hence the market is very competitive and new product propositions are developed and launched instantly following the changes in demand – as any FMCG market, consumer loyalty is rather low;
3. strong alcoholic beverages are distinct from other types of drinks due to relatively much higher importance of brand attributes and category specific consumption patterns [7]. Category and brand propensity is remarkably influenced by consumer-related factors such as need states, lifestyles and even sensory preferences [8]. On other hand – strong spirits are more vulnerable to counterfeiting than specific light ones (e.g. wine) thus posing a risk to legal market volumes and consequentially – state tax revenues.

TABLE I
Latvian alcohol market dynamics by category 2006-13, '000 dal [

Category	2006	2007	2008	2009
Beer	145 449	139 661	133 614	126 256
Wine	13 770	14 907	14 304	11 757
Vodka	11 918	13 636	13 589	9 384
Brandy	1 646	1 823	1 691	1 006
Other	19 268	23 668	22 098	15 669
TOTAL	**192 052**	**193 696**	**185 296**	**164 072**
Category	**2010E**	**2011F**	**2012F**	**2013F**
Beer	127 248	128 297	128 275	128 281
Wine	10 892	10 588	10 630	10 951
Vodka	8 321	7 859	8 054	8 505
Brandy	846	788	810	849
Other	13 772	12 997	12 770	12 857
TOTAL	**161 078**	**160 529**	**160 539**	**161 443**

Risk of consumers switching to non-commercial alcohol as a result of price increase is higher within strong spirits categories as consumers are more driven by social value set that facilitates individualistic maximization of economic value

of consumer choice – see Table 2 [7]. Consumer social values are analyzed on statistically representative value set of 2010 population survey assessing individual importance of 32 most relevant social values to population grouped in 8 domains applying Social Values methodology [10].

TABLE II
RELATIVE IMPORTANCE OF CONS. VALUE BY BEVERAGE CATEGORY, % [7]

Segment → ↓ Value domain	General population	Brandy	Vodka
n =	1457	567	802
Rationalist	8.9	9.2	9.2
Traditionalist	8.7	8.1	7.8
Peaceful	12.3	14.8	15.3
Domestic	19.5	23.7	23.8
Profound	12.7	15.3	15.0
Self-centred	9.3	5.9	6.0
Ambitious	2.3	2.9	2.6
Maximalist	7.2	10.6	9.9

Average importance of rationalist, maximalist and profound values in strong spirits are significantly above average for general population – such values promote maximization of individual's economic value derived from a choice of product. Domestic values in economic downturn play similar role – saving behaviour. These consumer value patterns suggest that price increase within product category might serve as a trigger for consumers to enter non-commercial alcohol market. As excise tax plays a major role in price build for strong spirits, this issue has to be properly examined.

III. Alcohol Excise Tax in Latvia

In the economics recession period State revenues in most of all countries started to decrease. Government of Latvia decided to fight against this trend by introducing new taxes and increasing an existing ones'. Excise tax for strong alcohol was one of those taxes that were increased the first. In the February of 2009 excise tax increased by 31% from 896 to 1 174€. Unfortunately it didn't deliver the anticipated result as the state revenues decreased, therefore another increase followed in July and excise tax increased from 1 174 to 1 266 €.

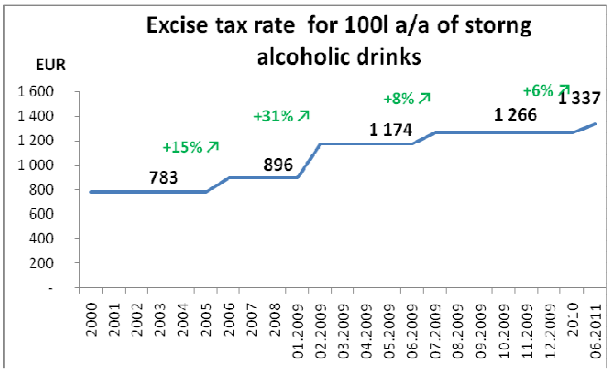

Fig. 1 Changes in Excise tax rate for strong alcohol [11], [12]

In 2009, increase of excise tax constituted 42%, that's almost three times more than the total increase of eight previous years.

The drastic changes in excise tax for strong alcohol led to changes in consumption and increase in illegal alcohol share since taxation is an issue worldwide [13], [14]. 1266 € per 100 a/a is 5.07 € (1266.4*0.4/100) per 1l 40% alcohol volume bottle, that's approx. 50% of the 1l volume bottle vodka price in shop. If we add VAT, the total tax impact in the final price would constitute approximately 70% (depending on product). If compared to other alcohol groups, excise tax for strong alcohol is the highest one and delivers 87-91% of the total state revenues from alcohol excise tax [11].

TABLE III
EXCISE TAX RATES PER 1L OF ALC. BEVERAGES DIVIDED BY GROUPS [15].

	Description and rates		Example of rates per 1l bottle	
	Description	Rate on 01.01.2011	Alc. strength	Excise tax, €
Wine	EUR/100l	64,03		0,64
Ciders	EUR/100l	64,03	5%	0,64
< 15%	EUR/100l	64,03	15%	0,64
15-22%	EUR/100l	99,60	20%	1,00
>22%	EUR/100l a/a	1 266,36	40%	5,07
Beer	EUR 1l per a/a	3,10	5%	0,16

IV. Impact of the Changes in Excise Tax on Volumes and State Revenues

The relatively high price elasticity implies that, if alcohol prices go up, consumption goes down and, if prices go down, consumption goes up [16]. According to official statistics sales volumes of the strong legal alcohol in 2009 and 2010 decreased by 37% (vs. 2008) and 10% (vs. 2009) respectively. Total decrease in strong alcohol sales volumes from 2008 to 2010 constituted 43% while there were almost no changes in other groups.

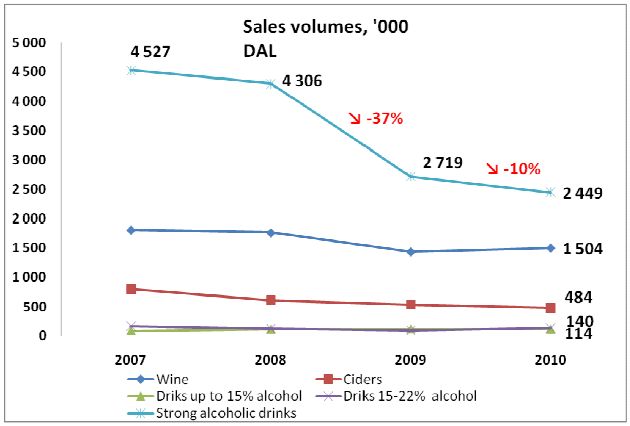

Fig. 2 Changes in sales volumes by groups [15]

Analysis excludes beer, because it's sales depends not only on price and excise tax but also on weather conditions as the drink is mostly used in the summer time (~62% of annual volumes) and beer sales in sunny summers differs significantly from rainy ones [17]. According to WHO, Latvia is one of the

leading countries in production and consumption of strong alcohol per capita [1]. Government of Latvia while increasing excise tax for alcohol were focusing mostly on strong alcohol segment because it takes the highest share (approximately 90% [15]) in the total revenues from excise tax, but due to the shift of consumers to cheaper legal (such as beer, wine and ciders whose changes in excise tax rates were very tiny) and illegal products, share of the group in volume decreased significantly from 61-62% in 2007 and 2008 to 52% in 2010 (-10 pp), therefore having negative effect on local producers.

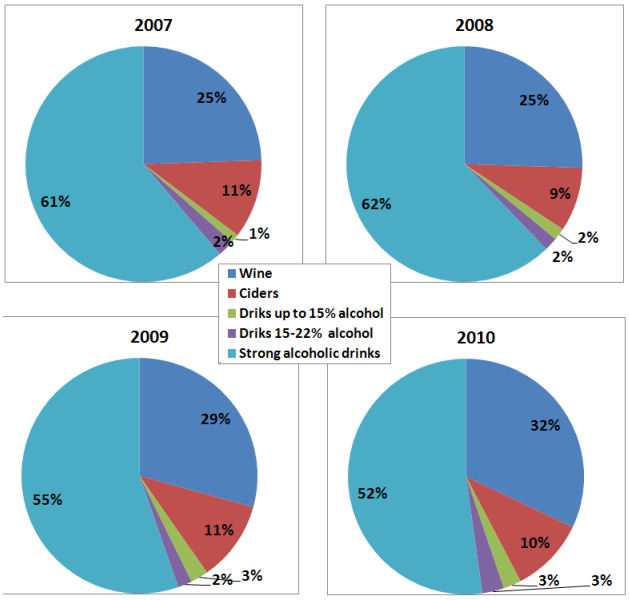

Fig. 3 Group shares 2007-2010 [15].

As a result of decrease in strong alcohol sales volumes, state revenues from it as an excise tax decreased by 21 mln € while total decrease constituted only 19 mln €.

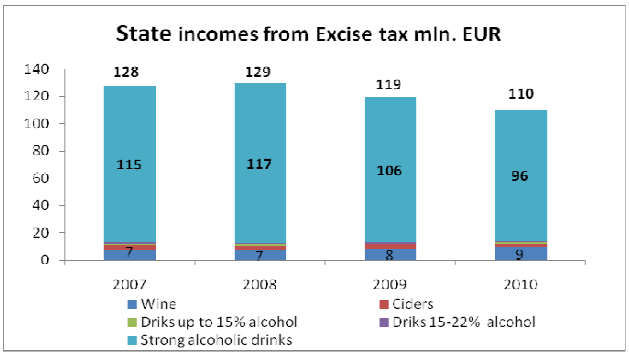

Fig. 4 State revenues from excise tax by alcohol groups million EUR [15]

Decrease in sales volumes led to decrease in turnover and as a result from 2008 to 2010 it decreased by 144 mln € that leads to another 30.2 mln loses from VAT.

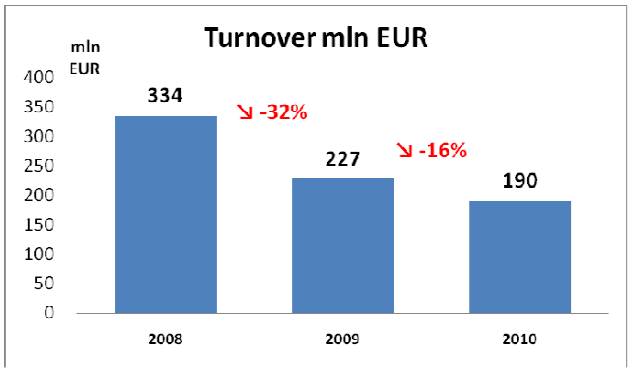

Fig. 5 Changes in alcohol turnover [19]

According to the Association of Latvian alcohol producers and distributors, changes in excise tax policy led to another 5 mln € decrease in state revenues from other taxes related to the direct business activities e.g. income tax and social tax [18] therefore total negative effect on state revenues constituted 19 (Excise tax) + 30(VAT) + 5 (Other taxes)= 54 mln €.

The situation in Latvian alcoholic beverage market is a typical example when an increase in taxes does not give the planned effect, because market players are looking for new ways to decrease their expenses. Many manufacturers switched from spirit to malt-base products in the production of ready-to-drink pre-mixes (RTD) in order to pay lower taxes, because excise tax rate for beer (in comparison with other alcohol types) is much more favourable. Consumers, in their turn, switched to cheaper products, including illegal ones. The border with Russia and Belarus also contributed a lot to thriving illicit alcohol market. Drinking habits in Latvia and these two countries are very similar already since Soviet times. At the same time, prices of vodka, brandy and other strong spirit drinks in these countries are much lower than in Latvia, thus creating attractive profit opportunities for smugglers [20].

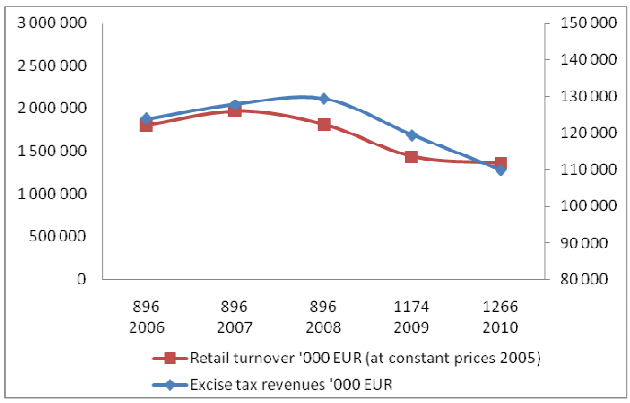

Fig. 6 Changes in Excise tax rate for strong alcohol per 100l a/a, retail turnover and state revenues from excise tax, 2006-2010 [11],[15],[21]

** Y2009consists of two increases in excise tax rate (February 1 to 1174 EUR, July 1 to 1266 EUR per 100l a/a)*

Fig. 6 shows, that while the excise tax rate for strong alcohol was stable, the excise tax revenues were slightly rising. Even in 2008, when the retail trade turnover in constant prices

started to decrease, excise tax revenues were still increasing. Afterwards, in 2009, when excise tax rate increased, state revenues started to decline, but the overall trend was quite similar to the retail turnover trend. Taking into account the fact that excise tax rate was risen twice in 2009, it is not possible to tell the exact optimal excise rate, but the curve shows that the last increase to 1 266 EUR was strictly above it. In its analysis (2011), Association of Latvian alcohol producers and distributors has estimated optimal tax rate at the level of 1060-1140 [18] and it is very close to the figures that could be estimated from the chart above (~896-1266). According to World Health Organization (WHO), the total global alcohol consumption has not changes in last 60 years [1]. This information supports the findings of the most analysts of the Latvian alcohol market about increasing share of illegal alcohol market [17], [18], [22].

V. Conclusion

Alcohol market is one of those markets which have its positive and negative sides. It leads to millions of losses from the harm caused by the alcohol but gives millions of revenues as taxes. Excise tax works as an instrument for balancing loses and gains.

As a result of changes in excise tax for strong alcohol, the total state revenues decreased by approximately 54 mln €. The new tax policy – focusing only on one alcohol group led to changes in consumption: decrease in strong alcohol sales - the leading alcohol production industry in Latvia, therefore having a negative impact on the local producers. While doing changes in the tax policy state officials should focus not only on the excise tax rate but also on the "big picture" – results of the previous changes in excise tax, effect on local producers (because they give also working places and pay other taxes such as income tax, social tax etc), consumption, state revenues from other taxes (such as VAT, income tax, social tax etc.) and illegal market.

Illegal alcohol market has a negative impact on State revenues, mortality, legal sales volumes and producers. Latest estimated results shows that illegal alcohol market takes approx. 40% share in the total sales, therefore this is the field where State officials should maximize their attention and increase the fight against it.

Latvian excise tax rate for strong alcohol is above the optimal therefore every further increase will lead only to decrease in State revenues from it.

Acknowledgment

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