
BALTIC CONSUMER AND ALCOHOL CHOICE

Preliminary communication

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Abstract

The paper considers the relationship between socio-economic factors and alcoholic beverage preferences in the Baltic countries. The consumer groups are structured by the main types of alcoholic product – beer, wine and strong ethyl alcohol. Certain common features are identified, which characterize those different alcohol consumer groups. Understanding the relationship between preferences by alcohol type and socio-economic characteristics is an important when designing public alcohol related policies and regulations. The analyses are based on a consumer survey (IARD, Washington DC) held simultaneously in all three Baltic countries in 2016. A multinomial logistic regression model is used to predict the relationship between preferred alcoholic beverage and socio-economic characteristics.

Keywords: alcohol, alcohol consumption, consumer choice

1. INTRODUCTION

Alcohol consumption and production is an important part of life for European societies. However, alcohol is a kind of specific good – perhaps the consumption of no other product has so many different facets, being connected to various aspects of life – from culture to health, from economics to individual liberties. Drinking alcohol has been a significant part of the culture and traditions of many nations over millennia. Alcohol production, distribution and sales forms a significant part of the economy for many countries. Alcohol related taxes are an important component of public budget revenue. However, excessive drinking causes tremendous harm to society and the wellbeing of its citizens.

This paper considers a specific issue in alcohol consumption – consumer choice factors in the Baltic countries. This issue interests both private alcohol producers as well public sector institutions.

Historically, alcohol consumption among the Baltic nations has been high in the European context (Alcohol in the European Union, 2012, WHO 2014). Various aspects of alcohol consumption in the Baltic countries are rather well covered (Helasoja 2007, Klumbiene, 2012, McKee 2000, Zaborskis, 2006).

However, there is an issue that is not covered academically at all. That is the relationship between the choice of alcohol beverage type and consumer socio-economic characteristics. Are there any common features that characterize consumers who prefer wine over beer or vodka? Our aim is to fill this research gap and describe the relationship between choice of alcoholic beverage and the socio-economic characteristics of consumers.

Our specific focus here is applicable primarily to public sector alcohol policy design. For example, understanding consumer preferences provides useful information when designing effective alcohol policies. The recent sharp increase in alcohol excise duties in Estonia serves as an example of inefficient alcohol policies, as this has caused consumers to change their purchasing behaviour on a grand scale by acquiring their alcohol from neighbouring countries (PWC, 2019).

There are certainly many different factors that make up consumer preferences in regard to alcoholic beverages. Many of those preferences are difficult to explain, as all individuals are unique human beings. On the other hand, there are certain standardized socio-economic factors that shape alcohol beverage preferences (e.g. gender, age). Once again, our study aims to highlight the relationship between alcohol beverage preferences in the Baltic countries and socio-economic factors that characterize certain consumer groups. This represents important input when designing social and economic policies related to alcohol production, taxation and consumption.

The paper is structured in the following way. The second chapter explains the general methodological background to the issue, providing the grounds for analysing alcoholic beverage preference, while also presenting an overview of the literature on the topic.

The third chapter generalizes the research data and describes various consumer groups across the Baltic countries.

In the fourth chapter, an econometric model is constructed to identify and quantify the relationship between alcoholic beverage choice and the socio-economic characteristics of Baltic consumers. The chapter will also interpret and discuss the findings.

2. METHODOLOGICAL FRAMES

As mentioned, alcoholic beverage preference involves a combination of many factors, including individual, social and regulatory components. As mentioned above, the empirical and theoretical foundation is limited to generalizing about individual choice in relation to certain alcoholic beverages. We set three pillars to form the theoretical framework for our study – regional drinking pattern, regulatory environment and the socio-economic characteristics of the drinking population. In general, those pillars when combined can explain individual alcoholic beverage preferences.

First, it has been emphasized that drinking customs are related to certain similarities that can be seen in neighbouring groups of countries (regions). Individual drinking habits are influenced by traditional social norms and customs. Such regional patterns of alcohol consumption have been identified and labelled Mediterranean, Central European and Nordic (Bloomfield, 2003, Ionchev, 1998, Mäkela, 2006 Popova, 2007, Room, 2010, WHO, 2012).

Those patterns are characterized by the main alcoholic beverage consumed, the intensity of drinking (e.g. weekly drinking events), tolerance of public drunkenness in society and certain other factors.

The Mediterranean pattern of alcohol consumption is characterized by wine drinking and consumption is regular and frequent across genders and ages (Ionchev, 1998, Mäkela, 2006 Popova, 2007). However, consumption is not excessive and public drunkenness is not acceptable.

The Central European pattern of alcohol consumption on the other hand, is based on a beer drinking culture. Similarly, drinking is frequent and a natural part of everyday life. However, drinking is more intensive among males and attitudes regarding public drunkenness are more relaxed.

The third pattern of regional alcohol consumption is Nordic. Drinking in the Nordic group is characterized by consuming stronger alcohol (e.g. vodka) than in other European regions, drinking is irregular (e.g. limited to weekends) and often excessive (binge drinking).

As the movement of people across Europe increases, drinking habits across regions are also harmonizing and unifying (Leifman, 2001). Therefore, the drinking patterns identified above are loose patterns and somehow literal frames for characterizing drinking habits.

In recent decades, regional consumption patterns in Europe have been analysed on the basis of politico-economical developmental phase. I mean here that the group of transition economies have been identified as a specific geopolitical entity. A specific pattern of alcohol consumption has been identified in Eastern and Central European transition countries (Ionchev, 1998, Murphy 2012, Popova, 2007).

The three Baltic States – Estonia, Latvia and Lithuania – are considered to inhabit a relatively similar economic space. Despite each having a unique culture and national heritage, over the centuries they have been included within the same territorial governance systems and state structures. They are located spatially closely to each other, are comparable in terms of population, developmental level and economic structure. They share common values and are related by economic activities and personal ties. Therefore, the region is considered as a relatively homogenous entity with distinctive national characteristics.

What about the Baltic mode of alcohol consumption?

First, the Baltic pattern of alcohol consumption has been influenced by their historical background and cultural heritage. Historically, beer brewing and vodka distillation have played a significant role in their economy and culture. They have been under the influence of the German beer culture and the neighbouring tradition in Nordic countries for consuming strong alcohol. During the Soviet period, vodka drinking prevailed (Helasoja, 2007, McKee, 2000, Zaborskis, 2006). In recent decades, since regaining their independence, European drinking trends have contributed their share to the consumption patterns in the Baltic countries.

Second, individual preferences for beverage type are related to the administrative regulations imposed on alcohol consumption. We mean here restrictions on the legal drinking age, marketing, shop opening hours, number of sales outlets and numerous other limitations. A specific part of the regulation of consumption is through taxation. Alcohol excise duties transform the structure of consumption and direct consumer preferences towards certain types of beverages. For instance, “tuned” excise duties channel consumers to prefer domestic consumption or lighter beverages over stronger spirits. Our study also demonstrates how taxation has an impact on consumer preferences and choice of alcoholic beverage.

Third, alcohol consumption intensity and mode often relates to various characteristics of consumer groups such as gender, location, professional status and so on (Ahlström, 2001, Chaiasong 2018, Holmila 2005, Mäkela 2006, Wilsnack 2000). Our specific interest is to study the relationship between the socio-economic characteristics of various consumer groups and their preferred alcoholic beverage.

There are many indicators that can be used to create and structure alcohol consumer groups. The current study is based on the consumer characteristics included in the IARD study (see below) as the most important and significant predictors of alcohol consumption.

3. SOCIO-ECONOMIC CHARACTERISTICS AND ALCOHOLIC BEVERAGE CHOICE

As mentioned, understanding alcoholic beverage preferences in consumers is an important issue both for private companies and public sector institutions. Our aim is to demonstrate a relationship between general socio-economic characteristics and choice of alcoholic beverage in the Baltic countries.

The paper uses data collected from the study of Baltic alcohol consumers conducted by the International Centre for Alcohol Policy, currently International Association of Responsible Drinking

(IARD, USA) in 2016 (*IARD Homepage*). The author also participated in preparing and designing the questionnaire alongside other experts from each of the Baltic countries and IARD.

The study was carried out as a cross-sectional questionnaire study, simultaneously in all three countries. The respondents to the questionnaire were selected randomly from the drinking age population to represent the demographic and locational structure of each society. The respondents were asked to complete a questionnaire during face-to-face interviews. Altogether 3,777 respondents were included in the survey sample from across the Baltic countries. On the basis of the data gathered from those respondents, consumer groups were identified, described and compared.

First, we will look at how groups of alcoholic beverage drinkers were identified (Table 1). The respondents were divided into three groups based on their preferred alcoholic beverage – beer, wine or strong alcohol. Any other preferences (e.g. for alcopops, cocktails, fortified wine etc.) were added to one of the three main alcohol types on the basis of beverage strength (e.g. alcopop drinkers are considered beer drinkers). Often, individuals at a drinking occasion do not consume only one single type of alcoholic beverage, but different ones. Also, they can consume different drinks during a drinking period. Therefore, the main preferred beverage for the individual is identified on the basis of the alcoholic beverage most consumed on an absolute alcohol basis (hereinafter ABV) during a year.

The table demonstrates the number of respondents from all Baltic States and their division into beverage consumption groups.

Table 1 Beverage consumption groups

Main beverage	EST		LAT		LIT	
	N	% of total	N	% of total	N	% of total
Beer	313	34.1%	366	37.8%	333	32.2%
Wine	338	36.8%	294	30.4%	328	31.7%
Spirit	268	29.2%	307	31.7%	374	36.1%
Valid	919	100.0%	967	100.0%	1035	100.0%
Missing	331		301		224	
Total	1250		1268		1259	

Source: author's calculations

As presented, the groups are relatively equal in terms of size across the countries; thereby, demonstrating the similarities between Baltic alcohol consumers. There are slightly more strong alcohol consumers among Lithuanians and more wine drinkers in Estonia. Although, the largest group by preferred type of beverage is different in all countries, we must remember that those groups are not the same on the basis of pure alcohol consumed. The line *Missing* depicts people who either do not drink or did not reveal their preferences.

Second, 12 socio-economic factors were initially selected to characterize the main groups of consumers (Table 2 and 3, gender and location are excluded). Those indicators are frequently used in alcohol related studies (Ahlström, 2001; Helasoja, 2007; Klumbiene, 2012; Murphy, 2012). From the final model, 3 factors were excluded, which were not significant in any country for predicting alcoholic beverage preference. Those were marital status, professional status and native language. Consequently, there remained 9 characteristics that emerged directly from the survey or were constructed on the basis of the survey records combined with other statistical data (e.g. excise tax burden or pure alcohol consumption).

As Table 2 demonstrates, on average beer drinkers are younger and strong alcohol consumers are older. Education level in the different groups varies from country to country but tends to be slightly higher among wine drinkers.

Table 2 Consumer groups on the basis of socio-economic characteristics

		Age, years	Education, years	Monthly disposable income, EUR	Total taxes annual income, %
EST	Non ¹	47.9	13.0	775.9	
	Beer	41.2	13.3	926.5	1.2%
	Wine	46.7	14.1	919.4	0.5%
	Spirit	48.8	13.3	814.6	2.8%
LAT	Non	49.4	12.7	491.2	
	Beer	41.3	12.8	664.3	0.8%
	Wine	45.2	14.1	731.1	0.2%
	Spirit	49.1	13.2	660.7	2.3%
LIT	Non	45.6	13.2	705.7	
	Beer	39.1	13.3	840.9	0.3%
	Wine	42.1	13.2	786.9	0.3%
	Spirit	49.2	12.9	789.9	1.1%

Notes: 1. Non-drinker or not answering

Source: author's calculations

Monthly income is generally higher in Estonia but it is difficult to identify any distinct pattern over the groups of beverage consumers.

As mentioned, public regulations over alcohol production and consumption play a significant role in the choice of alcoholic beverage. One distinctive public regulation is alcohol taxation, which usually has various purposes. Imposing taxes on alcohol (e.g. excise duties and VAT) has an impact on the price of alcoholic products. In turn, the price channels consumer choice of beverage type. Usually, the alcohol excise burden is regressive over income (Cnossen, 2011; Crawford, 2010; Lowry, 2014; WHO 2014). Expenditure on (and therefore taxation from) alcohol products by lower-income individuals tends to be relatively greater than higher income individuals. Therefore, the relative tax burden enables us to link taxation and its impact to alcohol beverage choice.

As Table 2 demonstrates, imputed alcohol taxes related to alcohol consumption are in the range of 0.2–2.8% of income. Therefore, strong alcohol consumers bear the highest alcohol related tax burden across the Baltic countries. At the same time, their average income is lowest in the case of Estonia and Latvia.

Table 3 presents data on the volumes consumed and daily intensity in the different groups.

Table 3 Alcohol consumption by consumer groups

		Total ABV annually, litres ¹	Total units ² per day	Drinking days annually
EST	Beer	5.97	6.9	73.7
	Wine	1.87	5.3	26.7
	Spirit	8.38	14.6	49.2
LAT	Beer	5.44	6.2	69.2
	Wine	1.27	4.5	22.0
	Spirit	6.73	11.3	46.8
LIT	Beer	4.60	5.6	72.0
	Wine	2.05	4.1	38.8
	Spirit	6.07	12.0	41.4

Notes:

1. ABV – pure alcohol

2. Alcohol unit consists of 10 grams of pure alcohol

Source: author's calculations

The greatest amount on a pure alcohol basis is consumed by strong alcohol drinkers, which exceeds wine drinkers 3–4 times. Once again, all three countries demonstrate a similar pattern. Strong alcohol consumers also drink more per occasion (units per day) – this is more than double the volume when compared with beer consumers. However, their drinking frequency is evidently lower than in the case of beer drinkers – strong alcohol drinkers have fewer drinking occasions, but on a day when they do drink, they drink more intensively.

The following section will elaborate an economic model for describing the relationship between alcohol beverage consumed and the socio-economic characteristics of groups of consumers.

4. MODEL AND FINDINGS

The following will introduce a multinomial logistic regression model to estimate the impact of various socio-economic factors on alcoholic beverage choice. Such a model is a practical instrument when the dependent variable is categorical. It makes it possible to compare and contrast the specific characteristics of different groups and assess the probability of consumers belonging to one or another group.

The model predicts the probability of different possible outcomes of a categorical variable (alcohol beverage preference by type), depending on a set of socio-economic predictors (which are binary or real-value variables). The model includes a reference group against which all other categories or groups are compared. In our case the reference group is beer drinkers. The model then predicts the probability of descriptors that make wine and strong alcohol drinkers different compared to the reference group (Tables 4 and 5). Due to the format of this article, only the values of the parameters and significance estimates are given. Once again, the parameter value depicts the likelihood that a certain predictor differs from the reference group values.

The outcomes from the chosen model are statistically significant; goodness-of-fit satisfies the required criteria and the likelihood ratio test is significant. The model explains a rather substantial portion (pseudo R^2 , Nagelkerke) of the dependent variable fluctuations.

Table 4 presents the characteristics of Baltic wine drinkers that cause them to choose wine over the beer. It also indicates whether distinctive features of wine drinkers exist and whether the choices made by Baltic alcohol consumers are homogeneous.

As Table 4 presents, the model predicts between 44–62% (total model) of the choice of alcohol type. There do exist significant parameters, which separate Baltic wine lovers from beer drinkers. First of all, wine drinkers are more likely women than men. There is a greater likelihood that their disposable income is higher; they spend more on alcohol and therefore pay more alcohol taxes.

A higher level of education also separates wine drinkers from beer drinkers in Estonia and Latvia, but not in Lithuania. The same pattern is visible across age groups in the Baltic countries – as drinkers get older they consume more wine than beer.

Table 4 Wine vs. beer consumers, group parameters

	Estonia		Latvia		Lithuania	
	B	Sig. ¹	B	Sig.	B	Sig.
Intercept	-3.999	0.000	-5.17	0.000	-3.665	0.000
Gender	1.935	0.000	2.581	0.000	2.45	0.00
Total ABV annually	-0.016	0.620	-0.049	0.370	-0.755	0.000
Monthly disposable income, EUR	0.001	0.005	0.001	0.001	0.002	0.000
Total taxes ² in annual income, %	20.97	0.025	48.19	0.019	862.4	0.000
Education, years	0.098	0.016	0.157	0.000	0.052	0.248
Drinking days annually	-0.013	0.000	-0.015	0.000	-0.008	0.012
Total alcohol units per day ³	0.011	0.635	0.016	0.613	-0.029	0.410
Age, years	0.036	0.000	0.018	0.007	0.05	0.455
Location (urban, rural)	-0.437	0.022	0.204	0.301	0.338	0.103
Pseudo R ² (Nagelkerke)	0.443		0.513		0.620	

Notes:

1. Significance ($p < 0.05$).

2. Total taxes are alcohol excise duties and value added taxes, imputed to consumption

3. One unit consists of 10 grams of pure alcohol

4. Reference group is men

5. Reference group is the urban population

Source: author's calculations

Wine consumers drink less frequently than beer drinkers. They also drink less pure alcohol in Lithuania, but that is unclear in the case of Estonia and Latvia. Daily drinking habits (alcohol units per day) is not a differentiating factor in all countries. The rural population in Estonia drinks less wine than beer; in Latvia and Lithuania a person's location is not a significant factor in defining alcohol beverage preferences.

The following will compare strong alcohol consumers with beer drinkers (Table 5) and highlight the distinctive features of strong alcohol drinkers.

As with wine drinkers, strong alcohol consumers are likely to drink less pure alcohol than beer drinkers. That is a rather surprising result, as Table 3 demonstrates average annual consumption of strong alcohol is higher compared with other drinks in all Baltic countries. However, despite strong alcohol drinkers having fewer drinking days, they drink more intensively *per drinking occasion*. This is an indicator of excessive or binge drinking. The disposable income of the strong alcohol group is likely higher and they spend more money on alcohol products.

Table 5 Strong alcohol vs. beer consumers, group parameters

	Estonia		Latvia		Lithuania	
	B	Sig ¹ .	B	Sig.	B	Sig.
Intercept	-3.848	0.00	-5.348	0.000	-6.472	0.000
Total ABV annually	-0.042	0.047	-0.181	0.000	-0.846	0.000
Monthly disposable income, EUR	0.000	0.165	0.001	0.000	0.002	0.000
Total taxes ³ in annual income, %	25.71	0.001	78.21	0.000	951.87	0.000
Education, years	0.027	0.528	0.075	0.084	0.072	0.129
Drinking days annually	-0.009	0.001	-0.008	0.014	-0.018	0.000
Total alcohol units per day ³	0.113	0.000	0.195	0.000	0.110	0.000
Age, years	0.054	0.000	0.042	0.000	0.053	0.000
Gender ⁴	0.573	0.008	1.171	0.000	1.003	0.000
Location ⁵	-0.639	0.001	-0.097	0.620	0.434	0.047
Pseudo R ² (Nagelkerke)	0.443		0.513		0.620	

Notes:

1. Significance ($p < 0.05$).

2. Total taxes are alcohol excise duties and value added taxes, imputed to the consumption

3. One unit consists 10 gram of pure alcohol

4. Reference group is men

5. Reference group is urban population

Source: author's calculations

Education plays a different role in the Baltics. More educated individuals drink more strong alcohol than beer in Estonia and Latvia; in Lithuania, educational level is not a significant predictor.

The rural population tends to drink less strong alcohol in Estonia, but the situation is not clear in Latvia and Lithuania.

It is interesting that women in all countries are also likely to prefer strong alcohol more than beer. Whatever the main choice of the Baltic female group – wine or strong alcohol – they favour beer less than men.

There is a significant likelihood that strong alcohol consumers have higher monthly incomes than beer consumers, and they spend more on alcohol as the total alcohol tax burden demonstrates.

As results of the model demonstrate, there are existing distinctive features, which define alcohol beverage choice in the Baltic countries. Studying those specific characteristics is important when designing adequate and successful alcohol policies. Without a strong understanding of the factors that influence consumer choice, it is impossible to modify consumer behaviour in accordance with public preferences.

Those alcohol policies may include the design of the alcohol taxation system – the level excise duties on different alcohol products. An important part of alcohol policy involves regulations – outlet opening permits, opening hours, drinking age limits or limits on alcohol advertising. A detailed understanding of the characteristics of alcohol consumers allows us to implement focused and effective alcohol policies.

5. CONCLUSIONS

This paper explores the relationship between the major alcoholic beverages consumed and the socio-economic characteristics of consumers in the Baltic countries. This aspect of alcohol consumption has not been considered in earlier studies, and therefore the analysis contributes to a better understanding of alcohol consumer behaviour. The paper has a practical application for private economic activities as well when designing public alcohol related policies.

The study is founded on data collected by the International Centre for Alcohol Policy (now IARD) in the period 2015–2016 in the form of *door-to-door* personal questionnaires, prepared and delivered simultaneously in all Baltic countries. Certain variables are generated in addition (e.g. alcohol tax burden) on the basis of the statistical data. Based on the collected data, a multinomial logistic regression model was constructed to predict socio-economic factors that determine preferences for alcoholic drinks. The Baltic countries are considered as one entity because of expected significant similarities in their patterns of alcohol consumption.

Three general conclusions were made.

First, there are existing distinctive features, which differentiate consumer groups on the basis of alcohol beverage choice. This is important input for the effective designing of alcohol policy. For example, understanding the differences across various consumer groups is valuable information when designing the structure of alcohol excise duties or launching campaigns to raise public awareness of how alcohol can do harm.

Second, the variables included in the model, allow us to predict 44–62% of the fluctuations in the dependent variables. Therefore, without considering those variables it is impossible to calibrate public alcohol related policies efficiently. Similarly, understanding those socio-economic factors allows the private sector to better focus its economic activities.

Third, there are considerable similarities across the Baltic countries in terms of the patterns of alcohol consumption. That allows us to conceptualize a Baltic mode of alcohol consumption based on regional proximity and historical personal, economic and cultural relations.

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