For a Discussion of the Economic Recession: Does the Tax Revenue from Excise Taxes Change During Economic Recession?

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Abstract: The article is focused on the revenue from excises taxes in the Czech Republic and the countries immediately bordering with the Czech Republic. Excise taxes are examined through economic indicators, the share of excises taxes to GDP, the share of excises duties and taxes on the total of tax revenues and revenues from excises taxes in millions of euros. These economic indicators are compared to the indicator of GDP at current prices, expressed in purchasing power standards (PPS) and the compound tax quota. The data source of economic indicators is Eurostat. The European System of Accounts ESA 95 forms the methodological framework. The article contains annual data observed for the period 2000 to 2012.

The aim of this paper is to determine changes in tax revenue from excises taxes in periods of slowing economic growth and how these changes are reflected in the consumption expenditure of households. Based on the basis of these data it is estimated whether excise duties and taxes fulfill economic generally attributed functions in selected countries. It is not only about the fiscal, allocation and redistribution functions, but also whether these taxes stimulate consumers to engage in particular behaviour in the conditions of economic recession. The results show that excise taxes can be used as controlled or automatic stabilizers in public budgets with other economic instruments. Their incidence can be described as gentle and desirable in years the 2008 to 2009.

Key words: Excise Taxes · Tax Revenues · Taxation Quote · Consumer · Gross Domestic Product

JEL Classification: H21 · H31 · M48

1 Introduction

The decline in economic growth, which has occurred recently both in the EU and elsewhere, could change consumers’ behaviour. The rising unemployment, inflation and the decline in real disposable income may lead consumers to buy less and save more, probably out of fear of the future development of the economic environment. Subsequently, these facts may have an impact on tax revenue.

Tax theory recommends to government access to the modification specific excise taxes differently than in the case VAT or other taxes “ad valorem” at GDP growth or decline.

Excise taxes are putting a strain on consumption of selected products. As a result, consumers may give a priority to the substitution by consumption of other products, services, or savings. The reason is high taxation of consumption of these selected products.

Although products taxed by excise taxes have low elasticity of demand, lower household spending may also have an effect in relation to the lower public budget revenues from excise taxes. Is likely, given the elasticity of demand for these products, that consumers will continue to buy products subject to excise taxes. They can buy smaller amounts or give preference to cheaper products over expensive ones. For example, the share of excise tax on the final consumer’s price cigarettes is usually higher in the cheaper cigarettes brands than in the more expensive brands.

Burdening of selected production by excise taxes is impacting not only consumers of the taxed products, but also indirectly, through the tax incidence effect, other consumers and employees, who do not purchase taxed products. Taxation generally affects the behaviour of economic subjects in the market of production factors, capital and in the market of goods and services. It may influence, for example, changes in consumer preferences in relation to savings, work or leisure time. For example, the media in the Czech Republic in February 2013 discussed the issue of the increase in excise duty on mineral oils, particularly oil, which is used for agricultural purposes, known as bio diesel. It is expected, that the impact of an increase in the rate of excise duty on mineral oils will primarily affect employees of farms.

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Literature review

Excise taxes are included in prices of selected products, and they are imposed "on an item". They are called "in rem". They do not reflect the taxpayer's ability to pay. Sorting of taxes is described in greater detail by, for example, Kubátová & Vítek (1997) and Svátková (1994). Svátková (1994) sorts the excise taxes as an object taxes, because they do not respect the taxpayer's personal situation, and she states that this classification is important for the degree of fairness of the tax system.

Cnossen (2012) says: “Excise duties are selective and discriminatory in intent. Excise tax liabilities are often measured quantitatively and enforcement may be subject to physical controls. Goal of excise duties is to improve allocation of resources.”

“The economic theory prescribes that, if goods are unrelated in consumption, tax rates should be higher on the good with the lowest elasticity. This finding is known as the Ramsey rule (1927). It holds that, subject to certain conditions about the range of other tax instruments available to the authorities, the rate of tax on the sale of each good should be set inversely proportional to its elasticity of demand (holding the elasticity of supply constant).” (Cnossen, 2005)

Corlett & Hague (1953) have proved that, because leisure cannot be taxed, efficient taxation requires taxing products that are consumed jointly with leisure at a relatively high rate. The taxing complements to leisure improves resource allocation. Detail in a Cnossen (2005).

The Auerbach (2006) study "The choice between income and consumption taxes: A Primer" states some benefits from consumption taxes, which are not given deserved attention. For example, the ability of consumption taxes more sharply to affect the balance of payments across national borders than income tax.

Kubátová & Vítek (1997) states that in terms of inflation, selective excise taxes (imposed as a unit) are not considered dangerous. If nominal prices are growing, they stay nominally constant. They therefore cause an anti-inflationary effect unlike taxes "ad valorem", which grow with inflation.

Some of these excise taxes are specific to a certain extent also due to the fact that taxes affect the products, which may cause undesirable addiction of the organism of a particular consumer. An addition to taxed alcohol or tobacco products can cause more or less different behaviour among consumers. A drug addiction can reduce the elasticity of the demand curves for the taxed products and consumer sensitivity to taxation. The issue of addiction may have a role in taxation, both in terms of the consumption of harmful products and in terms of tax revenue.

The results of the study by Fletcher et al. (2009) suggest that the dependence of the individual reduces its sensitivity to changes in cigarette prices and to taxation. To reduce youth smoking, the authors recommend adding another tax policy. Thus, research has indicated that the price elasticity of demand for cigarettes and alcoholic beverages among the young is, on average, twice the price elasticity among adults.

The application of excise duties can from a macroeconomic viewpoint helps to reduce fluctuations in the economic cycle. Excise taxes may be applied as automatic or managed stabilisers by fiscal policy. Suitable applications and flexible adaptation of taxation can contribute to positive economic growth. Kubátová (1997) states: "The stabilisation function of taxes generally depends on two factors: the elasticity of taxes with respect to its tax base and the tax base elasticity of gross domestic product." Excise taxes directly affect aggregate demand. It is a reason to apply excise taxes as possible application as a suitable stabiliser of fiscal policy. They can be classified also as relatively significant taxes. Kubátová (1997) specifically in relation to the excise taxes adds: "Differential taxation, which includes higher rates for goods and services, the consumption of which fluctuates depending on the phase of the economic cycle, such as luxury goods, has more of an effect than the proportional effect of excise taxes and VAT."

Stiglitz (1997) addresses the current and future consumption in relation to taxation: "Deciding between present and future consumption is practically no different from deciding to buy two different commodities." In relation to the future consumption with regard to excise duty, it may be noted that future consumption can be affected by legislative changes with an emphasis on changes in tax rates and economic expectations of consumers.

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2 Cnossen (2005) [cit. 13. 2. 2015], s. 597
3 Cnossen (2005), s. 597
Svátková et al. (2007) mentions the issue of frontloading retailers before raising excise taxes. As a result of this circumstance, observed fluctuations can be observed in the consumption of goods taxed by excise taxes in the period before the increase in the excise tax rate and consequently lower tax revenues from excise taxes.

The list of studies is not exhaustive. Results of these studies are dependent on the quality of applied data, selected examination methods, period and interpret the results.

3 Methodology

The Eurostat databases are the source of all of the economic indicators. The examined period is limited from 2000 to 2013. Some statistical data are available only until year 2012. When examining data, it needs to be taken into consideration that the methodology of individual states in performing the calculations of the specified indicators is not entirely the same.

The economic growth is expressed by indicator of GDP in market prices per capita in purchasing power standards (PPS per person). Through the development of this indicator in 2000-2012 in the Czech Republic and its immediate neighbouring states, the periods of economic growth and economic recession are determined.

Subsequently, the economic indicators are measured related to income tax in selected states with respect to the excise tax. It is a compound tax quote, the share of excise taxes on GDP and the share of consumption taxes in total taxation. The tax classification corresponds with the European System of Accounts ESA 95, and the sources of all data are statistics from Eurostat.

These economic indicators are compared with household spending. It is necessary to know if the development of economic indicators corresponds to private household consumption expenses according to the COICOP methodology on products after excise taxes. Then, it needs to be found out which factors may influence the development all of these indicators. In order to determine data regarding tax revenues from excise taxes, within the classification ESA 95, items d2122c and d214a, containing excise tax (without VAT and import tax) are added up.

The household consumption expenditures on products affected by excise taxes are determined by figuring the sum of the selected items of annual consumption expenditure in selected countries, according to the COICOP classification. There are consumer household expenditures on alcoholic beverages, tobacco and consumer spending on transportation. These consumer expenses per capita are expected to include excise taxes affecting alcoholic beverages, tobacco and mineral oils (fuels and lubricants). Fluctuation of the selected consumer spending may be due to changes in the quantity of consumed goods or services or changes in consumer prices of the taxed products. Stocks of households and shopkeepers are not taken into account.

The aim of this paper is to determine the period of slowing economic growth and economic recession, changes in tax revenues from excise taxes in this period and whether Changes in economic indicators including tax revenues from excise taxes are also reflected in households' consumption expenses. Factors that could affect such changes are presented in relation to the specified aim.

4 Results

The economic growth slowed down in the period 2007-2008 in these selected countries. The indicator GDP at current market prices per inhabitant (in PPS) decreased in the selected countries, including the average of the EU-28 during 2008-2009. This period 2008-2009 could be called “an economic recession”, based on the applied GDP indicator. In the Czech Republic, this period was longer, from 2007 to 2009. In subsequent years, the GDP increased year on year. Poland is only country where a slightly increasing trend of the GDP per capita indicator (PPS) continued without interruption even during a recession.

The excise tax revenue in millions of euros mainly maintained a gradual upward trend in the period from 2000 to 2012 in all monitored countries. In a period of economic recession, we meet with declining tax revenues from excise taxes in most studied countries. The tax revenue from excise taxes declined in the selected countries in 2006, 2008, 2009 and 2012. The fall in excise taxes revenue may have been caused by a decline in household consumption expenditure on products burdened by excise taxes, reducing the production of taxed goods or restrictions on imports.
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Figure 1 GDP at market prices per capita in purchasing power standards (PPS) in the period 2000-2013 in selected countries of the European Union

Source: Eurostat database

The development of the share of excise taxes in GDP (%) in the period between 2007 and 2009 did not change very dramatically. The share of excise taxes in GDP fluctuated or slightly fluctuated. If the GDP indicator declines, we can accurately state that reducing percentages of excise taxes on GDP are the reason for declining excise tax revenues. On the contrary, increasing the values of the indicator may indicate that the revenue from excise taxes does not drop or falls more slowly than gross domestic product.

The share of excise taxes in the total taxation revenue in period up to 2004 mainly grew. During the next period, 2004-2008, the share of excise taxes in total taxation mainly decreased in the studied countries. The reason for the decline of this ratio indicator during a recession can be a reduction in tax revenue from excise taxes or an increase in total tax revenue in certain years due to growth in revenue of the other taxes. The share of excise taxes in total taxation revenue started increasing gradually again up to 2008. In a period of economic recession, we can expect decreasing tax revenue from most taxes.

Declining tax revenues are reflected in the indicators of the tax quote. The compound tax quote, including total revenues from taxes and social contributions in relation to GDP, mainly grew in the Czech Republic from 2000 to accession to the European Union in 2004. In the next years, 2005-2006, the values gradually decreased. In the year 2007, the compound tax quote of the Czech Republic returned to the level from year 2004, 35.9%. During the economic recession of 2008-2009, the compound tax quote in the Czech Republic declined. The lowest compound tax quote in the Czech Republic was in the year 2009, at 33.4%. It is the lowest compound tax quote within the specified period 2000-2012, and it is less than the tax quote in 2000. This indicator of the compound tax quota slightly increased in the last three years (2010-2012). The highest compound tax quota in the Czech Republic was in 2004 and 2007, in both cases 35.9%.

The trend of the development of the compound tax quote in the other member states directly bordering on the Czech Republic, in 2000-2004, was opposite to the Czech Republic, as it decreased. The compound tax quote in these states (except Austria) was lower in 2004 than its level in 2000. In 2005 the described indicator declined in the Czech Republic, Austria and Slovakia. The compound tax quote in the studied countries in the years 2006-2007 generally slightly increased.

During and after the recession, 2008-2010, the compound tax quote decreased in a majority of selected states. The average values of this indicator in the EU-28 also decreased. Since 2010, the compound tax quote of individual states and the average value of the EU-28 has again taken a gradual upward trend.

These macroeconomic indicators are in comparison with the household spending, which are based on COICOP classification. Items of consumer expenditure per person include expenditure not burdened by excise taxes, such as expenditure for alcoholic beverages and transportation.
These selected economic indicators confirm that revenue from excise taxes during an economic recession decreases. It is probably influenced by the decline in household consumption expenditure on products burdened by excise duties, such as alcoholic beverages, tobacco and mineral oils. The consumer behaviour during an economic recession is influenced by a lot of factors that cannot be elaborated on in this article. The decline in consumption expenditure per capita may be due to development of these consumer prices. The HICP indicator for alcoholic beverages and tobacco in the 2008–2009 grew in the surveyed countries (except Germany) faster than in other years. In the case of transport, the HICP declined usually, probably due to decreasing demand in this sector in year 2008. In subsequent years, the HICP for transport slowly increased. It is probably supported by implementation of the cash for clunkers programme in some countries. This situation from 2008 to 2009 repeated in 2012-2013, and the indicator HICP decreased again in all studied countries. The average of the EU-28 for the HICP for transport grew in 2013 about 0.4% in comparison with the previous year.

Figure 2 Consumer spending on alcoholic beverages, tobacco, narcotics and shipping costs (according to the COICOP)

Source: Eurostat database

Cnossen (2005) says: “The structures of the domestic industry and the preferences of consumers were framed by choices ad valorem-based structures and others for specific systems. In markets with predominantly ad valorem structures, consumers became used to low-cost and low-quality European tobaccos, while smokers whose habits had been formed under specific taxation preferred longer cigarettes manufactured from American tobacco. Local industries developed to meet those preferences. That is why, once trade liberalization and tax harmonization became an issue in the European Union, some countries lobbied for ad valorem-based structures and others for specific systems. And yet, it is not apparent that there are substantial benefits from harmonization (and, in particular, from harmonization of structure rather than broad level). In that context, the danger is that harmonization is used, not as a means of achieving a single optimal European tax system, or even as a means of finding a set of common European values, but as a mechanism by which the producers of one state can seek to advance their competitive positions at the expense of others.

5 Conclusions

Clearly, excise taxes have come a long way from the simple efficient revenue-raising measures they once were to the complex policy tools that they have become today.

“Excises on tobacco, alcohol, petrol, and motor vehicles are good potential sources of revenue, because the products are easy to identify, the volume of sales is high, and the fact that there are few producers simplifies collection. Also, there are few substitutes that consumers would find equally satisfactory, so consumption remains high despite excise-induced price increases.” (Cnossen, 2005)

It is obvious that consumers in a period of slowing down of economic growth or economic recession temporarily change consumption of products after excise taxes. They are reducing the consumption, and subsequently the revenue from excise taxes to public budgets is reduced too. These observed changes may be caused by the substitution effect, as these consumers can increase the preference of other products and services, leisure or savings. The elasticity of consumer demand for alcoholic beverages and tobacco seems to be lower than elasticity of demand for transport. On the

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4 Cnossen (2005)[cit. 13. 2. 2015], s. 605
5 Cnossen (2005) [cit. 13. 2. 2015], s. 597
supply side, fluctuations in foreign exchange rates and changes in the structure and volume of production of taxed products can have a certain effect.

In 2010, the values of the caused economic indicators began growing again. The gross domestic product began growing too, which could suggest a recovery from the economic recession. On the other hand, it should be noted that the fluctuations recorded on the selected dates are not dynamic enough to pose a threat to the public budgets caused by declining tax revenues. However, this effect of the economic recession on revenues of excise taxes must be reflected in the total tax revenues and on the side public expenditures in public budgets.

Frey argues that tax-price instruments bolster intrinsic motivation consumers. This intrinsic motivation can be enhanced by the author in a positive or negative way. Cnossen (2005)\(^6\) says: “Clearly, the concept of “intrinsic motivation” and its relation to external regulatory incentives deserve a place in regulatory theory and practice, particularly because the costs of external incentives, such as excise taxes, weigh most heavily on the poor. Excise taxes should be combined with other policy instruments to achieve desired policy objectives and due attention should be paid to psychological and politicoeconomic considerations.”

“Interestingly, the ad valorem excise is mainly an EU phenomenon. It tends to protect the cheap tobaccos grown in southern member states.” Cnossen (2005)\(^7\) High level of taxation of consumption taxes in EU can be associated with illegal smuggling of products in Europe reached alarming proportions.

The question is whether the lower level of excise tax rates in the EU would reduce illegal smuggling and attract consumers from countries outside the EU. This could positively affect the results of economic growth in European Union. This study is to some extent subjective, but hopefully it has motivated the reader to study the contributions on the various excise taxes more closely and benefit from their analysis and learn from the perspectives they offer.

References


\(^6\) Cnossen (2005) [cit. 13. 2. 2015], s. 605

\(^7\) Cnossen (2005) [cit. 13. 2. 2015], s. 600