

# The structure of excise duties on cigarettes in the Republic of Croatia

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# The structure of the excise duty on cigarettes in Croatia

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*Croatia was approved a transition period, until 2017, for full harmonization of excise duties on cigarettes with EU Directives. Further harmonization will lead to the growth of excise duties and cigarette prices. In addition to the amount of the excise, special attention has to be devoted to its structure which can significantly affect the size of government revenues. Legislative changes of the excise's structure should be preceded by a thorough analysis of its fiscal and economic impacts*

## 1 INTRODUCTION

Tobacco production in the EU contributes with 4.1% to the world production of tobacco. Total sales of cigarettes in the EU decreased from 793.7 billion pieces in 2000 to 608.8 billion in 2010. However, in the same period, illegal trade grew from 56.6 to 80.5 billion pieces. Despite the decrease in sales, the total market value (measured in current prices) has increased during this period from 90.7 to 121.3 billion euro. The total market value of cigarettes accounts for 89% of the total value of tobacco products, which stood at 136.5 billion euro in 2010 (Matrix Insight, 2012).

The system of taxation of cigarettes and the amount and structure of excise duty have a significant impact on consumption. Excise duties are generally introduced for revenue collection, correcting negative externalities (adverse effects on health induce the growth of health care costs) and reducing consumption. Despite strong social effects, excise duty on cigarettes has a significant fiscal effect because it increases the budget revenue. In order to harmonize the tax systems of the member states, the EU has issued several Directives on excise duties. Croatia is obliged to align its legislation with those Directives, through gradual adjustment until 2017. This will influence the growth of both cigarette prices and budget revenue. Besides the amount of the excise duty, its structure greatly affects the budgetary income from this revenue source. The main goal of the paper is to determine the structure of excise duties on cigarettes in the Republic of Croatia and the EU member states and the impact of structural changes in excise duties on cigarette prices. Furthermore, the paper aims to determine the differences in the size and structure of revenues from excise duties on cigarettes in the EU and Croatia.

## 2. THE STRUCTURE OF CIGARETTE EXCISE AND HARMONIZATION IN THE EU

Excise duty on cigarettes consists of two components: specific and proportional (*ad valorem*). The specific component of the excise duty is determined in a fixed (absolute) amount per unit of the product (for example, the excise duty on 1,000 cigarettes), whereas the proportional component is usually set as a percentage of the retail price.<sup>1</sup>

As well as on the amount of the excise duty and the tax base, the fiscal impact of excise duty on cigarettes depends substantially on its structure. The structure of the excise duty affects: cigarette prices, consumer behaviour, budget revenues and the tobacco industry.

Different structures of excise duties result in different cigarette prices between countries. This can reduce budget revenues due to smuggling or legal purchases at lower prices in neighbouring countries. Demand for cigarettes is inelastic to price changes. An increase in prices does not significantly reduce the overall demand for cigarettes (a relatively low number of consumers will stop smoking merely because of price changes), but it can affect the structure of consumption. For example, an increase in the proportional part of the excise duty would increase the absolute price differential between cheap and expensive cigarettes motivating consumers to substitute the consumption of expensive by that of cheaper cigarettes. A significant increase in the tax burden on cigarettes (if switching to cheaper substitutes is not acceptable) may lead to illicit trade and the expansion of legal purchases in border regions with countries with a relatively lower tax burden (e.g., Serbia, Bosnia and Herzegovina and Montenegro).

**Table 1**

*Main characteristics of specific and proportional excise on cigarettes*

	<b>Specific</b>	<b>Proportional</b>
Advantages	Predictable budget revenue	Automatic adjustment for inflation
	Lower price differentials	Taxes higher profit margin
	Easier administration and calculation	Protects domestic production
Disadvantages	Inflation reduces real income value	Less predictable budget revenue
	May induce modification of characteristics in order to reduce the taxable base	Higher price differentials encourage consumption of cheaper products
	Does not protect domestic production	Complex administration and calculation

Sources: Authors according to (Ross, 2004:77; Keen, 1998: 5, 6; Delipalla and O'Donnell, 1998:10; Cnossen, 1992; 2001 and Ross, 2004:77).

Excise duty on cigarettes has a significant fiscal impact, which largely depends on the share of specific vs. proportional component. Besides the direct impact on tax revenues, excise structure can also affect the structure of the tobacco industry. An increase of the proportional component would increase the price differential between cheap and expensive cigarettes (in absolute terms). For this reason consumers might start preferring cheaper cigarettes, thus stimulating their production. An increase of the specific component would reduce the price differentials and motivate consumers to consume more expensive (higher quality) cigarettes. States that have their own tobacco farming and production often prefer the proportional excise duty which, through the multiplier effect, increases the price advantage of cheaper domestic products in relation to the

<sup>1</sup> The retail price of tobacco products that are released for consumption in Croatia is the price for each product set by manufacturers or their representatives or authorized agents in Croatia and importers. Retail price includes excise duty, customs and value added tax (Official Gazette 22/13, art. 77, § 1).

more expensive products of multinational companies. Other countries prefer the specific component, because proportional taxation encourages consumers to consume cheaper cigarettes, thus reducing tax revenues.

### 3. EXCISE DUTY ON CIGARETTES IN CROATIA

Excise duty on cigarettes in Croatia is regulated by the Excise Duties Act (Official Gazette 22/13), Ordinance on the Excise Duties (Official Gazette 64/13) and the Directive on the Amount of Excise Duty on cigarettes and fine-cut tobacco (Official Gazette 131/12).

**Table 2**

*The structure of the excise duty on cigarettes in Croatia*

Period	Tax base	Minimum	Class A	Class B	Class C
1/7/2000-15/7/2004	20 pcs (HRK)		5.0	5.4	8.9
	% RSP				
15/7/2004-1/1/2009	20 pcs (HRK)		5.5	6.4	10.9
	% RSP				
1/1/2009-1/6/2009	1,000 pcs (HRK)		175.0	197.5	310.0
	% RSP		30.0		
1/6/2009-1/1/2010	1,000 pcs (HRK)		180.0		
	% RSP		30.0		
1/1/2010-1/10/2010	1,000 pcs (HRK)	375.0	180.0		
	% RSP		30.0		
1/10/2010-29/11/2012	1,000 pcs (HRK)	375.0	180.0		
	% RSP		33.0		
29/11/2012-1/7/2013	1,000 pcs (HRK)	486.0	180.0		
	% RSP		36.0		
1/7/2013-1/1/2014	At least (HRK for 1,000 pcs)		486.4		
	Minimum share of excise in WAP (%)		57.0		
1/1/2014-1/1/2018	Minimum (HRK) for 1,000 pcs		585.2		
	Minimum share of excise in WAP (%)		60.0		
1/1/2018	Minimum (HRK) for 1,000 pcs		684.0		
	Minimum share of excise in WAP (%)		60.0		

Note: A midpoint exchange rate for April 2013 of 7.6 HRK for EUR was used to convert the amount of the minimum excise duty (set up with the Directive in EUR) to HRK.

RPS – Retail Selling Price, WAP – Weighted Average Price of cigarettes released for consumption.

Source: Act on the Special Tax on Tobacco Products (Official Gazette 136/02, 95/04, 152/08 and 38/09), Excise Duties Act (Official Gazette 83/09, 111/12 and 22/13) and the Directive on the Amount of Excise Duty on cigarettes and fine-cut tobacco (Official Gazette 131/12).

The structure of the excise duty on cigarettes in Croatia has changed several times since 2000, mostly to comply with EU guidelines (see Table 2). At first, cigarettes were taxed with the specific excise according to the multi-tariff model (three different groups of cigarettes: classes A, B and C). The multi-tariff system was abolished in June 2009, when a proportional excise duty of 30% of the retail price was introduced in addition to the specific excise duty of 180 kuna per 1,000 cigarettes (for all cigarettes equally). Since then, the amount of the specific excise duty has remained unchanged. However, the proportional excise duty increased to 33% of the retail price in October 2010 and then to 36% in November 2012. A minimum excise duty<sup>2</sup> was introduced in 2010 in the

<sup>2</sup> Minimum excise duty is payable if the total amount of excise duty on cigarettes (specific and proportional), calculated in accordance with applicable regulations, is lower than the minimum excise duty.

amount of 375 kuna per 1,000 cigarettes and increased to 486 kuna per 1,000 cigarettes at the end of 2012. For a complete (full) harmonization of excise duty on cigarettes, the EU approved a transition period for Croatia until the end of 2017. Further harmonization is expected to increase the excise duty on cigarettes.

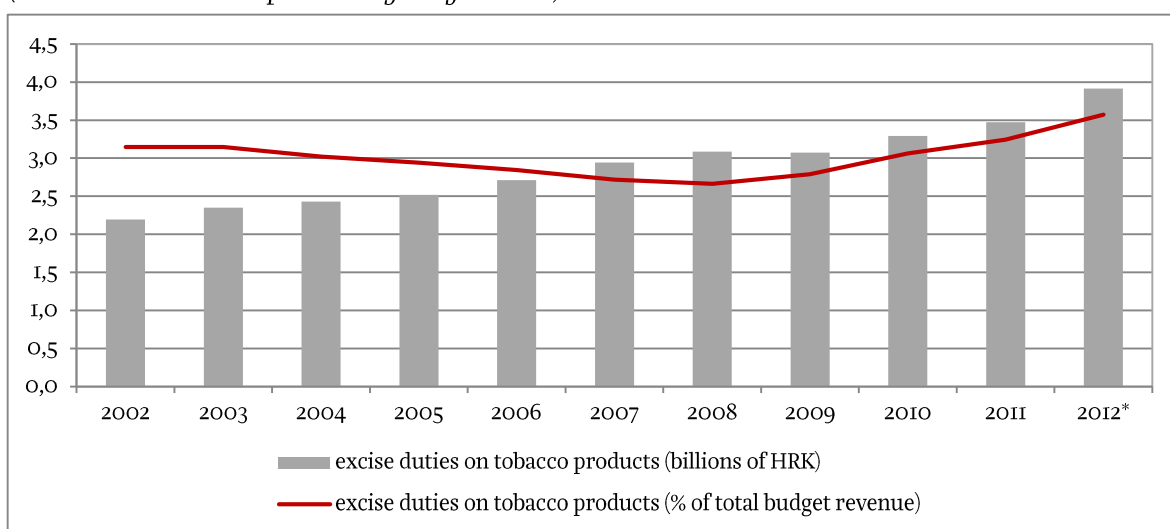
During a transitional adjustment period, Croatia has to set the excise duty to at least 64 euro (486.4 kuna) per 1,000 cigarettes, with a total share of excise duty in the weighted average retail selling price of cigarettes released for consumption of at least 57% from July 1, 2013. From January 1, 2014 the excise duty should be increased to at least 77 euro (585.2 kuna) per 1,000 cigarettes, with the minimum portion of excise duty in the retail price of 60%. The final adjustment effective from December 31, 2017 implies a further rise of the excise duty to 90 euro (684.0 kuna) per 1,000 cigarettes, regardless of the weighted average retail selling price of cigarettes released for consumption (Marinović, 2013).

### GOVERNMENT REVENUE AND THE STRUCTURE OF EXCISE DUTY ON CIGARETTES

The revenue from excise duties is – after that from VAT – the most abundant tax revenue. Revenue from excise duties on tobacco products in Croatia grew from 2.2 billion in 2002 to 3.9 billion HRK in 2012 representing from 2.7% to 3.6% of total budget revenue (Figure 1).

**Figure 1**

*Revenue from excise duties on tobacco products from 2002 to 2012 (in billion HRK and % of total budgetary revenue)*



Note: \*preliminary data (for 2012).

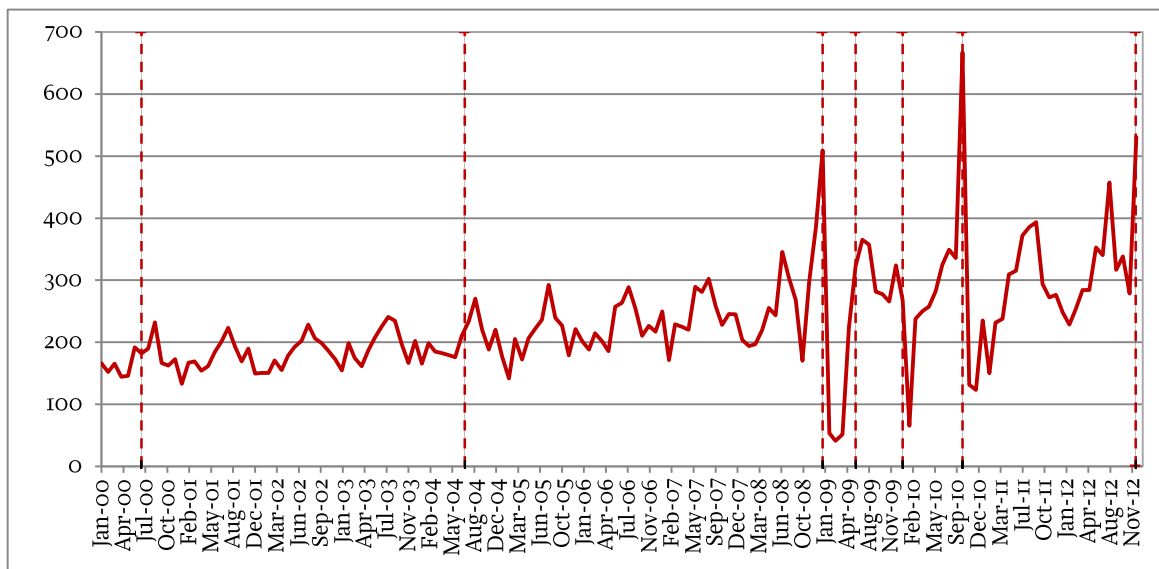
Source: Ministry of Finance, 2013, time series.

### THE IMPACT OF THE STRUCTURAL CHANGES OF EXCISE DUTY ON CIGARETTES ON THE GOVERNMENT REVENUE

Changes in the structure of excise duty on cigarettes in Croatia have doubtlessly affected the size and dynamics of revenue collection. At the beginning of the observed period, excise duty revenue is stable with relatively uniform monthly changes throughout the year (Figure 2). Since 2009, significant changes in excise duty revenue have mainly been caused by structural changes of the excise duty (i.e., the introduction of the proportional component). Excise revenue tends to skyrocket just prior to the legislative changes which impinge on the structure of the excise duty and then shrink immediately after the upswing (Figure 2).

**Figure 2**

Monthly values of revenue from excise duty on tobacco products from 2004 to 2013  
(in thousands of HRK)



Source: Act on the Special Tax on Tobacco Products (Official Gazette 136/02, 95/04, 152/08 and 38/09), Excise Duties Act (Official Gazette 83/09, 111/12 and 22/13), Directive on the Amount of Excise Duty on cigarettes and fine-cut tobacco (Official Gazette 131/12), and Ministry of Finance (2013), time series.

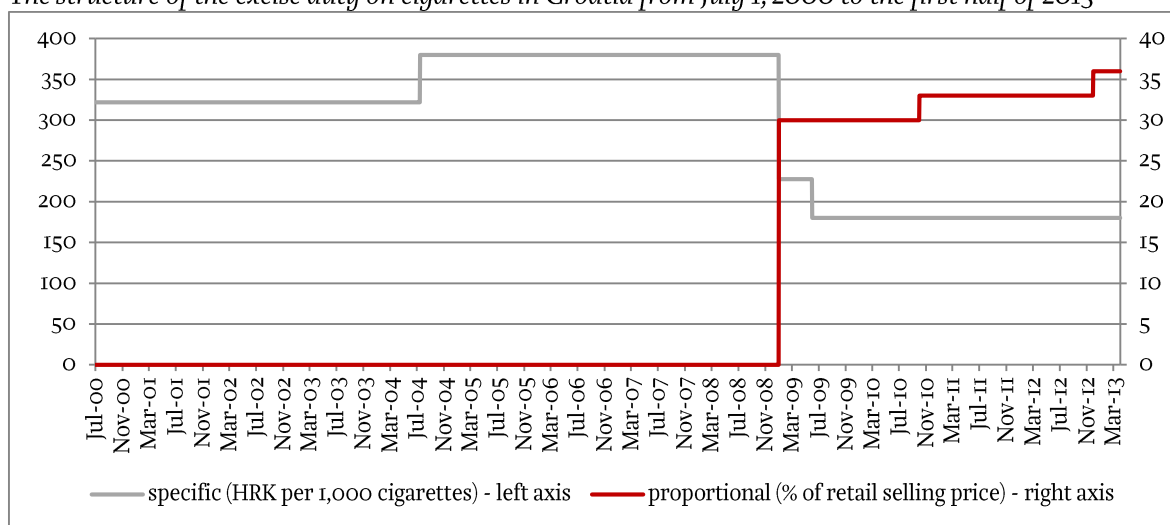
Possible causes for this include the prudent behaviour of manufacturers and/or importers who release a greater amount of cigarettes for consumption at the old (lower) excise duty, anticipating negative effects of legislative changes. They thus become liable to pay a larger amount of excise duty inducing the growth of budget revenues. Since in those moments the quantity of cigarettes released for consumption is greater than usual, the quantity of cigarettes released for consumption in the following period is much lower. Thus excise revenue decreases immediately after legislative changes.

Analysis of structural changes of the excise duty with the calculation of the average value of the specific excise duty on cigarettes in the period when the multi-tariff model was in effect reveals the tendency for an increase in the proportional and a decrease in the specific component of the excise duty in Croatia (Figure 3).

By the end of 2017, the share of specific excise in total tax burden should be between 7.5 and 76.5% and the proportion of the total excise duty at least 60% of the weighted average price of cigarettes. Although the EU prescribes a minimum excise duty on cigarettes, their structure (the share of specific and proportional components) is within the competence of national tax policies. Figure 4 presents different components of the excise duty on cigarettes with regard to the retail price of cigarettes in Croatia.

**Figure 3**

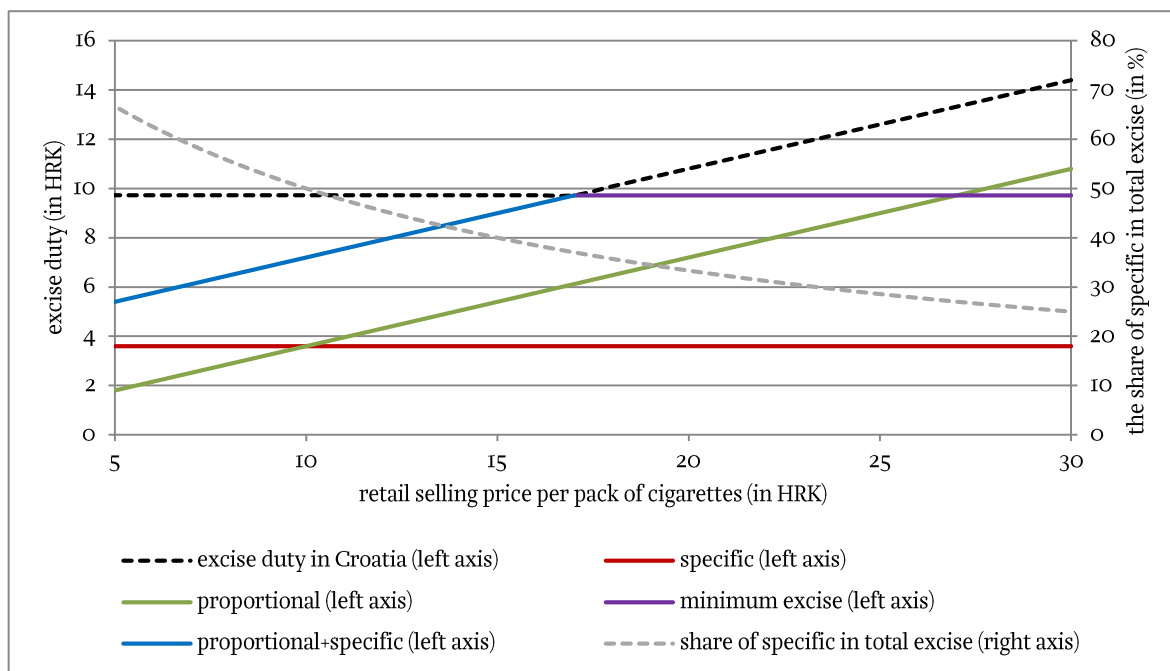
The structure of the excise duty on cigarettes in Croatia from July 1, 2000 to the first half of 2013



Source: Act on the Special Tax on Tobacco Products (Official Gazette 136/02, 95/04, 152/08 and 38/09), Excise Duties Act (Official Gazette 83/09, 111/12 and 22/13), Directive on the Amount of Excise Duty on cigarettes and fine-cut tobacco (Official Gazette 131/12).

**Figure 4**

Excise duty with regard to retail selling price of cigarettes in the Croatia



Source: Authors' calculation.

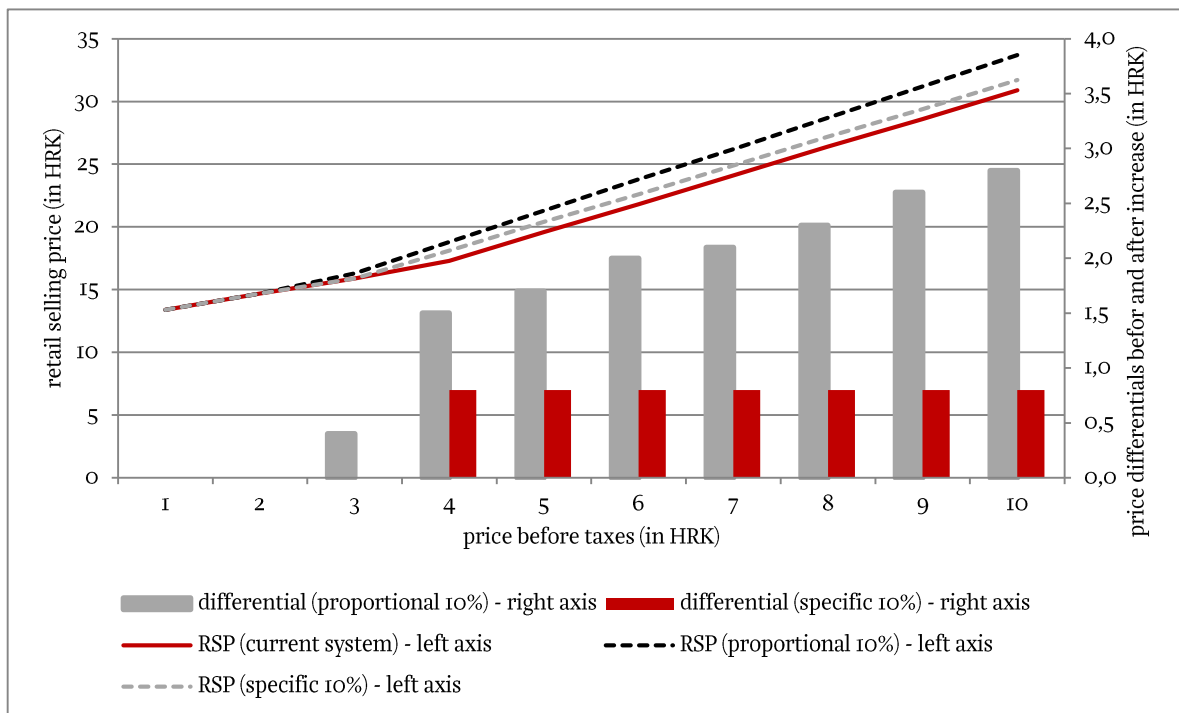
Cigarettes with a retail price per pack (20 pieces) up to 17 kuna are taxed with the minimum excise duty of 486 kuna per 1,000 cigarettes.<sup>3</sup> More expensive cigarettes are taxed with the combination of both the specific and the proportional component of the excise duty.

<sup>3</sup> Because the total amount of excise duty (specific and proportional) on cigarettes with retail price per pack up to 17 kuna - calculated according to the current regulations - is less than the minimum excise duty.

Up to the retail price of 10 kuna per pack the amount of the proportional component is lower than the amount of the specific component. At the retail price of 10 kuna the shares of proportional and specific portions of the excise duty are equal, whereas a further increase in retail prices corresponds to the prevailing share of the proportional and reduced share of the specific component.

A 10% increase in proportional excise duty would cause a continuous increase in the differences in the retail prices of cigarettes as the price of cigarettes before taxes increases. On the other hand, a 10% increase in specific excise duty would cause (in absolute terms) constant price differentials irrespective of the before-tax prices of cigarettes (Figure 5).

**Figure 5**  
Simulation of a 10% increase in certain excise components



Note: The lines on the graph show the movement of the retail price of cigarettes in relation to the pre-tax price of cigarettes in the current excise system and simulation of retail prices after 10% increase of specific and proportional part of the excise duty. The bars indicate the difference in retail prices of cigarettes in the existing system and simulated retail prices after the 10% increase of individual excise components.

Source: Authors' calculation.

#### 4. THE LEVEL AND THE STRUCTURE OF EXCISE DUTY ON CIGARETTES IN EU COUNTRIES

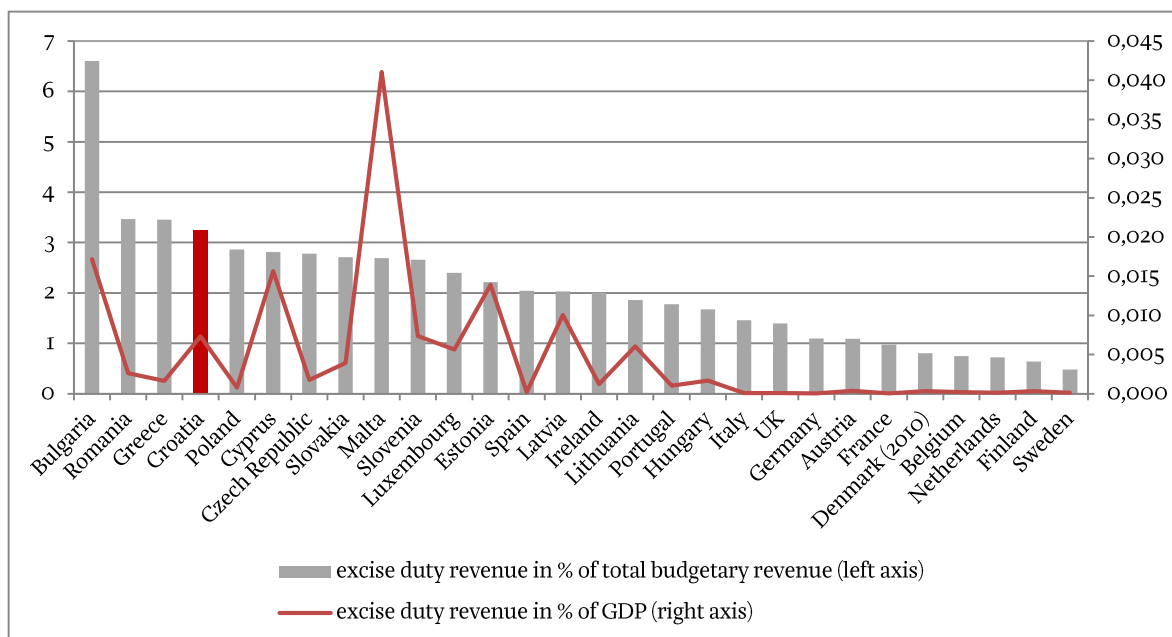
Comparison of the share of revenue from excise duties on cigarettes in total budget revenue and GDP (Figure 6) in Croatia and the EU countries shows that excise duties on cigarettes represent a significant source of revenue.

Excise duties on cigarettes have a relatively greater importance (share in total budget revenue) in the new EU member states, while they are a less important source of income in the old member states. The absolute values of revenue from excise duties in the old EU member states are higher than in the new ones. However, budget revenues (and GDP) of the old members are so high that the share of revenue from excise duties on cigarettes is relatively less important.



**Figure 6**

The share of revenue from excise duties on cigarettes in total budgetary revenue and GDP in EU countries and Croatia in 2011 (in %)

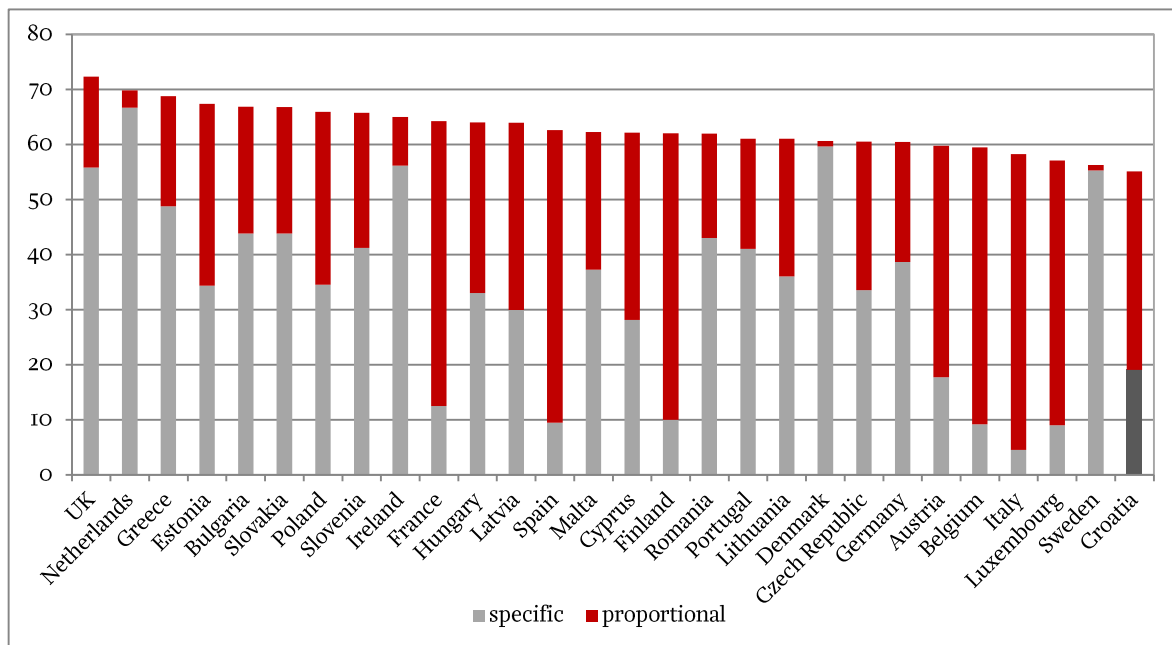


Note: Due to the lack of publicly available data on revenue from the excise duty on cigarettes, the data for Croatia refer to the total revenue from the excise duties on tobacco products.

Source: Eurostat and European Commission, 2012.

**Figure 7**

Excise duty on cigarettes in EU countries and Croatia in 2013 (% of retail selling price)



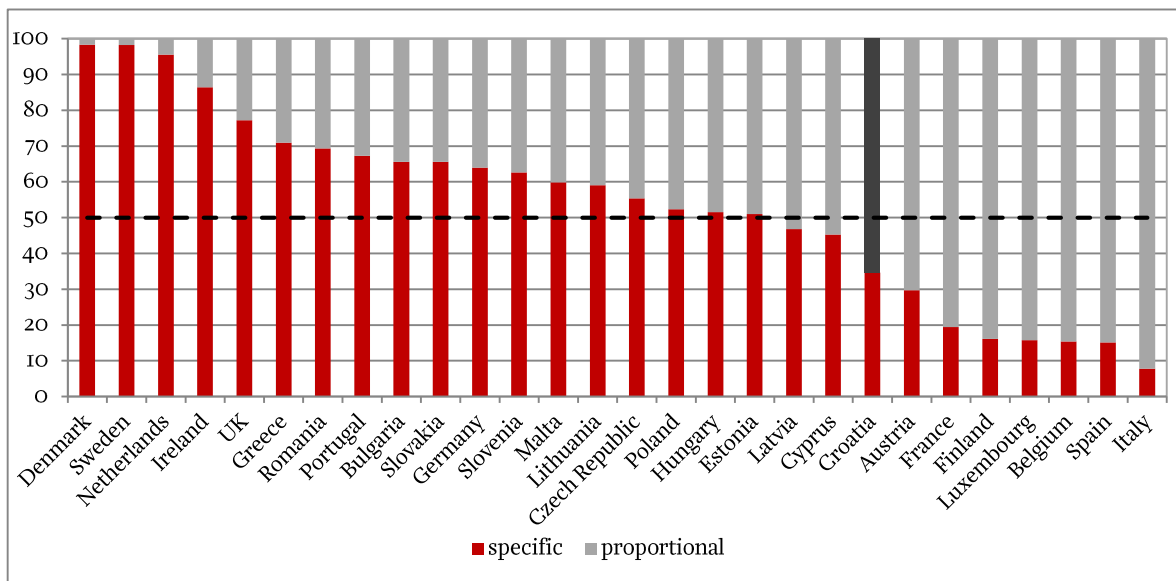
Source: European Commission, 2013a.

The share of excise duty in the retail price of cigarettes in EU countries varies between 56 and 72% (Figure 7). The lowest share can be found in Sweden, Luxembourg, Italy and Belgium, while UK, Netherlands, Greece and Estonia have the highest share. Excise duty burden in Croatia is lower than in the EU, which additionally confirms the fact that the excise duty on cigarettes in Croatia will further grow. However, the question is how that growth will affect its structure.

Although the minimum amount of excise duty on cigarettes is prescribed by the Directives, EU member states do not share a common view on the preferred structure of excise duty (see Figures 7 and 8). This is demonstrated by the share of the specific component in total excise duty fluctuating over a fairly wide range from 8% to 98% (the share of proportional component in total excise duty varies between 2% and 92%). The specific component of the excise duty is highly favoured in Denmark, Sweden and the Netherlands, while Italy, Spain, Belgium, Luxembourg, Finland and France prefer the proportional component. The proportional component currently dominates the structure of excise duty in Croatia with a 65% share. Only seven EU countries have a higher share of the proportional component in the structure of their excise duties on cigarettes.

**Figure 8**

*The structure of excise duty on cigarettes in EU countries and Croatia in 2013*



Source: European Commission, 2013a.

Differences in the structure of excise duties cause different retail prices of cigarettes and varying budgetary revenue between countries. Generally, a lower price of cigarettes is associated with a lower revenue from excise duties. However, analysis of individual cases reveals a deviation from this trend due to the varying structure of excise duties and consumption (Figure P-1). Similarly, a larger quantity of cigarettes released for consumption should result in larger revenues from excise duties, which is often not the case (Figure P-2).

In line with the EU guidelines, the member states have at national levels introduced a minimum excise duty ranging in 2013 from 67.19 to 271.91 euro per 1,000 cigarettes (Figure P-3). Old EU member states have generally higher minimum excise duties than new member states.

## 5. CONCLUSION

EU countries do not have a unified view on the structure of excise duty on cigarettes, so shares of specific and proportional components significantly vary in the structure of their excise duties. The balance between specific and proportional components affects the retail prices of cigarettes, the structure of consumption and excise revenue.

Excise duty on cigarettes in Croatia has changed several times since 2000 mainly due to the need to harmonize with the EU. Those changes usually caused an increase in cigarette prices and budgetary revenue. The share of excise duty in the retail price of cigarettes in Croatia is

significantly lower than in the EU countries. In line with further harmonization with the EU, excise duty on cigarettes in Croatia will continue to grow, which will further increase the price of cigarettes.

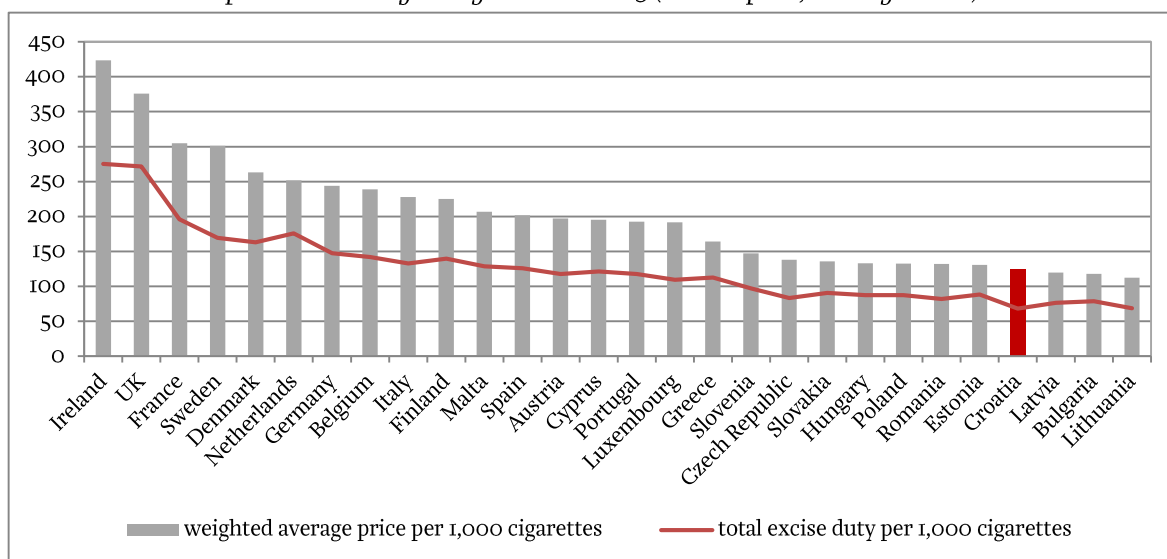
Revenues from excise duty on cigarettes in Croatia are growing continuously and represent a significant part of total budgetary revenue, but still less significant than in most EU member states. Due to structural changes of the excise duty significant variations in the monthly values of excise duty revenue can be observed since 2009. It seems that in certain periods (just before a change in the amount and structure of the excise duty) manufacturers and importers put a greater amount of cigarettes on the market at the old (lower) excise duty.

In Croatia there is no detailed analysis and evaluation of the size of the illegal market and estimation of the revenue lost due to illicit trade and to legal purchases in the border areas with countries that have lower cigarette prices. The Government and the Ministry of Finance should base further changes in the amount and structure of excise duty on a thorough assessment of their impact on the structure of both production and consumption, the price of cigarettes and budget revenue. The possibility of a more detailed analysis of fiscal and other economic impacts of excise duty on cigarettes is limited due to the lack of publicly available data. Public disclosure of information on quantities of cigarettes released for consumption according to various price categories would greatly facilitate further research. Similarly, more comprehensive data on the structure of revenue from excise duties on tobacco products, with separate data for revenue from excise duty on cigarettes, would enable more reliable comparison with other countries.

## APPENDIX

**Figure P-1**

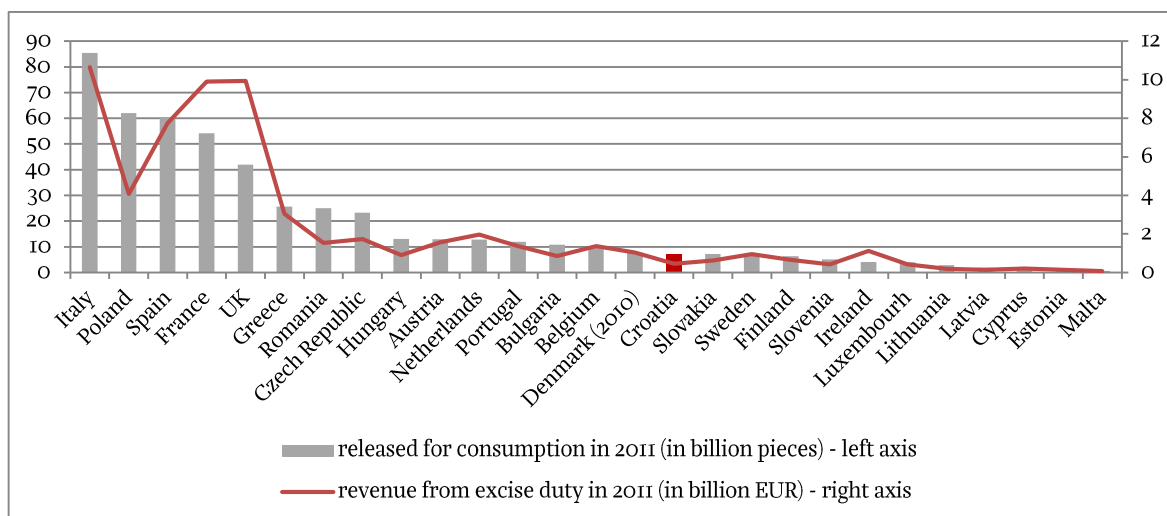
Prices and revenue from excise duty on cigarettes in 2013 (in EUR per 1,000 cigarettes)



Source: European Commission, 2013a.

**Figure P-2**

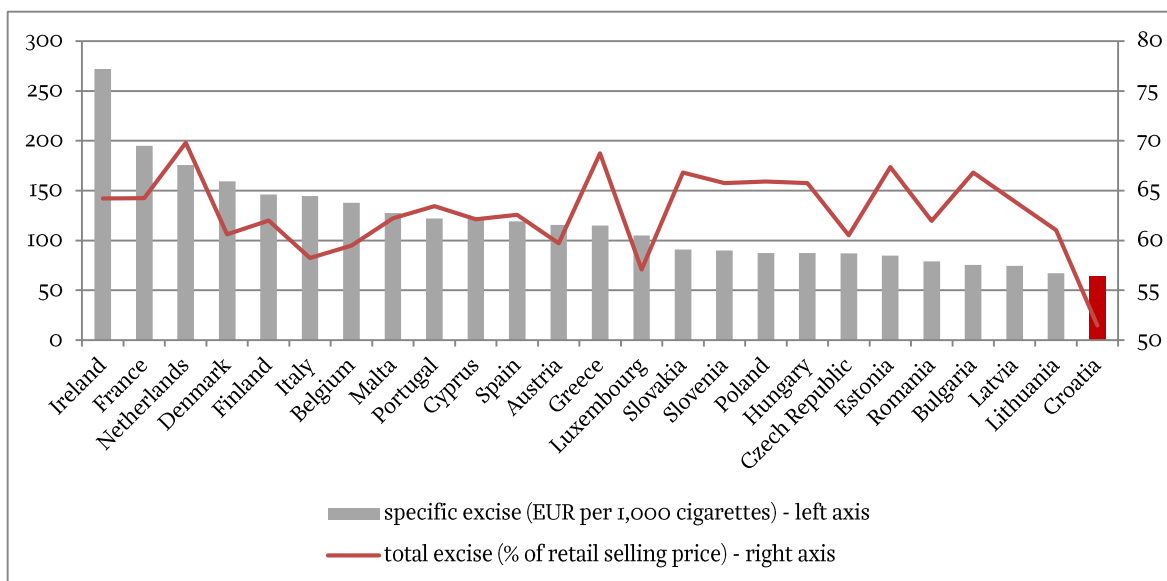
The relationship between total numbers of cigarettes released for consumption and total revenue from excise duty on cigarettes in 2011



Source: European Commission, 2012 and 2013b.

**Figure P-3**

Minimum excise duties in EU countries and Croatia in 2013  
(% of retail price and EUR per 1,000 cigarettes)



Note: Data for Germany, Sweden and UK are not available.

Source: European Commission, 2013a.

## LITERATURE

- Act on the Special Tax on Tobacco Products** (Official Gazette 136/02, 95/04, 152/08 and 38/09).
- Cnossen S., 2001.** „How Should Tobacco Be Taxed In EU-Accession Countries?” *CESifo Working Paper* No. 539.
- Cnossen, S., 1992.** „Intrigues around the tobacco excise in the European Community”. *International Tax Review*, 2, 127-137.
- Delipalla, S. and O'Donnell, O., 1998.** *The Comparison between Ad Valorem and Specific Taxation under Imperfect Competition: Evidence from the European Cigarette Industry*.
- Directive on the Amount of Excise Duty on cigarettes and fine-cut tobacco** (Official Gazette 131/12).
- European Commission, 2012.** *Excise Duty Tables: Tax receipts – Manufactured Tobacco*. Bruxelles: European Commission.
- European Commission, 2013a.** *Excise Duty Tables: Part III – Manufactured Tobacco*. Bruxelles: European Commission.
- European Commission, 2013b.** *Releases for consumption of cigarettes 2002-2011*. Bruxelles: European Commission.
- Excise Duties Act** (Official Gazette 83/09, 111/12 and 22/13).
- Keen, M., 1998.** „The Balance between Specific and Ad Valorem Taxation”. *Fiscal Studies*, 19(1), 1-37.
- Marinović, Ž., 2013.** „Novine kod trošarina na cigarete i sitno rezani duhan”. *Carinski vjesnik*, 22(1), str. 29-51.
- Matrix insight, 2012.** *Economic analysis of the EU market of tobacco, nicotine and related products*. Matrix insight Ltd.
- Ministry of Finance, 2013.** *Vremenske serije podataka*. Zagreb: Ministry of Finance.
- Ross, H., 2004.** „The Economics of Tobacco and Tobacco Control in the European Union, u Tobacco or Health in the European Union: past, present and future”. *European Commission, Directorate-General for Health and Consumer Protection*, pp. 69-98.