CONTRADICTORY ROLE OF ALCOHOL EXCISE TAX IN THE TAX SYSTEM OF WELFARE STATE: EU CASE

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Abstract
The authors of this paper draw their approach on the key concept of the welfare state. According to Roosevelt (1910), “The object of government is the welfare of the people. The material progress and prosperity of the nation are desirable chiefly so far as they lead to the moral and material welfare of all good citizens.” This target – moral and material welfare of all citizens – should be the essential thing when developing tax policy from the welfare approach. Therefore the present article has focused on the theoretical and practical aspects of both positive and negative roles of alcohol excise taxes in the context of the welfare state. In spite of the harmonization of excise taxes in the European Union (EU), the policy and actions of the national governments on alcohol excise taxes differ, because the need for regulation using this tax is based on factors of social and economic environment in the country. So, systematic framework is necessary to assess efficiency of EU countries governments’ alcohol excise tax policy in the context of the welfare state, to determine the role of alcohol excise tax in the structure of the welfare state tax system and to identify key factors influencing effectiveness of alcohol excise tax regulation.

Key words: alcohol excise tax; tax system; tax policy; welfare; welfare state.

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Introduction
In spite of a great interest in alcohol taxation and many attempts (Sopek, 2013; Mäkel, Österberg, 2009; Chaloupka, et al, 2002; Cnossen, 2007; Cook, Moore, 2002; Bloomfield, et al, 2010) to assess the effectiveness of alcohol tax policy interventions for reducing excessive alcohol consumption and related harms, the dual role of excise taxes could be noticed. Firstly, governments have used their political authority to raise revenue throughout history to finance the goals of government – to protect individual freedoms and to promote the well-being of society as a whole. In other words, one of the reasons of excise taxes is to raise revenue for public purposes. Secondly, alcohol is a subject to excise taxes for reducing alcohol
consumption and alcohol-related problems. Therefore, the dual role of alcohol excise taxes, both as a controlling of alcohol consumption and as a fiscal generating government budget revenue source, has to be assessed.

But excessive alcohol consumption contributes to a variety of other economic and social problems. Based on economic approach, alcohol taxation decreases the development, growth, and the general appeal of the alcohol market, as well as negatively influences the employment in this particular market. On the other hand, unregulated consumption of the alcohol evokes negative social problems, including health problems, unintentional injuries, criminality, and morbidity and lose of productivity which in turns decrease the welfare of society. Thus, these contradictory consequences of alcohol consumption must be taken into account then developing efficient alcohol excise policy by the national authorities. Nevertheless, in many cases (Sproge, 2011) the national taxation policy has fiscal orientation, which, in turn, can have a negative impact upon social processes in the society. Tax reforms do not always provide expected macroeconomic results. When they adopt tax decisions, policy makers do not always have a clear overview of the possible result and consequences caused in this way. In modern economic development processes there is a growing need for the government to increase the socio–economic regulation. In order to achieve this objective, it is necessary to implement an effective tax policy. A set of tools of alcohol tax policy can bring the positive effect when the principle of systemic approach is applied when all the government activities are mutually coordinated and utilised in a subordinated manner for implementation of the welfare state development priorities.

Despite the scientific research in the area of alcohol taxation policy carried out by the authors, a uniform opinion on the use of taxation policy tools in different economy development stages has not been developed. There are several controversial results, which have to be studied when analysing and assessing the alcohol taxation policy and its effectiveness in all EU member states with significantly different levels of their economic and social development. The lack of such studies which includes the welfare level both as a consequence and the assumption for setting alcohol tax policy was the main factor, which determined the selection of this research.

Research object of the paper is effectiveness of alcohol taxation policy from the welfare state approach. Research aim is to identify the contradictory role of alcohol excise tax and to assess the effectiveness of alcohol taxation policy from the welfare state approach in EU countries. The following tasks were defined for achieving the goal: to disclose the concept
Theoretical review

Writing about contradictory role of alcohol excise tax in the tax system of Welfare State makes this paper a critical one. Does the Welfare State with effective economic, social and tax policy contribute to the reduced consumption and alcohol-related harms or is it a solution for big taxes trying to finance the main goals of government. Before analyzing the impact of excise taxes, both as a controlling factor on consumption and as a revenue source, however, a concept of Welfare State and its main objectives have to be considered.

It is important to note that at present there is no concrete and universal definition of the Welfare State. Urbe (2012) in one comparative study in EU countries asked “Is the Welfare State a closed concept? Or is it just an open concept where you can add and withdraw protection measures, allowances, control mechanisms, etc.” The authors of this paper draw their approach on the key concept of Welfare State as an open one, not using it as an ideological tool or argument.

In general terms, the Welfare State is a concept of government in which the state plays a key role in the protection and promotion of the economic and social well-being of its citizens. Simply put, the Welfare State is the safety-net for those suffering of unemployment, inequality and poverty. The basic principles and objectives of Welfare State are social justice, social solidarity, freedom and poverty relief. In other words, researches agree, that we need Welfare State for reducing poverty, reducing inequality and social exclusion. Therefore, nearly all studies (Esping-Andersen, 2002; Conde-Ruiz, and Profeta, 2007; Urbe, 2012) found a strong and direct connection initially between Welfare State and a social policy.

Analyzing the Welfare State concept and measurement, it is necessary to note that welfare in the state is determined by efforts – input and outcomes – output. Welfare efforts, which are measured counting how much the state spends on social policy (e.g. sum of spending on all social programs in GDP or on several different groupings on social programs),
constitutes only a precondition for a better individual life. By efforts we achieve outcomes – particular unemployment rate, poverty rate, income inequality and life expectancy. If we can measure poverty, inequality, and social exclusion, then we can see what results the Welfare State has.

Social policy encompasses a wide range of materials and tools. The obvious means of state social policy are cash benefits. Another element of a modern welfare state is tax policy. It should be discussed under social policy not only because social security benefits are funded from taxes and contributions, but also because taxes are a key instrument for influencing the distribution of incomes and wealth in a society.

Based on viewpoints of various authors (Cnossen, 2007; Chaloupka, et al, 2002; Young, Bielińska-Kwapisz, 2002, etc.), tax policy could be defined differently. Tax policy is viewed as a set of measures implemented by the government in the area of taxes and taxation, and a tool, which the government uses to regulate social economic processes in the society. Majority of authors define tax policy as a set of measures, administration decisions or actions implemented by the government. Thus, tax policy is defined as a constituent part of the economic policy or state policy, as a set of tools for regulating social and economic processes.

Upon the result of literature sources overview we can conclude that in practice sets of tools of taxes are very different from the point of view of both time and environment. Any action of the tax policy, which is not justified, is subjective interference with processes of the national economy and lead to distortion. Thus, it follows that efficiency of the set of tool of taxes depends on the level at which the state defines the content of taxes and its contradictions. Tax policy reflects the government ability to adopt independent decisions and not to modify them for a long period of time. By means of manipulating the set of tools of taxes the government can both encourage and hinder economic and social development of the country. Regulation of taxes usually applies to the whole national economy. Tax policy depends on the current government policy and interests of leading groups in society. If the society does not accept tax norms, they yield a negative result and have to be reviewed. When the efficiency of tax policy is examined, it is important to understand which tools of tax policy encourage economic growth and increase the welfare level in the country.

Tax harmonization process is evaluated as one with the higher complexity in the overall EU integration process. EU member states can freely choose a tax system, which they consider most suitable, desirable and compliant to EU Regulations. Besides, each proposal in the EU in the area of taxation should be implemented based upon the principle of
proportionality and subsidiary. But the need for the common regulation of the excise tax for some goods arises because of the specifics of this tax and the significant impact upon competition conditions between member states. Applying the principals of the common market in the area of taxation requires to avoid any tax discrimination for goods. This is the reason for the implementing in EU harmonization policy of indirect taxes, including alcohol excise tax. Harmonisation of excise tax applies to setting of the minimum rates, coordination of the structure of taxable goods, coordination of the procedure of circulation of these goods and payment of the tax. Currently the regulation of alcohol excise tax in EU is unique example of common international tax system, which consists of 28 different countries (Trasberg, 2015).

Nevertheless tax harmonization process in EU is still on-going and under discussions of academics and practitioners. When analysing the tax harmonization situation in European Union and summarizing the problematic aspects in this area, the main barriers – political, economic, fiscal, and social – to complete full harmonization could be identified (Lenartova, 2011). The different hierarchy of individual states’ social preferences can also be seen in their different tax policies.

2 Research Methodology

The main target of the empirical research is to identify the differences in the alcohol taxation policy in the EU countries and to assess the impact of this policy from the welfare state approach.

The following research methods were used in developing of the research:

• qualitative, the method of describing, reflecting and systemizing numerical information, including data necessary for disclosing the relationship between alcohol taxation policy and the welfare state indicators in the country;

• quantitative methods, including method of arithmetical averages, Min-Max normalization, aggregation, and grouping method on the basis of selected quantitative criteria;

• mixed (qualitative and quantitative), including analysis and synthesis method.

Research period is from year 2004 to 2014. The selected time period is long enough for reflecting differences in alcohol taxation policy in EU countries.

Data sample. All 28 EU member states were included in the research despite of the fact that they joint EU in different periods. Majority of the countries in the research sample
were the members of EU for the whole research period, but Romania, Bulgaria joint EU in 2007 and Croatia – in 2013. But the data for these countries were available for the whole research period.

Several statistical indexes and ratios reflecting the welfare state were used for analysis: unemployment rate, at-risk of poverty rate, GINI, healthy life years and life expectancy. Alcohol taxation policy were characterized using the ratio of alcohol excise tax income to the total tax income in the country, standard rates of excise tax for different types of alcoholic beverages and alcohol consumption per capita (aged 15 and over).

**Research data** was collected on the basis of their accessibility and reliability criteria. Eurostat, European Commission, OECD, World Health Organization database and compilations of statistics data of these databases were used.

**The logic and the stages of the empirical research.** Research was structured in 4 stages:

In the first stage we grouped all the EU countries on the base of alcohol excise tax income to the total tax income in the country ratio. We used annual average of this ratio for each EU country during the research period (2004-2014). 3 groups of countries were set on the base of different level of this ratio. We used for identifying the groups interval of 1 % (group 1 – ratio lower than 1 %; group 2 – ratio in interval from 1 to 2 %; group 3 – ratio higher than 2 %).

In the second stage we calculated and analyzed the annual average of alcohol consumption per capita and average standard excise tax rates for main types of alcoholic beverages (beer, wine and ethyl alcohol) in all EU countries and in the same groups, set in the first stage, seeking to disclose if the level of alcohol consumption in the countries could be explained by the difference in the standard rates of alcohol taxation.

In the third stage we calculated the annual averages of all selected indicators and ratios reflecting the welfare state for each EU country during the research period (2004-2014) inside the 3 groups of countries set in the first stage. Stage 3 also deals with normalization of values of indicators reflecting the welfare state factors. Normalization is required prior to any data aggregation as the indicators in a data set often have different measurement units. The Min-Max normalization method is applied to normalize the indicators’ values. Min-Max normalizes indicators to have an identical range [0,1] by subtracting the minimum value and dividing by the range of the indicator values:
\[ I'_{qc} = \frac{x'_{qc} - \min_c (x'^u_q)}{\max_c (x'^v_q) - \min_c (x'^u_q)}; \]  

where: \( x'_{qc} \) is the value of indicator \( q \) for country \( c \) at time \( t \).

In addition, the Welfare state index, including selected ratios and indicators for the welfare state reflection using calculated averages was formed for each EU country. The following intervals for evaluation of the Welfare state index were determined: \(<0.25 – \) minimal level; \( 0.25-0.5 – \) low level, \( 0.51-0.75 – \) medium level; \( >0.75 – \) high level.

- In the fourth stage using the synthesis of the results of the previous stages we effort to identify and to explain the fiscal and regulatory role of the alcohol excise tax and the efficiency of alcohol taxation policy in EU countries from the welfare state approach.

**Limitation of the research.** Due to the limited volume of this paper the authors do not analyze alcohol excise tax policy in each EU country in details. It should be noted that the set of problems of the welfare state and tax policy is very broad and it is not possible to study all the related issues in this paper, therefore the complete set of tools of alcohol excise tax policy is not analyzed in detail in this research. Most attention has been focused on the role of tax system in the welfare state, tax policy and alcohol tax policy in particular in the EU countries in the context of alcohol excise tax harmonization in EU and its efficiency.

### 3 Research Results

Analysing fiscal role of alcohol excise tax in the countries’ tax systems on the base of techniques presented in the methodology, EU member states were put into 3 groups by average of alcohol excise tax income to the total tax income in the country ratio during the research period (see Tab. 1).

It should be noted that the alcohol excise tax income to the total tax income ratio in the EU countries during research period vary in relatively small interval (from 0.15 to 3.33). More than half of the EU member states (19 countries) are in the group 1 (ratio lower than 1 %). Such a big number of countries in the group 1 was presumably determined by the number of the old member states (which joined EU before 1995). The 70 % of countries in the group 1 is made up from old member states which each alcohol excise tax income to the total tax income in the country ratio is no more than 0.42 % (except for the Greece, Ireland and Sweden).
**Tab. 1: Groups of the EU Countries on the Base of Average Alcohol Excise Tax Income to the Total Tax Income in the EU Member States Ratio, %**

<table>
<thead>
<tr>
<th>Group 1 ( &lt;1.0 %)</th>
<th>Group 2 (1-2 %)</th>
<th>Group 3 (&gt; 2 %)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands (0.15); Italy (0.17); Luxembourg (0.22); Portugal (0.25); Austria (0.27); France (0.31); Germany (0.34); Spain (0.35); Denmark (0.40); Belgium (0.42); Cyprus (0.46); Greece (0.52); Malta (0.55); Slovenia (0.61); Czech Republic (0.67); Ireland (0.71); Hungary (0.71); Denmark (0.72); Belgium (0.78)</td>
<td>Bulgaria (1.03); Finland (1.50); Romania (1.54); Slovakia (1.55); United Kingdom (1.61)</td>
<td>Poland (2.08); Latvia (2.43); Lithuania (2.75); Estonia (3.33)</td>
</tr>
</tbody>
</table>

Source: Compiled by the authors on the base of EUROSTAT data.

Groups 2 and 3 are each made up from five and four EU member states. In group 2 (ratio in interval from 1 % to 2 %) new member states are dominating. The least number of countries (4 countries) is in the group 3 which consist only of the new EU member states all of which have joined EU in 2004.

The results of analysis in the first stage allow concluding that the fiscal role of alcohol excise tax is not significant enough. At the same time it could be observed that the fiscal role has tendency to grow in the Central Eastern European countries which joined EU in 2004 and later and are included in groups 2 and 3.

In the second stage, analysing regulatory role of alcohol excise tax on the base of techniques presented in the methodology, average alcohol consumption level in the EU countries during research period was identified and average standard alcohol excise tax rates in the main alcoholic beverages groups were used to disclose the regulatory role of set tax rates on the level of alcohol consumption in the EU countries. Alcohol consumption per capita and standard excise tax rates for main types of alcoholic beverages in EU countries are presented in table 2.

**Tab. 2: The Alcohol Consumption Average and Current Standard Excise Tax Rates for Main Types of Alcoholic Beverages in the Groups of EU Countries**

<table>
<thead>
<tr>
<th>Groups</th>
<th>Indicators</th>
<th>Alcohol consumption, Litres/capita (aged 15 and over)</th>
<th>Beer, per hl, Eur</th>
<th>Wine, per hl, Eur</th>
<th>Ethyl alcohol, per hl, Eur</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AVERAGE MIN–MAX</td>
<td>10.42 5.43–13.43</td>
<td>5.66 0.79–30.69</td>
<td>71.75 0.00–520.65</td>
<td>1779.84 693.72–5455.55</td>
</tr>
<tr>
<td>2</td>
<td>AVERAGE MIN–MAX</td>
<td>11.34 9.87–13.08</td>
<td>5.13 0.75–12.82</td>
<td>142.00 0.00–370.99</td>
<td>2140.18 562.43–4555.00</td>
</tr>
<tr>
<td>3</td>
<td>AVERAGE MIN–MAX</td>
<td>11.52 10.08–13.05</td>
<td>2.02 1.24–3.32</td>
<td>73.83 37.21–111.98</td>
<td>1559.02 1320.67–2172.00</td>
</tr>
<tr>
<td>TOTAL</td>
<td>MIN–MAX</td>
<td>5.43–13.43</td>
<td>0.75–30.69</td>
<td>0.00–520.65</td>
<td>562.43–5455.55</td>
</tr>
</tbody>
</table>

Source: Compiled by the authors on the base of EUROSTAT, OECD and World Health Organization data.
The excise tax rates of alcoholic beverages are irregularly spread according to both main types of alcoholic beverages and the different groups of the EU countries. The average alcohol consumption level in the EU countries during research period varies in interval from 5.43 to 13.43. The largest variation of annual alcohol consumption data of the EU countries is in the group 1 and is equal to 8.00 litres/capita, while in the group 2 - 3.21 litres/capita and in the group 3 - 2.97 litres/capita.

In the group 3 we can observe the lowest average ethyl alcohol and beer excise tax rates compared to the groups 1 and 2. In these groups of countries we can see higher alcohol excise tax rates (except for the wine excise tax rate in the group 1) and lower alcohol consumption per capita levels. Therefore lower alcohol excise taxes encourage bigger consumption of alcoholic beverages in the group 3 countries and determine higher alcohol excise tax income to the total tax income in the country ratio. On the other hand the alcohol excise tax income to the total tax income in the country ratio in the group 3 is the highest among all of the EU countries’ groups. We can observe that the alcohol taxation policy in the group 3 EU countries is more oriented to the bigger alcohol excise tax collection or fiscal role of alcohol excise tax is more important than regulatory.

Analysis and assessment of the level of the welfare state in EU countries was based on the averages of the social and economic indicators in the groups of the EU countries. From the results of analysis the sensitivity of these indicators to alcohol consumption is observed (see Tab. 2 and 3).

In 2004–2014 the averages of indicators reflecting the welfare state were changing in the groups of the EU countries. In the group 1 we observed the highest GDP per capita rate, lowest unemployment, poverty rates, as well as income inequality (GINI) and the highest life expectancy at birth. Indicators in the other groups (2 and 3) reflect the lower level of economic development and social welfare in the countries. It could be observed the direct relation between the level of economic development and welfare and alcohol consumption in the EU countries.

Tab. 3: The Social and Economic Indicators in the Groups of the EU countries

<table>
<thead>
<tr>
<th>Groups</th>
<th>Indicators</th>
<th>Economic indicator</th>
<th>Social indicators</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>GDP per capita in PPS</td>
<td>Unemployment rate, %</td>
</tr>
<tr>
<td>1 AVERAGE</td>
<td>MIN–MAX</td>
<td>109.7</td>
<td>59.6–256.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>109.7</td>
<td>59.6–256.0</td>
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</tbody>
</table>
### Table 1: Welfare State Index and its Subindexes of the EU Countries Groups

<table>
<thead>
<tr>
<th></th>
<th>AVERAGE</th>
<th>MIN–MAX</th>
<th>AVERAGE</th>
<th>MIN–MAX</th>
<th>AVERAGE</th>
<th>MIN–MAX</th>
<th>AVERAGE</th>
<th>MIN–MAX</th>
<th>AVERAGE</th>
<th>MIN–MAX</th>
</tr>
</thead>
<tbody>
<tr>
<td>2</td>
<td>AVERAGE</td>
<td>77.6</td>
<td>42.5–115.7</td>
<td>9.0</td>
<td>6.4–13.7</td>
<td>17.3</td>
<td>12.1–23.0</td>
<td>30.5</td>
<td>25.5–34.6</td>
<td>59.3</td>
</tr>
<tr>
<td>3</td>
<td>AVERAGE</td>
<td>60.9</td>
<td>56.4–66.6</td>
<td>10.9</td>
<td>9.3–12.1</td>
<td>19.5</td>
<td>17.8–21.6</td>
<td>34.0</td>
<td>31.9–36.3</td>
<td>54.6</td>
</tr>
<tr>
<td>TOTAL</td>
<td>MIN–MAX</td>
<td>42.50–256.0</td>
<td>5.00–16.60</td>
<td>9.40–23.00</td>
<td>23.80–36.30</td>
<td>52.10–69.70</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Compiled by the authors on the base of EUROSTAT data.

Following the scientific literature and on the base of techniques presented in the methodology, the Welfare state index was constructed aggregating the selected indicators reflecting the welfare state: unemployment rate, poverty rate, income inequality, and healthy life years and life expectancy at birth (see Fig. 2). According to the Welfare State index scale, presented in the methodology, the Welfare state index of group 1 is equal 0.61 and belongs to the interval 0.51–0.75 which represents medium level of welfare. The Welfare state index of group 2 and 3 is lower than 0.5 – 0.49 and 0.27 respectively and represent low level of welfare (interval 0.25–0.5). The aggregate index of the welfare state proved the assumption about the direct relation between the level of welfare and alcohol consumption in the EU countries.

**Fig. 2: The Welfare State Index and its Subindexes of the EU Countries Groups**

Group 1 in which alcohol excise tax income to the total tax income is the lowest is the first according to the values of welfare subindexes, as well as to the Welfare state index. On the other hand, in groups 2 and 3 comparing with the results of the group 1, where the alcohol excise tax income to the total tax income is a higher, the level of welfare is lower.

Following the theoretical review effective tax policy has to contribute to the realization of the social economic policy of the government, playing dual role of taxes – fiscal
and regulatory. Effective alcohol excise tax policy primarily has to be used as a regulatory factor on alcohol consumption and only secondary as fiscal tool of the government. The fiscal role, according to our approach is reflected by the alcohol excise tax income to the total tax income in the country ratio which is highest in the group 3. The regulatory role, according to our approach could be disclosed in two ways: (1) as the relation between alcohol tax rates and levels of alcohol consumption in the country and (2) as the relation between alcohol tax rates and both level of alcohol consumption in the country and social-economic indicators which mirror the social-economic policy in the country. On the bases of our empirical research the fiscal and regulatory roles in the identified 3 groups of the EU countries differ in importance reflecting the preference fiscal role in the group 3 and preference of regulatory role in groups 1 and 2. From the results of this research authors conclude that the common alcohol excise tax harmonization policy in EU in this stage of its realization couldn’t be assessed as effective in all groups of the countries.

Conclusions and recommendations

The regulation of the alcohol excise tax in EU is unique example of common international tax system, which consists of 28 different countries. But the question if this regulation benefits to the more effective alcohol tax policy in all EU countries is still relevant and under investigated systematically. In addition, controversial results when analysing and assessing the alcohol taxation policy and its effectiveness in the EU countries with significantly different levels of their economic and social development are observed.

Tax policy is an important tool of a modern welfare state. It should be discussed together because social and economic benefits are funded from taxes and contributions, but also because taxes are a key instrument for influencing the distribution of incomes and welfare in a society.

Research methodology based on the grouping techniques using averages of selected indicators during research period allowed to analyze systematically all the scope of the EU countries and to disclose the contradictory role of the alcohol excise tax and its differences in the countries’ groups. The Welfare state index constructed from selected indicators reflecting the welfare state in the EU countries (unemployment rate, poverty rate, income inequality (GINI), and healthy life years and life expectancy at birth) together with the GDP per capita used in the analysis allowed to observe the direct relation between the level of economic development and welfare and alcohol consumption in the EU countries.
The results acquired during the empirical research identified that the fiscal and regulatory roles of alcohol excise tax in the groups of the EU countries differ in the importance, reflecting the preference of the fiscal role in the group with the highest alcohol tax income and preference of the regulatory role in other groups with the lower alcohol tax income. Therefore the common alcohol excise tax harmonization policy in EU in this stage of its realization couldn’t be assessed as effective in all groups of the EU countries.

References

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