



COGNOSCERE EST MUTARE

tobaccotaxation

Economic Research Informing Tobacco Tax Policy

Accelerating Progress on Effective Tobacco Tax Policies in Low- and Middle-Income Countries

National Study - BOSNIA AND HERZEGOVINA

Economics of Tobacco and Tobacco Taxation

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Contents

Executive Summary	3
1. Introduction	5
1.1 Country Profile	6
1.2 The economic outlook	7
2. Supply of tobacco products	8
3. Demand for tobacco products	15
4. Tobacco taxation and pricing policies	18
4.1 Institutional setting	18
<i>State-level bodies</i>	18
<i>The Entity-level</i>	18
4.2 Policies and legal framework	19
<i>The State (BiH) level</i>	19
<i>FBiH level</i>	23
<i>RS level</i>	23
<i>Revenues from excise tax on tobacco – projections for 2018</i>	23
<i>Tobacco industry and the illicit trade argument</i>	24
5. Elasticity of tobacco products	26
6. Conclusions and Recommendations	28
<i>Conclusions</i>	28
<i>Recommendations</i>	29
References	30
Appendix Qualitative research about attitudes toward smoking and excise increase in BiH	32
<i>Effects of Tobacco Taxation on Smoking Behavior in BiH</i>	33
<i>Citizens' attitudes towards the excise increase</i>	33
<i>Reasons against excise and their growth</i>	34
<i>Specific views on excise duties</i>	34

Executive Summary

Introduction

The central question of this study was to determine the relationship between tobacco taxation and tobacco consumption in Bosnia and Herzegovina (BiH). This report is the first of its kind, providing a comprehensive examination of the tobacco industry in (BiH) and an estimate of the impact of tobacco price on consumption.

Tobacco consumption continues to be prevalent among a large percentage of BiH citizens. According to official statistics, more than 40% of the country's adults, about 1,200,600 people, consume tobacco product on a daily basis. Thus, BiH is among the top 10 countries in the world for cigarette consumption, after Montenegro, Belarus, Lebanon, Macedonia, Russia, Slovenia, Belgium, Luxembourg, and China (MarketWatch, 2014).

Smoking prevalence in BiH is close to 40% with a significant difference between men (46.9%) and women (28.5%). The gender gap has diminished over time, as the smoking prevalence has been increasing among women. Tobacco use among females, as well as among youth, is possibly a response to an increasing level of tolerance towards smoking in BiH. Among youth, tobacco use prevalence for girls (9.7%) is significantly lower than boys (15.5%). Disparities in smoking follow noticeably different patterns across social classes. There is a strong socioeconomic gradient in smoking, with more financially secure people in BiH less likely to smoke. Additional factors that likely contribute to the high level of smoking prevalence in BiH are an easy access to tobacco products, their affordability, and different forms of illicit trade of tobacco.

As a result of the high level of smoking prevalence, BiH faces significant health and economic consequences. Although there are no regular national surveys to collect data on smoking or a system for recording health outcomes, premature deaths attributed to smoking are projected to be as high as 600,000 in BiH (World Health Organization, 2016). Authorities in BiH have not done much to reduce smoking nationwide despite the formal adoption of the world's first public health treaty implemented by the World Health Organization (WHO) Framework Convention on Tobacco Control (FCTC). The absence of genuine actions and policies is apparent in both entities, the Federation of BiH and the Republic of Srpska (RS). Our research shows that the government cares more about revenue collected through tobacco trade and taxes than about the negative health consequences of tobacco for citizens. In both the Federation of Bosnia and Herzegovina and the RS, health warnings are legally mandated and describe the harmful effects of tobacco use on health. They must appear on each package and any outside packaging and labelling used in the retail sale.

Tobacco Growing and Manufacturing

Generally, tobacco production in BiH has declined in the last several decades. This affected the production of tobacco leaf, which is currently grown in very small areas, generating a total annual yield of less than 2000t. Both, tobacco production and tobacco farming in BiH are decreasing for several reasons, including market deregulation and acquisition of the domestic manufacturing companies by global multinationals that control

the entire industry value chain. Most of the tobacco leaf and other inputs used in tobacco product in BiH are now imported.

Tobacco Control Activities

Apart from socially responsible marketing activities by some market actors, and mandatory anti-smoking advertising campaigns, tobacco taxation including cigarette excise taxes is the major mechanism imposed by the BiH government to control its consumption. BiH, like many other countries, implement a mixed tax structure, combining specific and ad valorem excise taxes. In addition to the excise taxes, BiH also applies the same value added tax (VAT) on cigarettes as on other goods and services. Both the taxation structure and tax levels are highly politically driven decisions in a highly complex power structure.

Taxes, Prices and Demand

Total excise and VAT burden (as % of price) in BiH (in 2017) is 82.48%. The price of the most popular cigarettes (20 sticks) is 2.66 EUR (2017), compared to 0.92 EUR in 2010. However, given the low production costs, retail cigarette prices in BiH are among the lowest in Europe. The tobacco excise may increase after the State parliamentary election in October 2018, as a part of BiH's Economic Reform Program (ERP) for 2018-2020, commissioned and overseen by the EU Commission.

We apply two methods to estimate price and income elasticities, namely the ordinary least squares (OLS) with time series data and Deaton model. Estimated price elasticity is between -0.65 and -0.83, and income elasticity is 0.5 which is in line with the previous research. If the price and income elasticity is -0.65 and 0.5 respectively and the projected real growth rate 3.2% (IMF estimation for BiH in 2018), in terms of the economic impact, then 10% increase retail price (resulting from 33% increase in the specific excise) would lead to a decrease in cigarette consumption of around 4.9% and an increase in revenues from tobacco (excise and VAT) by around 6.6%. Our secondary research and the outcomes of the focus groups we conducted across the country show that some decrease of tobacco consumption had resulted from the taxation increase. More than likely, as the employed econometric analysis suggests, the effect might be visible after a longer period of time.

Findings & Recommendations

- Increase tobacco taxes (excise and VAT) that significantly raise cigarette prices to reduce tobacco consumption in BiH.
- Increase taxes on other tobacco products, including cut tobacco, similar or equal to cigarette taxes with an aim to reduce the use of these substitutes.
- Increase in taxes of cigarette or other tobacco products that ensure that the affordability of cigarettes is reduced as incomes increase.
- Households with higher levels of expenditure spend a lower share of their budget on cigarettes.
- Strengthen tobacco tax administration, increase enforcement, and eliminate illicit trade of tobacco products in order to control tax avoidance and evasion in BiH.

1. Introduction

Smoking is an endemic problem in Bosnia and Herzegovina (BiH). Smoking prevalence is extremely high, as more than 40% of the adult population consumes tobacco products on a daily basis. According to statistics of BiH, men, are almost twice as likely to be addicted to smoking than women, with smoking prevalence among men at 46.9% (56.3% Federation of BiH - FBiH, 37.5% in Republika Srpska – RS), relative to 28.6% among women (31.6 FBiH, 25.5% RS). However, in reality the gender gap might be smaller than the figures show, since smoking in BiH is now more socially acceptable than before. The level of tolerance towards smoking in BiH, similar to other neighboring countries, is relatively high. Yet, the rate of smoking has a tendency to decline. Available evidence also suggests that there is a growing disparity in cigarette smoking by social classes, and narrowing of differences in smoking by gender. Socially disadvantaged young adults and working class women are amongst the dominant groups when it comes to smoking prevalence. For instance, research shows that there is a high prevalence of smoking among health care professionals, especially among female nurses (58.1%) and female admin staff (55.6%), (Nikšić et al., 2013, p.15).

Tobacco use in BiH begins during the teen years, as a result of the liberal tobacco market (lack of government control), low price (the lowest in Europe and Central Asia) and an easy access to tobacco products. Smoking prevalence is also high among youth. Due to an absence of strict anti-smoking policies, smoking among school-aged individuals in BiH is widespread, as 12% of teens (boys 15.5%, girls 9.7%) consume tobacco products, mainly manufactured cigarettes (Agency for Statistics of BiH, 2018).

Additionally, research shows that smoking is among the leading preventable causes of death worldwide. BiH is not an exception. Based on the current percentage of people smoking in BiH, premature deaths attributable to smoking are projected to be as high as 600,000 (World Health Organization, 2016). In addition, non-communicable diseases (NCDs) account for 45% of deaths in BiH (The World Bank, 2012). Based on the evidence from other countries, tobacco control policies, if fully implemented, would significantly reduce smoking prevalence in BiH. Some of these policies are: increased cigarette taxes/excise duties, high-level mass media campaigns, banning most forms of direct and indirect advertising, more comprehensive smoke-free laws and stronger enforcement of policies. The potential effects of comprehensive policies on tobacco consumption were also underlined by the World Health Organization (2016, p. 2): "With this stronger set of policies and consistent with the WHO FCTC (3), smoking prevalence can be reduced by 25% within 5 years, by 32% within 15 years and by 38% within 40 years in both the Federation of Bosnia and Herzegovina and the Republika Srpska". BiH, in addition to its complex political system, has been impacted by government instability. Frequent elections and endless negotiations between political actors, at the state level in particular, have made most necessary reforms to be either partially successful or short-lived.

The aim of this study is to analyze the effects of tobacco taxation and provide research-based evidence for more effective tobacco taxation policies. In this report, we describe and analytically consolidate the tobacco environment in BiH, covering the most important areas related to tobacco demand and supply, followed by the tobacco use and its health and economic consequences. By using sophisticated methods for data analyses, the

report provides a brief discussion on tobacco control policies in BiH, followed by a more detailed discussion of tobacco taxes, prices, and smoker culture and behavior. The most challenging part of this research was data collection. Inconsistent and incomplete data sources, as well as limitations on accessing the sources, are only some of these challenges.

1.1 Country Profile

BiH has an almost “locked in” geographical location of 51,209 square km, with physical barriers along the borders from its immediate neighbors. The country is part of the Western Balkans and shares many similarities with other countries in the region. With its three neighbors—Croatia, Serbia and Montenegro— BiH has a total border of 1,537 km: in the north, south and north-west with Croatia (931 km), to the east with Serbia (273 km) and Montenegro to the southeast (294 km). The country border is almost equally split between the land (774 km) and water, mainly along the rivers (751 km). Access to the Adriatic Sea is through a narrow strip of territory on the Dalmatian coast of Croatia (25 km). Although the geography increases difficulties for regional trade and economic integration, it offers many possibilities for illicit trade, including for tobacco products.

The state has a highly complex political system, with an even more complicated power structure and decision-making process, which are holding back the country’s necessary reforms. It consists of a confederal system of government in which power is rotated between three ethnic communities (Bosniacs, Croats and Serbs). Within this, there are two political entities: one is the Bosniac-Croat Federation (FBiH), populated mainly by Bosnian Croats and Bosnian Muslims (the latter now termed Bosniacs), the other is Republic of Srpska (RS), an entity in which Bosnian Serbs form the majority, and the Brčko District - BD. The confederated state has a population of about 3.5 million (male 48.1%, female 52.9%), as of the October 15, 2013 Census, experiencing a decline in population since 2007. The current BiH age structure has a constrictive population pyramid that seems to be typical for transition countries in the south-east Europe. , The population mostly consists of elderly individuals. The population is concentrated in several medium sized cities or regions: Sarajevo (290,000), Banja Luka (190,000), Mostar, Zenica, Tuzla and Bijeljina (over a 100,000 each). Brčko District has the population of about 93,000. The state has a complex administration structure consisting of the state government, entities, Brčko District, 10 cantons in the FBiH, and 143 municipalities, 79 in the FBiH, and 64 in the RS, in 16 cities and 892 villages (Agency for Statistics of BiH, 2018). Table 1 provides a snapshot of the key indicators of the country.

**National Study on Economic of Tobacco and Tobacco Taxation
BOSNIA AND HERZEGOVINA**

Table 1. Key indicators for Bosnia and Herzegovina

General info	Data
Region	SE Europe
Income Category (2018)	upper middle-income country
Population (proj., 000) (2017)	3,502.107
Surface area (sq km)	51,209
Capital city	Sarajevo
Gross domestic product, in millions EUR (2017)	16.019
Gross domestic product, per capita, EUR (2017)	4.568
Gross domestic product, real growth, in % (2017)	4.6
Inflation (2018)	1.6%
Unemployment according to the Survey (in %) (2017)	19.4
Wages (average for the period, in EUR) (June 2018)	450.31
Employment level, average (thousands) (April 30th, 2018)	1,252,860

Source: Agency for Statistics BiH (2018)

1.2 The economic outlook

BiH is a middle-income country that is in the process of changing social standards of behavior. Even after 25 years, the country is still in a significant transitional process, far behind many other European transitioning economies. Such a state determines the economic position of the country. The country's chief economic challenge is its untransformed economic model that still favors the public rather than private sector, thus public policies and incentives often target the public sector. The main economic activity is trade. Although showing a tendency to decline, it continues to be the main source of income for almost two thirds of the population in both entities of BiH. As a result, major problems continue to be high fiscal deficits, large current account deficits and considerable debt levels. In 2017, BiH GDP stood at USD 17.2 billion (€14.88 billion) (The World Bank in BiH, 2018); of this 7.74% is contributed by agriculture, 26.8% by industry (12.9% by the MoM- manufacturing operations management) and 64.2% by services (Statista, the statistic portal, 2018). Per capita GDP, based on Purchasing Power Parity (PPP), is € 4,979.86. The current average net wage level is € 480.49 in the FBiH¹ and €457.31 in RS². Official figures show a high unemployment rate of about 20.5% (2017), mostly for younger people between the ages of 16 and 25 years (Agency for Statistics of BiH, 2018). The majority of the official workforce continues to depend, in formal terms, on large state-owned enterprises – many of these are illiquid, inefficient and debt-ridden.

¹ Data from the Institute for Statistics of FBiH for July 2018 (retrieved from: <http://fzs.ba/index.php/publikacije/saopcenjapriopcenja/trziste-rada-zaposlenost-nezaposlenost-i-place-2/>)

² Data from the Institute of Statistics of the Republic of Srpska for July 2018 (retrieved from: http://www.rzs.rs.ba/front/article/3092/?left_mi=None&add=None)

2. Supply of tobacco products

Tobacco in BiH is increasingly losing its importance as an agricultural product and is generally grown in very small areas. Tobacco producers are legal entities; entrepreneurs or individuals who produce tobacco and are required to register in the Register of Tobacco Producers (i.e. in the Lists of Records of Tobacco Producers³) (Official Gazette BiH No. 32/10, 2010).

According to the Agency for Statistics of BiH (2018), in the last 17 years, the harvested tobacco area has decreased by over 60%, from 2,425 hectares harvested in 2006, to 1,496 hectares in 2017. Tobacco leaf production in BiH varied from 3,233 t in 2000 to 1,759.6 t in 2017, which represents a significant decrease of 54.42% (Agency for Statistics BiH, 2018). The reasons for lower production and tobacco growing are: reduced demand from the processing industry and its orientation to imports of raw materials, lower purchase prices and modest financial incentives by the government (Ministry of Foreign Trade and Economic Relations of BiH, 2016). Cash incentives for the production of tobacco are low, and a large number of traditional agricultural producers in BiH are turning to other products. For example, in Herzegovina, the number of hectares planted with smilje (lat. *Helichrysum*) and other healing herbs has increased in the past few years.

Tobacco production in the Federation of Bosnia and Herzegovina (FBiH) is taking place in the Posavina Canton and in slightly smaller areas in Herzegovina. An average tobacco farm is about 664 hectares from which an average production of 650 tons is achieved. Tobacco production in 2016 in FBiH was 491 tons, which was lower by 13% compared to the previous year's production. In the Republic of Srpska (RS), the production area on average was 1,028 hectares, from which about 1,590 tons of tobacco was produced. Tobacco production in 2016 amounted to 1,824 tons, a 12% increase over the previous year when it was 1,628 tons. The price of tobacco for a period of ten years ranged from 1.25 EUR per kg, (the lowest recorded purchase price of dry tobacco leaf) up to a maximum of 1.37 EUR. (Ministry of Foreign Trade and Economic Relations of BiH, 2016).

³ Tobacco production is the production of seedling tobacco, tobacco growing in the field, harvesting, drying, sorting and packaging of tobacco by the manufacturer. Domestic tobacco products are tobacco products manufactured by a person in BiH that is registered with the Register of Tobacco Producers and the Register of Brands of Tobacco Products in accordance with this Law. Tobacco according to the Law (Law on Tobacco of Bosnia and Herzegovina, 2010) means leaves of cultivated plant species of the genus *Nicotiana tabacum* L with the following types: a) Virginia (flue-cured) dried in special controlled-atmosphere dryers, b) dried by ambient air in the shade, c) Herzegovina ravnjak (sun-cured) dried by ambient air in the sun.

**National Study on Economic of Tobacco and Tobacco Taxation
BOSNIA AND HERZEGOVINA**

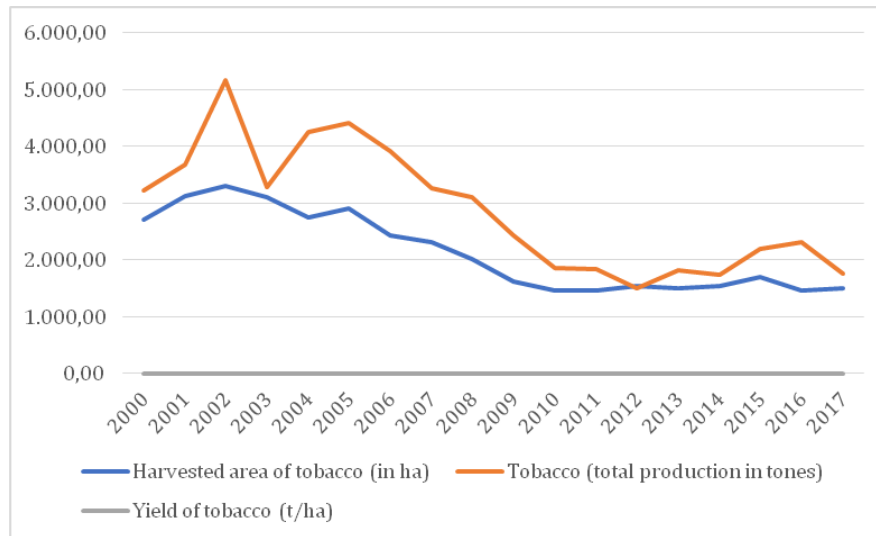
Table 2. Annual tobacco production in BiH in the period 2000 - 2017

Year	Harvested area under tobacco (in hectares)	Tobacco (total production in tons)	Yield of tobacco (tons/ha)
2000	2,710.0	3,233.0	1.2
2001	3,123.1	3,673.0	1.2
2002	3,299.0	5,173.0	1.6
2003	3,104.0	3,279.0	1.1
2004	2,751.0	4,246.0	1.5
2005	2,903.0	4,421.0	1.5
2006	2,425.0	3,916.0	1.6
2007	2,321.0	3,265.0	1.4
2008	2,009.0	3,098.0	1.5
2009	1,614.0	2,424.0	1.5
2010	1,460.5	1,854.2	1.3
2011	1,456.0	1,835.0	1.3
2012	1,545.0	1,494.0	1.0
2013	1,507.0	1,811.6	1.2
2014	1,547.0	1,739.5	1.1
2015	1,696.0	2,196.0	1.3
2016	1,465.0	2,315.0	1.6
2017	1,496.0	1,759.6	1.2

Source: Agency for Statistics of BiH, 2018

The yield of tobacco ranges from 1.0 t/ha to 1.6 t/ha. The average tobacco yield in the period from 2000 to 2017 was 1.3 t/ha. From 2000 to 2004, the growing areas under tobacco recorded a growth from 2,710 ha to 3,104 ha, while in last 13 years they recorded a decrease to 1,496 hectares, as was harvested in 2017 (Agency for Statistics of BiH, 2018).

Figure 1. Tobacco Leaf Production in BiH 2000 – 2017



Source: Agency for Statistics BiH, 2018

The Ministry of Foreign Trade and Economic Relations of BiH's Annual Report on agriculture, food and rural development (Ministry of Foreign Trade and Economic Relations of BiH, 2016, p. 22) states that "... besides the reduced harvested area, the production also halved during the period from 2006 to 2012, i.e. from 3,300 tons in 2006 to 1,500 tons in 2012. Although after years of significant reduction, production recovered and increased and reached a level of 2,300 tons in 2016, however production level failed to return to the 2006 production level."⁴

At the same time, there was a decrease in imports and an increase in exports of tobacco and tobacco products. The largest volume of tobacco and tobacco products imports was recorded in 2008, amounting to 7,202 t, or EUR 71,612,783.40. During the same period, 433.9 t of tobacco and tobacco products, worth EUR 3,974,797.32, were exported. Over the past ten years, we have seen a gradual decline in imports and an increase in exports of tobacco and tobacco products, with an exceptionally high foreign trade deficit of - EUR 24,181,973.23 in 2017. A detailed overview of the import and export of tobacco and tobacco products, based on the data of the Indirect Taxation Authority of BiH (2018), is presented in Table 3 and Figure 3.

⁴ These data stated in the report of the Ministry of Foreign Trade and Economic Relations of BiH are slightly different from the data which, for the needs of this research, we obtained from the Agency for Statistics of BiH (2018). The discrepancies between the data presented by different institutions in BiH, though coming from the same data sources, may represent one of the limitations in this research.

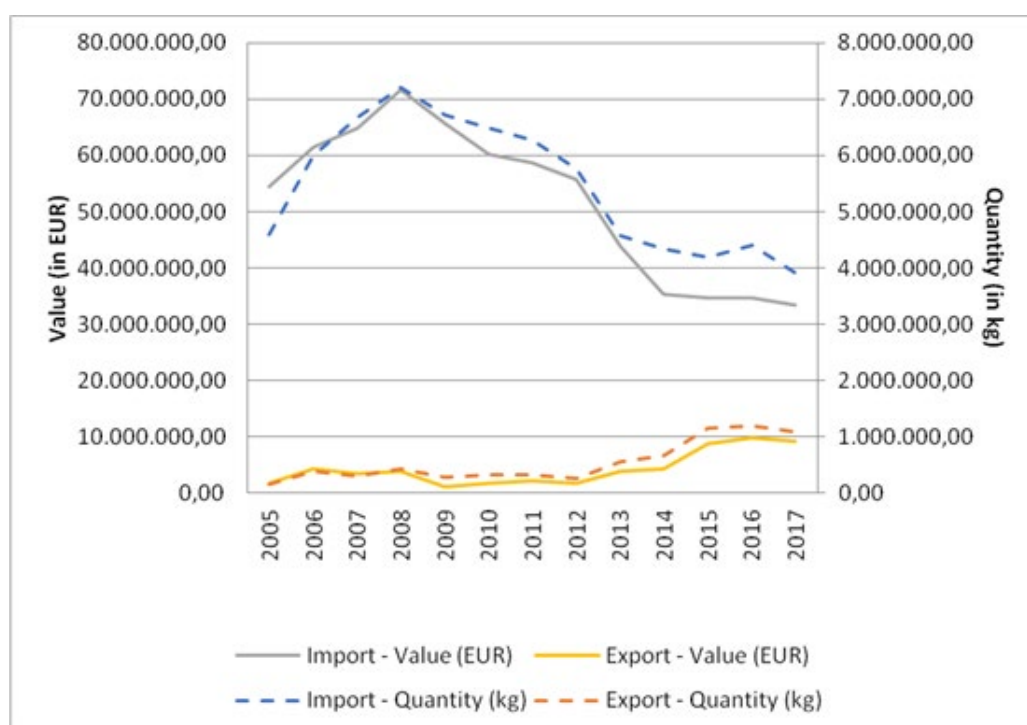
**National Study on Economic of Tobacco and Tobacco Taxation
BOSNIA AND HERZEGOVINA**

Table 3. Overview of Import and Export of Tobacco and Tobacco Products 2005 - 2017

	Import		Export	
	Quantity (kg)	value (EUR)	Quantity (kg)	value (EUR)
2005	4,601,085.28	54,448,787.90	154,121.20	1,869,315.22
2006	6,000,379.02	61,541,810.07	396,534.02	4,417,769.52
2007	6,675,085.90	64,877,021.17	309,776.26	3,399,932.20
2008	7,202,513.40	71,612,783.40	433,904.28	3,974,797.32
2009	6,710,328.97	65,589,090.13	292,043.16	1,162,944.22
2010	6,481,341.75	60,233,407.81	326,064.60	1,781,127.88
2011	6,273,594.80	58,624,238.66	315,902.40	2,132,771.87
2012	5,762,624.66	55,649,048.35	263,500.04	1,702,732.51
2013	4,563,425.41	43,759,611.76	553,248.28	3,868,127.84
2014	4,341,137.46	35,282,050.60	657,540.90	4,218,822.12
2015	4,193,784.15	34,613,593.51	1,151,418.46	8,834,757.96
2016	4,393,172.91	34,736,196.33	1,198,549.21	9,931,031.99
2017	3,919,340.85	33,354,436.22	1,091,120.34	9,172,462.99

Source: Indirect Taxation Authority of BiH, 2018

Figure 2. Overview of Quantity and Value of Tobacco and Tobacco Products' Import and Export 2005 - 2017



Source: Indirect Taxation Authority of BiH, 2018

According to the Indirect Taxation Authority of Bosnia and Herzegovina, there are only two taxpayers of excise tax on domestic tobacco and tobacco products: Tobacco Factory Banja Luka a.d., Banja Luka, and Tobacco Factory Sarajevo d.d., Sarajevo. An excise taxpayer is also an importer of excise goods, and the Indirect Taxation Authority of Bosnia and Herzegovina earns income from excise and import. In 2017 (excluding December), over EUR 300 million of excise tax was collected on tobacco products from imports, while EUR 91.6 million of revenues was collected from excises on domestic tobacco and tobacco products (Indirect Taxation Authority, 2018). In 2012, there were 1,261 (or 0.15%) employees in tobacco product manufacturing (Agency for Statistics of BiH, 2012). Tobacco Factory Banja Luka a.d., Banja Luka is in bankruptcy and is close to its liquidation in 2018.

The supplier companies in BiH are divided into suppliers of cigarettes, quit smoking products, rolling tobacco, smoking paper and more.

Table 4. Overview of export and import of specific tobacco products⁵

	2012		2013		2014	
	VALUE (EUR)	AMOUNT (KG)	VALUE (EUR)	AMOUNT (KG)	VALUE (EUR)	AMOUNT (KG)
EXPORT	9,487,857	2,628,447	11,385,947	2,823,853	8,213,354	2,219,818
2401	3,544,585	1,607,353	3,317,393	1,406,940	1,129,522	977,068
2402	5,295,292	729,332	7,782,536	1,139,562	13,473,043	1,052,585
2403	647,980	291,762	286,019	277,351	195,174	190,165
IMPORT	60,080,949	7,409,003	49,431,373	6,305,692	41,926,312	6,347,969
2401	2,581,141	1,231,501	1,539,219	1,086,726	2,865,343	1,362,618
2402	55,649,048	5,762,625	43,759,612	4,563,425	35,282,051	4,341,137
2403	1,850,760	414,877	4,132,542	655,541	3,778,919	644,214
	2015		2016		2017	
	VALUE (EUR)	AMOUNT (KG)	VALUE (EUR)	AMOUNT (KG)	VALUE (EUR)	AMOUNT (KG)
EXPORT	11,525,569	2,028,882	13,820,785	2,624,195	11,081,028	1,923,171
2401	684,768	460,164	1,542,052	953,203	1,726,750	746,104
2402	10,636,015	1,415,167	12,099,624	1,520,842	9,186,265	1,092,320
2403	204,787	153,551	350,309	150,150	168,014	84,746
IMPORT	42,796,132	7,061,352	43,264,908	7,301,262	36,643,583	5,013,378
2401	5,685,057	2,350,870	4,614,676	1,981,368	780,756	624,626
2402	34,613,594	4,193,784	34,736,196	4,393,173	33,351,194	3,919,137
2403	2,497,482	516,698	3,914,036	926,721	2,511,632	469,615

Source: Indirect Taxation Authority of BiH, 2018

⁵ Table 4 provides a detailed overview of export and import of following tobacco products: tariff code 2401 - Unmanufactured tobacco, tobacco waste; 2402 - Cigars, cigarillos and tobacco cigarettes or tobacco substitutes, and 2403 - Other processed tobacco and processed tobacco substitutes; homogenized and reconstituted tobacco; tobacco extracts and essences.

**National Study on Economic of Tobacco and Tobacco Taxation
BOSNIA AND HERZEGOVINA**

The production of tobacco products in BiH recorded a significant drop over the years (Table 5). Between 2013 and 2017, annual averages declined by around 13.4 % (Council of Ministers of BiH, 2017). Table 5 provides a detailed summary of consumption of domestically produced cigarettes in BiH in the last ten years.

Table 5. Consumption of domestically produced cigarettes (sticks - in billion) 2008 - 2017

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Consumption of domestically produced cigarettes (sticks - in billion)	4,40	4,49	3,73	3,15	2,54	1,81	1,53	1,69	1.3	1,08

Source: Indirect Taxation Authority of BiH, 2018

The balance sheet for 2017 was received from 13 companies, activity code C.12 Manufacture of tobacco products, bearing in mind that the second largest cigarette producer, Tobacco Factory A.D. Banja Luka, had 222 employees, in early 2018 and the factory is in liquidation process. These and other details are presented in Table 6.

Table 6. Reported balance sheets of BiH companies engaged in the production and trade of tobacco and tobacco products in the fiscal year of 2017

#	Company name	City	Assets (EUR)	Income (EUR)	Net profit (EUR)	Number of Employees
1	"TDR" d.o.o. Sarajevo	Sarajevo	45,160,779	104,523,817	1,649,698	123
2	Philip Morris BH d.o.o.	Sarajevo	23,609,883	174,141,331	869,367	41
3	Japan International - Representative Office in BiH	Sarajevo	n/a	n/a	n/a	n/a
4	Imperial Tobacco BH d.o.o.	Sarajevo	9,372,317	36,509,154	0	4
5	Fabrika duhana Sarajevo D.D.	Sarajevo	177,251,288	54,567,750	32,816,178	244
6	A.D. Fabrika duvana Banja Luka	Banja Luka	29,546,114	13,341,864	0	222
7	"Bosanac" D.D. Orašje	Orašje	8,292,071	1,826,175	64,044	43
8	Duhan D.D. za proizvodnju i obradu duhana	Gradačac	4,330,239	1,815,129	5,845	30
9	General Tobacco Industry d.o.o. Ljubuški	Ljubuški	3,812,112	88,350	0	1
10	"DB TABACO" d.o.o. Bijeljina	Bijeljina	1,357,177	1,928,864	119,112	28
11	Duhan d.o.o.	Čapljina	1,121,482	0	0	1
12	Poduzeće za otkup i obradu duhana D.D. Š. Brijeg	Široki Brijeg	788,078	614	0	1

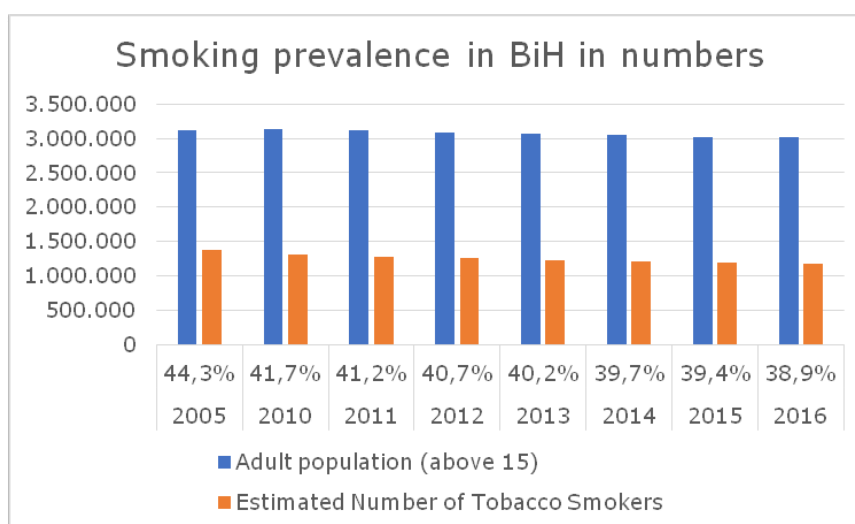
13	"J.T.N. Tabacco" d.o.o. Banja Luka	Banja Luka	710,738	237,684	148,919	6
14	Stolac D.D. za otkup i obradu duhana Stolac	Stolac	541,417	0	0	1
15	Hercegovina Tabak d.o.o. Ljubuški	Ljubuški	58,431	6,876	0	2
16	"Amsterdam Clouds" d.o.o. Gradačac	Gradačac	31,735	4,889	0	1
17	"Gold Tobacco Internationale" d.o.o.	Goražde	5,113	0	0	0
	Total		305,988,976	388,992,496	35,673,163	748

Source: Boniteti.Bisnode.ba

3. Demand for tobacco products

In BiH, a high proportion of the population consumes cigarettes, but this number has noticeably decreased over the last 17 years. This trend can be attributed to the harmonization of certain regulations related to the control of tobacco and tobacco products with those in the EU⁶. New regulations have forced an increase in the price of tobacco products, likely affecting the consumer behavior and buying tendency of cigarettes and other tobacco-related products. See Table 5 for more details. Additional details about the consumer behavior when it comes to tobacco use behavior is found in Appendix 1.

Figure 3. Smoking prevalence in BiH in numbers



Source: Source: The World Bank, 2018; World Health Organization, 2016.

Table 7. Retail price of the most sold cigarettes price category in BiH 2008-2017

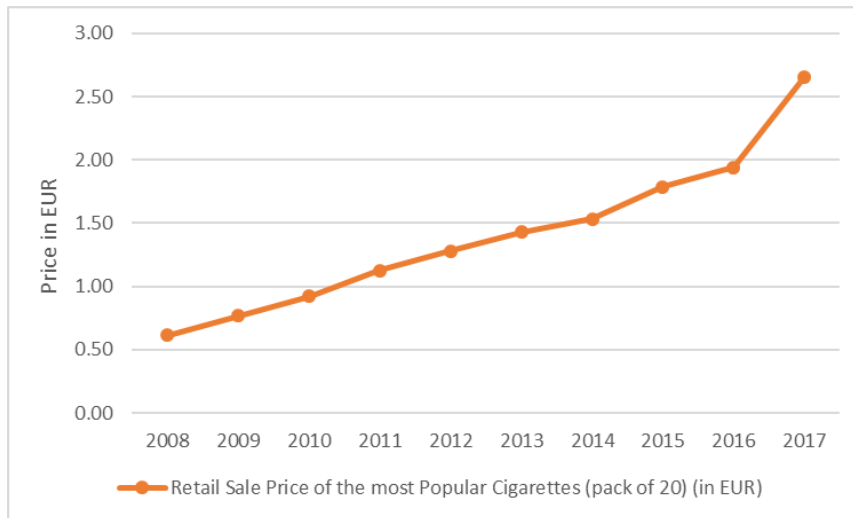
Year	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Price of the most sold cigarettes price category (pack of 20) (in EUR)	0.61	0.77	0.92	1.12	1.28	1.43	1.53	1.79	1.94	2.66

Source: Indirect Taxation Authority of BiH, 2018

Data, as shown in Table 7 and Figure 4, suggests that there is a relationship in trends of the two variables: the price of tobacco products and the number of smokers among the adult population in BiH.

⁶ Directive 2014/40/EU of the European Parliament and of the Council of Europe of 3 April 2014 on the harmonization of laws, regulations and administrative provisions of the Member States on the manufacture, presentation and sale of tobacco products and related products and the abolition of Directive 2001/37/EC.

Figure 4. Retail price of the most sold cigarettes price category in BiH 2008-2017



Source: Indirect Taxation Authority of BiH, 2018

According to the research study, “Risk Factors for Mass Non-infectious Diseases - Impact of Results on Policy and Practice” carried out in 2015, based on a sample of 1,400 people between 15 and 65 years of age in RS, the smoking prevalence was 24.6% (men 26.7%, and women 22.6%) (Government of the RS 2017). The smoking prevalence is lowest among the population between 15 and 18 years of age (5.8%), and the highest amongst those between 45 and 54 years old (42.5%). The data from this study also shows that more than one third of the adult population is exposed to smoking in the household daily, that the average smoking consumption period is 12.7 years, and that every smoker in the Republic of Srpska smokes an average of 20 cigarettes per day.

Additionally, 82% of respondents supported the ban on smoking in public places. Similar situation is in the Federation of BiH, according to a research conducted during the period from 2010 to 2015. Thus, the 4th round of the UNICEF’s *Multiple Indicator Cluster Survey* (MICS4)⁷ conducted in 2011 shows that 33.4% of women in urban areas and 24.9% of women in rural areas are permanent smokers, while 45% of men in urban and 41.1% of men in rural areas are permanent smokers. There is a high level of addiction to nicotine that is more evident amongst the male population (68.4%) compared to women (39%) who smoke more than 20 cigarettes per day. The results of the study on the state of health of adult population in the Federation of BiH in 2012 confirm that smoking is also the leading problem, with 44.1% of permanent smokers among the study participants, of which 56.3% are men and 31.6% are women (Institute for Public Health FBiH, 2016).

⁷ UNICEF assists countries in collecting and analyzing data in order to fill data gaps for monitoring the situation of children and women through its international household survey initiative the Multiple Indicator Cluster Surveys (MICS). MICS enables countries to produce statistically sound and internationally comparable estimates of a range of indicators in the areas of health, education, child protection, water and sanitation and HIV and AIDS. MICS findings are typically one of the most important sources of data within a country used as a basis for policy decisions and programme interventions, and for influencing public opinion on the situation of children and women. See more details at http://www2.un.md/job_opp/2010/033_UNICEF/UNICEF%20MICS%20Consultant%20ToR.pdf, retrieved 02nd of November 2018.

**National Study on Economic of Tobacco and Tobacco Taxation
BOSNIA AND HERZEGOVINA**

By taking into account all major surveys and longitudinal observations, the smoking prevalence in BiH is higher among the male than female population. Namely, as shown in Table 7, 55.70% of men and 35.9% of women were active smokers in 2000. According to estimates by The World Bank (2018), in 2016, the number of men consuming tobacco and tobacco products recorded a very slight decline to 46.90% of smokers, while the number of women consuming tobacco and tobacco products dropped to 28.5%.

Table 8. Smoking prevalence by gender in BiH

	2000	2005	2010	2012	2015	2016
Smoking Prevalence by Gender (male in %) (% of adults)	55.70%	53.80%	50.00%	49.00%	47.20%	46.90%
Smoking Prevalence by Gender (female in %) (% of adults)	35.90%	33.60%	31.70%	31.20%	30.00%	28.50%

Source: The World Bank data, 2018.

A large number of young people between 15 and 17 years old smoke cigarettes. In a survey carried out in BiH by CARE International in Balkans in May and June 2018, using a sample of 1,816 respondents between age 15 and 17 (1,005 young men and 811 young women) from 11 cities, on average 18% of youth smoke cigarettes daily (CARE International in Balkans, 2018). Details are available in Table 9.

Table 9. Smoking prevalence of youth in BiH (the ages between 15 and 17)

		Banja Luka	Bijeljina	Brčko	Gradiška	Istočno Sarajevo	Jablanica	Mostar	Novi Travnik	Sarajevo	Tuzla	Visoko
Currently smoking cigarettes	Young men	19.9%	23.5%	35.6%	4.2%	7.4%	20.9%	26.1%	22.2%	10%	20.4%	16%
	Young women	22.6%	22.5%	-	29.6%	15.8%	5.3%	17.1%	3.2%	13.2%	-	4.5%
	Total	21.2%	23%	35.6%	16.9%	11.6%	13.1%	21.6%	12.7%	11.6%	20.4%	10.2%

Source: CARE International in Balkans, 2018.

4. Tobacco taxation and pricing policies

4.1 Institutional setting

Following the complex government structure of the country with state-level, entity-level and cantonal institutions, the institutional setting relevant to tobacco taxation and control represents a mix of state- and entity-level bodies with different levels of authority and competencies.

State-level bodies

Ministry of Finance and Treasury of Bosnia and Herzegovina (MFT) - MFT is a state-level ministry in charge of drafting laws and preparing fiscal policies, particularly in the field of taxes, customs and excise duties.

Ministry of Civil Affairs of Bosnia and Herzegovina (MCA) - MCA is a state-level ministry in charge of, among other, health protection relevant policies. It is in charge of coordinating policies at the state-level in communication with the entity level ministries.

Indirect Taxation Authority of Bosnia and Herzegovina (ITA) - The responsibilities of the Indirect Taxation Authority of BiH are defined by the Law on the Indirect Taxation System in BiH ("Official Gazette of BiH" No. 44/03, 52/04, 34/07, 49/09, 32/13 and 91/17) and the Law on the Administration for Indirect Taxation ("Official Gazette of BiH" No. 89/05). The Indirect Taxation Authority (ITA) is the only institution responsible for implementing the regulations in the field of indirect taxes and policy, which is determined by the Council of Ministers of Bosnia and Herzegovina and for the collection and distribution of revenues from indirect taxes. Revenues for which the collection is subject to the ITA are: VAT, excise duties, customs duties, and tolls. The ITA generates gross revenues (by all types of taxes), and the allocation to users (RS, FBiH and Brčko District) is executed based on the coefficients determined by the Board of Directors of the ITA, which is in fact the ratio of the final consumption endpoint from the VAT declaration. The ITA Board of Directors consists of 6 members out of which three are ministers of finance (one state level minister and two entity level ministers) and three are experts on indirect taxation. The ITA Board of Directors defines the indirect taxation policies and passes decision on determining the ad valorem and specific excise on tobacco and cigarettes on annual basis.

Border Police of Bosnia and Herzegovina (BP) - BP is administrative organization within the Ministry of Security of Bosnia and Herzegovina and is in charge of border control and surveillance, as well as monitoring and preventing illegal activities and any cross-border criminal activities near the BiH border. The BP works together with the ITA Customs Office to prevent cross-border illegal activities related to tobacco and tobacco products.

The Entity-level

Ministry of Finance of the Republic of Srpska (MF RS) - MF RS is in charge of the tax policies at the entity-level, but largely related to direct taxation. However, through its participation in the Board of Directors of ITA, the MF RS provides input for indirect taxation policies to be implemented and ensures that the percentage of indirect tax

revenues collected at the state level goes to the entity level budget. The MF RS is in charge of planning and executing the entity-level government budget, including decisions on allocation of the revenues from the indirect taxes to specific budget expenditures.

Ministry of Finance of the Federation of Bosnia and Herzegovina (MF FBiH) - Similarly to the MF RS, the MF FBiH is in charge of the direct tax policies at the entity-level and participates in the Board of Directors of ITA. It is in charge of planning and executing the entity level government budget, including absorption and allocation of indirect taxes revenues to specific budget expenditures.

Ministry of Health and Social Protection of the Republic of Srpska (MH RS) and Ministry of Health of the Federation of Bosnia and Herzegovina (MH FBiH) - Both MH RS and MH FBiH are in charge of defining health protection related policies at respective entities level, including the control and monitoring of policies and activities for tobacco consumption. Jointly with the Public Health Institutes in both entities and the World Bank, the two ministries are implementing a project "Reducing health risk factors" focused on improving the tobacco and alcohol control.

Ministry of Interior of the Republic of Srpska (MUP RS) and Ministry of Interior of the Federation of Bosnia and Herzegovina (and Cantonal Ministries of Interior) (MUP FBiH) - In charge of controlling and preventing the illegal activities at the territory of each respective entity, including the control and issuing sanctions for illicit production and trade of tobacco and tobacco products.

4.2 Policies and legal framework

Even though BiH ratified the WHO FCTC in 2009, the actual implementation and passing of policies and legal documents in accordance with the FCTC is still far from satisfying.

The State (BiH) level

At the state-level, there are two laws relevant to tobacco control and monitoring:

- **Law on Tobacco of Bosnia and Herzegovina** (Official Gazette of BiH, no. 32/10) regulates definitions of tobacco, tobacco production, processing and manufacturing of tobacco products, as well as tobacco manufacturers.
- **The Law on Excise Duties in BiH** (Official Gazette of BiH, 49/09, 49/14, 60/14 and 91/17) regulates excise taxation. The Law on Excise Duties in BiH has been in force since 2009 with several amendments to the law on taxation of tobacco products, non-alcoholic beverages, beer and wine, as well as petroleum products. In accordance with Article 4 of the Law, excise duties must be paid for petroleum products, tobacco products, non-alcoholic beverages, alcohol, alcoholic drinks, natural fruit brandy, beer, wine and coffee. Excise duty is paid for excise products produced in BiH and for excise products imported into BiH. The law stipulates an equal tax treatment for domestic and imported excise products. Provisions of the Law on Excise Duties are also applied to road-tolls. In accordance with Article 6 of the law, excise duties are charged for tobacco products, in particular:
 - Cigarettes,

- Cigars and cigarillos, and
- Smoking tobacco (cut tobacco for rolling cigarettes and other smoking tobacco).
- **Code on Commercial Communications** prohibits all forms of commercial communications related to cigarettes and other tobacco products, guns, firearms and pyrotechnical means, as well as opium drugs. The Guide on Application of the Code on Commercial Communications further specifies how and under what terms commercial communications related to cigarettes and other tobacco products are considered.

Overall, the structure of tobacco taxes is in line with the EU system. The excise tax structure consists of an ad valorem rate of 42% on the retail price, and a specific tariff. The specific tax is to increase by a minimum of BAM 7.50 every year until total excise on the most popular brand reaches BAM 180.00. Since 2015, the basis for calculation has been the weighted average retail selling price (WAP). Furthermore, there is an additional VAT of 17% and 15% tariff on imported cigarettes, though most imported cigarettes are not subject to import duties due to free trade agreements. Excise duties structure and trends in BiH are presented in Table 10.

Table 10. Excise duties structure and trends (EUR)

	Year							
	2010	2011	2012	2013	2014	2015	2016	2017
Retail Sale Price of the most Popular brand (pack of 20) (in EUR)	0.92	1.12	1.28	1.43	1.53	1.79	1.94	2.66
VAT (14.52% of price)	0.134	0.163	0.186	0.208	0.223	0.260	0.282	0.386
Ad valorem excise (42% of price)	0.387	0.472	0.537	0.601	0.644	0.752	0.816	1.117
Specific excise (value)	0.15	0.23	0.31	0.38	0.46	0.54	0.61	0.69
Total Excise Burden per pack (in EUR)	0.537	0.702	0.847	0.981	1.104	1.292	1.426	1.807
Total Excise Burden per pack (as % of price)	58.30%	62.45%	66.25%	68.54%	71.99%	72.18%	73.40%	67.95%
Total Excise and VAT Burden per pack (in EUR)	0.670	0.866	1.033	1.189	1.327	1.552	1.708	2.193
Total Excise and VAT Burden (as % of price)	72.83%	76.98%	80.78%	83.07%	86.52%	86.71%	87.93%	82.48%

Source: Indirect Taxation Authority of BiH, 2018

Detailed data on the quantity and value of consumption of domestic and imported tobacco products in the period from 2008 to 2017, as well as the constant increase of fiscal and proportional excises, are presented in following tables.

**National Study on Economic of Tobacco and Tobacco Taxation
BOSNIA AND HERZEGOVINA**

Table 11 presents consumption of domestic and imported tobacco products in BiH from 2008 until the end of 2017. Consumption of domestically produced cigarettes dramatically decreased, from around 4.4 billion pieces in 2008 to around 1.08 billion pieces in 2017. At the same time, consumption of imported cigarettes also decreased from 6.81 billion to 3.77 billion pieces. In same period, due to an increase of excise, total value of consumption of tobacco products increased from 453.74 million EUR in 2008 to 565.91 million EUR in 2017, or 24.72%.

Table 11. Consumption of domestic and imported tobacco products in BiH

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Consumption of domestically produced cigarettes (Pieces - in billion)	4.40	4.49	3.73	3.15	2.54	1.81	1.53	1.69	1.3	1.08
Consumption of imported cigarettes (Pieces - in billion)	6.81	6.20	6.51	6.31	5.73	4.77	4.49	4.28	3.95	3.77
Consumption of domestic tobacco products (EUR - in million)	148.31	170.79	186.75	189.63	175.18	155.20	144.29	155.86	134.15	117.66
Consumption of imported tobacco products (EUR - in million)	305.43	303.16	370.97	411.07	432.89	417.41	423.40	435.90	432.44	448.25
Total consumption of tobacco products (EUR in million)	453.74	473.96	557.73	600.71	608.08	572.62	567.70	591.77	566.59	565.91
Total consumption of cigarettes (Pieces - in billion)	11.21	10.69	10.24	9.46	8.28	6.58	6.03	5.98	5.28	4.86

Source: Ministry of Finance of Republic of Srpska based on Indirect Taxation Authority of BiH data, 2018

Table 12 presents issued excise stamps for tobacco products in BiH from 2008 until the end of 2017. We can notice that total quantity of issued excise stamps for domestic and imported tobacco products decreased by more than half from 2008 to 2017.

Table 12. Issued excise stamps for tobacco products in BiH

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Quantity of issued excise stamps for domestically produced tobacco (in million)	220.20	224.52	186.69	157.95	127.74	93.32	79.34	84.83	66.60	54.37
Quantity of issued excise stamps for imported tobacco products (in million)	340.72	310.37	325.71	315.82	288.28	242.72	227.21	214.38	197.82	188.98
Total quantity of issued excise stamps for domestic and imported tobacco products (in million)	560.92	534.89	512.40	473.78	416.03	336.04	306.56	299.21	264.42	243.35

Source: Ministry of Finance of Republic of Srpska based on Indirect Taxation Authority of BiH data, 2018

And finally, throughout the 10year period, taxes have significantly increased by over two times from 190 million EUR in 2008 to 405.5 million EUR in 2017.

Table 13. Taxes for tobacco products in BiH

	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
Calculated VAT on domestic tobacco products (EUR in million)	21.54	24.81	27.13	27.55	25.45	22.55	20.96	22.64	19.49	17.09
Calculated VAT on imported tobacco products (EUR - in million)	44.37	44.05	53.90	59.72	62.89	60.65	61.52	63.37	62.83	65.13
Calculated VAT on domestic and imported tobacco products (EUR - in million)	65.92	68.86	81.03	87.28	88.35	83.20	82.48	85.98	82.32	82.22
A fixed amount of excise on domestic tobacco products (EUR - in million)	0.0	40.12	28.63	36.32	39.06	34.71	35.39	45.38	40.67	37.40
A fixed amount of excise on imported tobacco products (EUR - in million)	0.0	75.37	49.86	72.59	88.00	92.15	103.42	115.13	121.35	130.37
The total amount of the fixed excise tax (EUR - in million)	0.0	115.50	78.50	108.92	127.07	126.86	138.81	160.52	162.02	167.78
Proportional amount of excise on domestic tobacco products (EUR - in million)	62.11	104.40	78.43	79,64	73.74	65.22	60.61	65.46	56.34	49.41
Proportional amount of excise on imported tobacco products (EUR - in million)	127.91	194.49	155.80	172.68	182.67	175.32	177.83	183.08	181.62	188.26
Total amount of proportional excise (EUR - in million)	190.02	298.89	234.24	252.32	256.42	240.54	238.44	248.54	237.97	237.68
Fixed + proportional excise (EUR - in million)	190.02	414.40	312.75	361.24	383.49	367.41	377.26	409.06	400.00	405.46

Source: Ministry of Finance of Republic of Srpska based on Indirect Taxation Authority of BiH data, 2018

From the aforementioned data, in the period of the observed 10 years, we can conclude that the amount of domestic cigarettes consumed in 2017 decreased by 75.38%, while the consumption of imported cigarettes decreased by 44.56%. Although the total quantity of issued stamps for domestic and imported tobacco products decreased significantly, from 560,926,400 pieces in 2008 to 243,353,121 in 2017, due to constant alignment and increase in the price of cigarettes, revenues from fixed and proportional excise were constantly increasing. In 2008, revenues amounted to EUR 190 million, while in 2017 they amounted to EUR 405.5 million, which justifies the continuation of the policy to increase excise taxes on tobacco and tobacco products.

FBiH level

At the FBiH level, the current law in the field of tobacco control is the Law on the Restricted Use of Tobacco Products (Official Gazette of FBiH no. 6/98, 35/98, 11/99 and 50/11).

RS level

At the RS level, there are three laws relevant to the control and monitoring of tobacco and tobacco products use that were promoted by the entity's Ministry of Health:

- Law on Prohibition on Smoking Tobacco Products in Public Places in RS (Official Gazette of RS no. 46/04, 74/04, 92/09) stipulates where tobacco smoking is prohibited and where it is allowed. Since this Law enables smoking in the same areas as restaurants and is not fully in accordance with the WHO FCTC, the new Law on Protection of Health of Population from Tobacco Products was proposed and set for discussion at the National Assembly of RS. It was later due to the lobbying activities of the caterers and tobacco industry.
- Law on the Prohibition on Sale to and Use of Tobacco Products by Persons under 18 Years of Age in RS (Official Gazette of RS no. 46/04, 74/04, 96/05, 92/09) provides restrictions related to the sale and use of tobacco products by minors and ensures preventive measures for improvement of their health.
- Law on the Prohibition on Advertising of Tobacco Products in RS (Official Gazette of RS no. 46/04, 74/04, 96/05, 92/09) prohibits the advertising of tobacco and tobacco products in print media, radio shows, on TV and movies, as well as through sponsorships.

As an addition to the existing legal framework in RS, the MH RS has set a *Policy for Improvement of Health of the Population in the Republic of Srpska by the Year 2020*, provides measures for improvement of the health of the population in the RS through the prevention and control of tobacco use, as well as provision of information on the negative health consequences of tobacco use.

Revenues from excise tax on tobacco – projections for 2018

Projections of excise duties on tobacco products made by ITA Macroeconomics Analysis Unit (Bulletin No. 154/155, May/June 2018) in 2018 are based on the application of the



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ITA Governing Board decision which increased a specific excise on cigarettes by 0.07 BAM/pack amounting to 0.76 EUR/pack, and a specific excise tax on cut tobacco at 53.17 EUR/kg.

It is assumed that the new tax burden will be fully transferred to retail prices. The increase in retail prices of cigarettes likely motivates the downward substitution to cheaper cigarettes and cut tobacco.

The expected increase in the retail prices of cigarettes will average 7.7%. Cigarette consumption may also decrease if the measures to combat the black market are intensified. Whereas the market for domestic tobacco products may go down in terms of value, share and consumption trends, the market for imported tobacco products may show some stability. This would indicate the advanced process of consumer polarization that has been ongoing since 2011 regarding the level of income, which has manifested itself through the migration of consumers with lower incomes from the cigarette market to the cut tobacco market (legal and increasingly illegal).

On the other hand, the consumption of imported tobacco products has proved to be less responsive, although it relates to more expensive brands favored by consumers belong to higher-income categories.

Consequently, we should not expect an increase in the market value of tobacco products in 2018, but overcompensation in favor of imported tobacco products. In such circumstances, the growth in tax burden after the last increase in the specific excise duty would at best bring the same level of revenues from excises on tobacco products as in 2017. (ITA, 2018)

Tobacco industry and the illicit trade argument

The increase in the illegal trade in cigarettes and tobacco substitute products has negative effects on filling the budget due to a reduction in excise revenues.

Although the increase in these taxes is continuous, current tax and excise rates are still lower than the recommendations given by the European directive. Data from different countries shows that increasing taxes and excises leads to a significant decline in the use of tobacco and tobacco products, while in the medium and long-term, there would be no decline in revenues (Government of the Republic of Srpska, 2017).

Nevertheless, the misleading argument that higher tobacco taxes results in illicit trade is used to influence decisions on tobacco tax policy, both within governments and in the media (Gilmore, 2016). Both the media in BiH and the region of the Western Balkans, have carried headlines such as: "Excise tax burned domestic tobacco"⁸, and "BiH: Black market is growing due to excise tax."⁹ They have helped create a climate in the public that the policy of increasing cigarette prices applied in BiH does not produce desired effects. The main argument for such a decision, which is contrary to the policy of harmonizing

⁸ <https://www.glassrpske.com/drustvo/vijesti/Akcize-spalile-domaci-duvan/257858.html>, retrieved on the 10th of June 2018.

⁹ <https://www.danas.rs/svet/bih-zbog-akciza-raste-crno-trziste/>, retrieved on the 10th of June 2018.

the BiH regulations with the EU regulations and the gradual increase in excise taxes on cigarettes, is that further increases in cigarette prices will lead to a reduction in excise and VAT revenues and will increase the share of the illegal market.

However, the experience from developed countries of the world proves the exact opposite. Illicit tobacco trade exists as a result of poor control of organized smuggling, counterfeiting and inadequate tobacco control measures. To curb illicit tobacco trade, it is essential to secure comprehensive strategies for tackling criminal activities while keeping tobacco taxes high as a part of a comprehensive approach to reduce smoking. High tobacco taxes have not been shown to be associated with high levels of illicit trade. However, illicit trade is more common in countries where governance is poor, whether taxes are high or low. For example, in countries such as the United Kingdom where governance is good – i.e. tax administration and customs are effective, and taxes are high – illicit trade has fallen by more than half from its peak of 20% in 2000 (Gilmore, 2016).

5. Elasticity of tobacco products

The price of cigarettes in BiH increased significantly from 2008 to 2017, at a rate of about 175%. The main reason for the rise in tobacco prices is increasing specific excise on cigarettes. Excise duties represented 49% of retail price (before VAT) until the introduction of specific excise in the second half of 2009. Specific excise duties increased from an initial level of 3.83 EUR per 1000 cigarette sticks in 2009 to 34.5 EUR per 1000 cigarette sticks in 2017. This is the main reason for the increase of cigarettes prices. Along with the rise in the price of cigarettes, consumption of cigarettes per adult decreased rapidly. The trend is clearly visible from data presented in Chart 2. Consumption of cigarettes in the half year period, decreased from 1904 per adult in second half of 2008 to 826 cigarettes per adult in second half of 2017. In order to empirically estimate the effects of increasing excise on cigarettes demand in BiH, we developed the two econometrics model, based on micro and macro data.

The econometric analysis uses semi-annual time-series data from 2008 to 2017 to estimate the demand for cigarettes, using the following conventional model in linear functional form:

$$\text{Const} = \alpha + \beta_0 \text{rtcpit} + \beta_1 \text{rincomt} + \beta_2 \text{tcontrolt} + \varepsilon_t,$$

where Const is aggregate consumption of cigarettes per capita, rtcpit is real tobacco CPI and rincomt is real GDP per capita (alternatively we used also GNI per capita and real wages), and tcontrolt are tobacco control variables.

As the analysis uses seasonal data, before testing for unit-roots we test for the seasonal component, and to correct for detected seasonality, we proceed with seasonally adjusted data for price index and real GDP per capita, and real disposable. We then applied the Dickey-Fuller test for unit root on a logarithmic data (Asteriou and Hall, 2016, p.361). Test indicates that real income and real disposable income have unit roots in levels, but not in the first differences, so we can conclude that these three time series are first order integrated. As we have a very short time-series of only 20 observations, we apply ordinary last squares (OLS) method. However, we also will apply ARDL for the robustness check.

The results of time-series data analysis show that increases in the price of cigarettes have a statistically significant impact on cigarette consumption, at a significance level of 1%. The estimated price elasticity coefficient is in the range from -0.71 to -0.83, depending on the selected control variables used in the model. This result means that an increase in real cigarettes prices of 10% would lead to a decrease in cigarette consumption of between 7.1% and 8.3%. Income elasticities coefficient was not statistically significant.

Furthermore, we also estimate the price elasticity of the cigarette consumption in BiH using the Household Budget Survey (HBS) data for 2011 and 2015 and Deaton (1988) method. The HBS is an annual survey, which provides detailed information on household members, and the level and structure of household expenditures (BHAS, 2018). According to the requirements of Deaton's demand model, we generate 271 clusters, which contain 14,298 households. In each cluster, on average, we have about 53 households. When

we exclude households and clusters which did not meet needed criteria for applying the Deaton method, we end up with a sample of 253 clusters and 5820 households.

The data from HBS indicate that about 41% of the households in BiH have expenses on cigarettes, while the budget share of cigarettes in this households, which is calculated as a ratio of expense on cigarettes and total expense of the households, is about 5.4%. The estimated unit value equation showed that the households with higher budgets, households with fewer members and households with elder members (i.e. households with higher adult ratio) spend relatively more per unit of cigarettes. Also, "pensioners" and "unemployed" spend less per cigarette pack, while the same does not hold for the "self-unemployed".

The regression results of the budget share equation showed that households with higher levels of expenditure (which a proxy for income) tend to spend a smaller share of their budget on cigarettes. Also, the budget share spent on cigarettes is larger among smaller households, in households with higher shares of men and adults. In the households where maximum education is higher and in "self-employed" households, budget share spent on cigarettes is lower. Using Deaton's demand model, we found significant and negative price elasticity of demand for cigarettes of -0.649.¹⁰ The estimated value of total expenditure (income) elasticity was positive and at 0.496 and in line with the expectations.¹¹

The results of both micro and macro data analysis are in line with results from previous research in the low- and middle-income countries (LMICs), where the estimated price elasticity coefficient varied between -0.5 and -1 (Selvaraj et al., 2015).

Based on our estimation of price and income elasticity of between -0.65 and 0.5, and projected real growth of 3.2% (IMF estimation for BiH in 2018), we can conclude the following: a 10% increase in the retail price (resulting from 33% increase in the specific excise) would lead to a decrease in cigarette consumption of around 4.9% and an increase in revenues from tobacco (excise and VAT) by around 6.6%. This demonstrates that the demand for tobacco products, especially cigarettes, is responsive to the change in prices. Therefore, tobacco tax policy can be used effectively to reduce cigarette consumption in BiH.

¹⁰ This estimate is, however, conditional as it is based on data which includes only tobacco-spenders but excludes the non-spenders, and it focuses only on consumption of cigarettes, but excludes other combustible tobacco products, such cut tobacco, due to the lack of data.

¹¹ This estimate of income elasticity should be treated with caution, as it indicates the elasticity on intensive margin, i.e. in the sample of households with positive consumption. In other words, among the households which consume cigarettes, 10% higher total expenditure is associated with 4.96% higher the quantity of cigarettes smoked.

6. Conclusions and Recommendations

Conclusions

The report, despite a lack of reliable data, provides a solid foundation for further inquiry of the tobacco industry and tobacco use in order to create and implement effective tobacco taxation policies in BiH. The following summarizes the key findings of the current study.

Tobacco use is high in BiH, as nearly half of all adults consume tobacco products on a daily basis. Men are almost twice as likely to become addicted to smoking as women, with smoking prevalence among men at 46.9% as compared to 28.5% among women, ignoring small differences between RS and FBiH. Yet there is a growing discrepancy in cigarette smoking by social classes, and a narrowing of differences in smoking by gender. Tobacco use prevalence among youth (15-17 years of age) is also high (12%) in BiH, with significant differences between girls (9.7%) and boys (15.5%) as well as between the cities across the country.

As a result of the high levels of tobacco use, BiH faces significant health and economic consequences. Premature deaths attributable to smoking are projected to be as high as 600,000 in BiH of about 1.2 million smokers alive today (World Health Organisation, 2016:1). Furthermore, non-communicable diseases (NCDs) account for 45% of deaths in BiH. It is believed that if tobacco control policies are fully implemented, they would reverse these negative health trends. BiH, like other LMICs, do not commission regular national surveys to collect data on smoking parameters and does not have a system for recording health outcomes.

The supply side of BiH tobacco markets has changed over the last three decades. Tobacco farming has declined sharply, by over 50%, and it is currently grown in very small areas with an annual production of about 1,700t, while exports are almost 4,000t (monetary value 33.5m EUR). Likewise, the production of tobacco products in BiH has significantly decreased. The largest multinational tobacco companies, including British American Tobacco and Philip Morris International, that took over all local and regional tobacco manufacturers, now dominate the local tobacco market. These giants also control the global supply chain, thus most of the tobacco leaf and other inputs used in tobacco product in BiH are now imported.

Tobacco taxation (VAT and excise) and tobacco control in BiH are increasingly complex, representing a mix of state and entity level bodies with different levels of authorities. BiH's cigarette tax structure seems to be out of line with the EU tobacco tax directive, where cigarette excise taxes account for about 60% of the weighted average price for cigarettes, with the specific component of the tax accounting for about three-fourths of the total excise tax. Total excise and VAT burden (as % of price) in BiH is currently 82.48%. The price of the most popular cigarettes (20 sticks) is 2.66 EUR in 2017 compared to 0.92 EUR in 2010. However, given the low industry price, retail cigarette prices in BiH are among the lowest in Europe.

Econometric analysis by using macro and micro data has shown that the long-term elasticity of cigarette demand in relation to price changes ranges from -0.65 to -0.83,

depending on the model and control variables. The analysis suggests that 10% increase in the retail price would lead to a decrease in cigarette consumption of around 4.9% and an increase in revenues from tobacco (excise and VAT) by around 6.6%.

Recommendations

Based on the evidence provided in this study, we make the following recommendations:

- (1) Increase in the tobacco products taxation (excise and VAT) that significantly raises cigarette prices leads to reduction of tobacco consumption in BiH.
- (2) Increase taxes on other tobacco products, including cut tobacco similar or equal to cigarette taxes. with an aim to reduce the use of these substitutes.
- (3) Increase taxes of cigarette or other tobacco products to ensure that the affordability of cigarettes is reduced as incomes increase.
- (4) Strengthen tobacco tax administration, increase enforcement, and eliminate illicit trade of tobacco products in order to control tax avoidance and evasion in BiH.
- (5) Dedicate a major portion of the BAM 1.5 billion of tobacco tax revenues to health related activities, including health education on prevention of smoking as a part of tobacco control policies.

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Appendix Qualitative research about attitudes toward smoking and excise increase in BiH

With the aim of having a more qualitative insight into the tobacco taxation in BiH, six focus group discussions were conducted during May and June 2018 in the following cities: Banja Luka, Bijeljina, Brčko, Tuzla, Sarajevo and Mostar. Each group consisted of eight citizens, who were selected by a snowball method applying three mandatory conditions:

- First, half of the participants must be smokers;
- Second, half of the participants needs to be female;
- Third, the age structure must be diverse, but without specially defined quotas.

Each focus group discussion lasted between 30 and 45 minutes.

After conducting the focus group discussions, transcripts of the entire conversations were made. Coding was conducted in Max QDA 2018, with 85% intercoder agreement and reliability. The method of qualitative analysis used in this research is a thematic analysis.

Regardless of whether they are smokers or non-smokers, citizens are generally aware of the negative effects of tobacco, citing health as the underlying cause of the problem. Smokers often state that they are aware of the negative effects, but that does not prevent them from smoking. On the other hand, non-smokers, in addition to health reasons, claim finances as the main negative effect, which could be illustrated by the following respondent's statement.

"I think there are absolutely negative effects of smoking and, among other things, that is why I do not smoke, and another reason is financial one. It would now be absurd to start smoking because I have no need, so I think there are negative effects and that health is endangered in the widest sense. So there may be no direct association with cancer or something in that sense, but that a person feels healthier if he/she does not smoke - I think it's real."

On the other hand, tobacco product users talk about negative effects more broadly, as if they themselves justified this activity. They usually start their answers with the words "of course, I'm aware, but ...", giving the impression that these are not essentially accepted warnings about the harmful effects of smoking, as one respondent stated:

"Of course, I am aware that I have been a smoker for some 15 years, and probably because of that I felt some of those negative consequences, but I would not say I felt them to such an extent to stop smoking."

Alternative tobacco products are roll-your-own tobacco, mottled cigarettes, electric cigarettes, etc. Most often, citizens use these alternative products with the tendency to quit smoking or purely for financial reasons.

The use of roll-your-own tobacco is most often associated with older people, because it is considered that they have more spare time to devote to it. Also, most smokers consider

that tobacco is much stronger than cigarettes and therefore feel certain animosity to it due to a stronger smell. On the other hand, those who consume tobacco argue that this is much more affordable, because it is possible to buy half a kilogram for 12 BAM (slightly over 6 EUR), which could last for 10 days.

"I would never use alternatives, as it is something unconvincing as a tobacco. I know a lot of people who first switched to these electronic ones, and eventually stopped smoking. I have not tried it." (respondent's statement).

The most common two reasons for non-smokers health and financial reasons. The former is most often mentioned by former smokers who compared their "before and after" situations, and they said they felt a significant difference in their health outcomes.

Effects of Tobacco Taxation on Smoking Behavior in BiH

In the discussions, we tried to get an insight into the respondents' attitude towards taxation of tobacco. Based on our findings, we group all respondents into the following three broad categories:

1. Those who support the introduction and increase in excise duties because consuming tobacco is not a basic need;
2. Those who do not support excise because they do not see a direct benefit;
3. Those who support an increase in excise if there is a better way of distribution.

In the following section we introduce main talking points about price of cigarettes and excise increase in BiH.

Citizens' attitudes towards the excise increase

The most common reason stated by this group of citizens is that cigarettes and tobacco products do not fall under the basic human need, and that it is some sort of luxury, and they should bear such consequences. They also believe that an increase in excise may have an effect on reducing smoking, because everyone has a price threshold up to which they can consume a product.

"As a smoker I support an increase in excise duties, because most smokers have this limit, so when they reach that price they will stop smoking, which means they have an effect on reducing smoking. I had a threshold at four and a half, five and a half, then it came to six, and up to seven and above. Somehow I support my agony."

Another extreme group thinks that cigarettes should cost from BAM 20 to BAM 200 (around EUR 10-100), because in this way it would be clear that this is a luxury goods and that it is not for everyone.

Reasons against excise and their growth

What is probably expected, smokers are primarily against excise taxes on tobacco products, justifying it with poverty, strong habits and the black market development. Majority of non-smokers agree with such claims, and the assertion that smokers will always consume cigarettes, regardless of prices - they will only quit because of a high price.

Furthermore, they do not consider cigarettes to be luxury goods, but they believe that the biggest problems in the country are too high prices and non-transparent spending. If nothing else, they see the solution in placing a moratorium on further growth, because these current prices can somehow be futile. However, any further growth will result in reduced budget of already poor population.

"I said many times that I will stop smoking if they raise cigarette prices again. I have been saying this since cigarettes costed BAM 2, and I have promised that I will seriously stop smoking if they reach BAM 5. I have continued to smoke for the past five years, and I always say that I will stop smoking. But, seriously, I will now think carefully if I will continue to smoke. I am serious. I am sorry, but this is really too much. Another thing, of course, is that a smoker will never support cigarette price rise because it directly influences its budget."

Specific views on excise duties

Specific views are moving in two directions: one direction is to increase excise with transparent spending of funds, while the second direction is to reduce the use of tobacco products or introduce excise taxes on some other products (for example, sweets or meat products).

Smokers who think that prices are too high are generally trying to reduce their consumption, explaining it by social categories and the lack of socialization. Cigarette is not so much a physical need, and in a society that communicates more and more directly - the deprivation of cigarettes would not lead to positive outcomes.

"I have reduced my smoking. Me personally, I like to hang out over a cigarette and a cup of coffee, but people become alienated from one another. Nobody wants to go out. I prefer to sit down and have a cup of coffee and light a cigarette, maybe in that way I will make a friend. Families disrupt, there is a total alienation. Maybe I'm wrong."

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