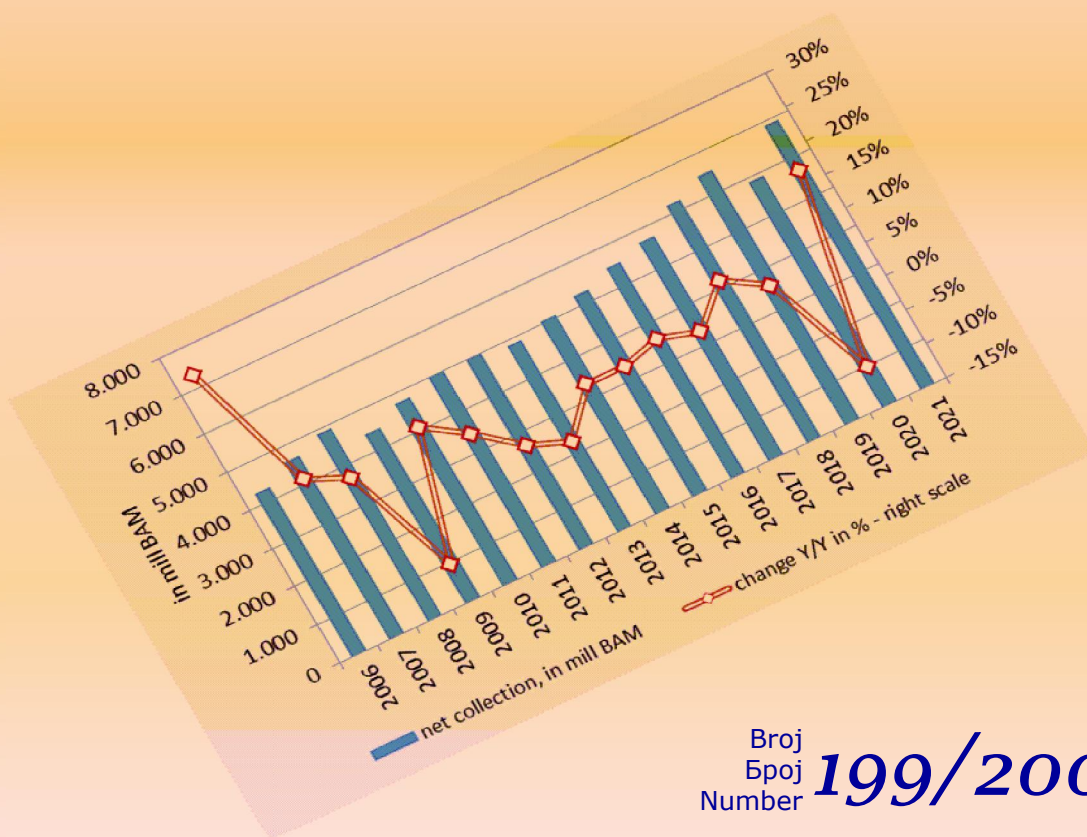




Macroeconomic Unit of the Governing Board of the Indirect Taxation Authority

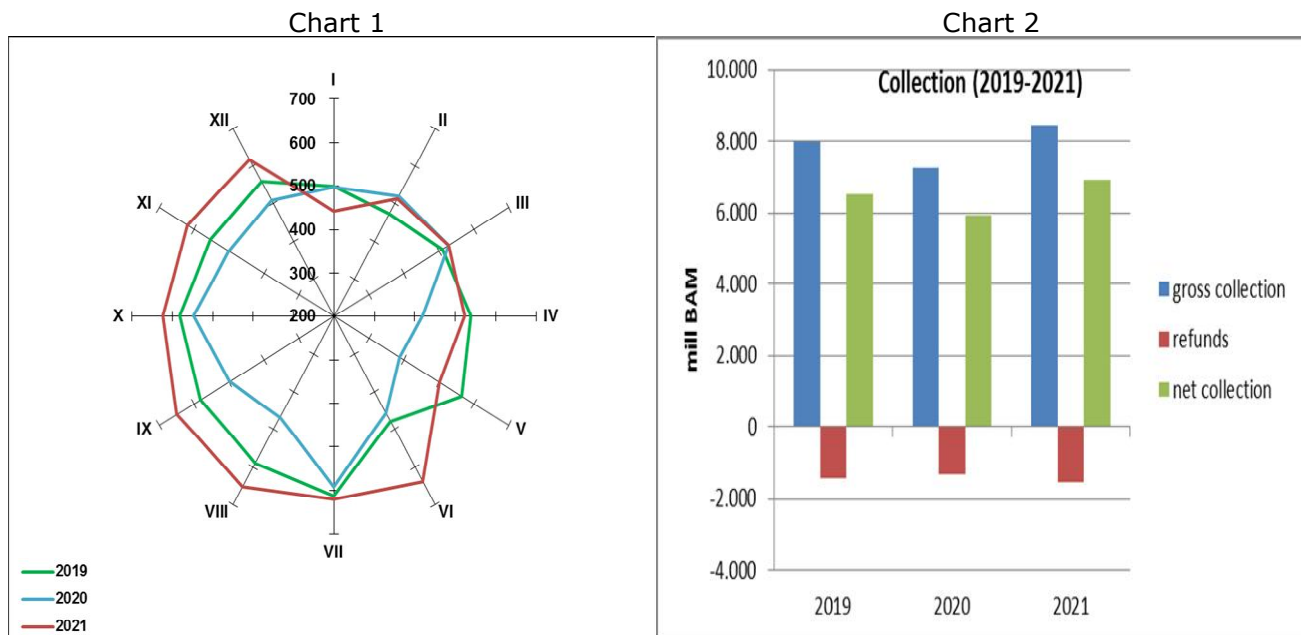
# ОМА Билтен



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## With this issue

According to the preliminary cash flow report, in December 2021 the ITA collected gross revenues from indirect taxes in the amount of 782.1 million BAM, which is 150.9 million BAM more than in the same month in 2020. At the same time, refund payments were higher by 41.7 million BAM, which reduced the net effect of collection. In the end, the net collection was higher by 109.2 million BAM or by 21.5%, compared to December 2020. High growth in the collection of indirect taxes in December improved the cumulative collection, so that the total gross collection in 2021 was higher by 1.216 billion BAM compared to 2020, while the refunds were higher by 227 million BAM. Ultimately, the net collection of indirect taxes in 2021 was higher by 989.4 million BAM compared to 2020, representing an increase of 16.7%.



Given the low statistical base for comparing the collection of indirect taxes in 2020, the comparison with the year of historical maximum - 2019 provides a more realistic picture of the collection in 2021 (Charts 1 and 2). Compared to 2019, the gross collection of indirect taxes in 2021 is higher by 5.8%, while the refunds are higher by 5.6%. Net collection of indirect taxes in 2021 compared to 2019 is higher by 378 million BAM, which is an increase of 5.8%.

Dinka Antić, PhD  
Head of Unit

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## Specific issues of cigarette taxation policy in B&H: optimal structure of excise rate

(Author: Dinka Antić, PhD)

### Introductory considerations

Taxation of tobacco products, unlike other excise products (oil derivatives, alcohol, etc.), is much more complex due to the application of a complex rate of excise duty, which implies a combined application of *ad valorem* excise duty, calculated on the basis of value (retail price), and specific excise duties, which is calculated per unit of measure. The rate of excise duty on tobacco products represents a significant element of tax policy. Focusing on the *ad valorem* excise indicates that the country prefers to protect domestic tobacco production and processing. On the other hand, higher specific excise taxation is a measure by which a country wants to eliminate cheaper and lower quality tobacco from use, in order to improve the health of citizens, while ensuring more stable collection of excise revenues, which cannot be ensured by higher taxation of retail prices which are subject to fluctuations. In Bosnia and Herzegovina, the policy of taxation of tobacco products until 2009 was based on the application of only *ad valorem* excise, so that by initiating the tax reform in accordance with the EU standards, a specific excise was introduced.<sup>1</sup> In the next ten years, the specific excise tax was continuously increased, but the *ad valorem* excise revenues still dominate in the structure of excise revenues.<sup>2</sup> Given that the EU standards regarding the minimum taxation of cigarettes have been reached,<sup>3</sup> certain changes in the cigarette taxation policy in B&H are possible in light of the change in the current structure of the excise rates in favor of specific excise, as some EU member states have done. This policy change is also possible because there is no longer a need to protect domestic tobacco and cigarette production by higher *ad valorem* excise rates, as it has been reduced to a minimum.

The paper aims to analyze the hypothetical change in the ratios of *ad valorem* and specific excise duties on cigarettes in B&H, in favor of specific excise duty, which would represent a revenue-neutral change in excise policy. The analysis was conducted by using the method of theoretical analysis, descriptive and comparative method of comparison with the policies of selected EU member states that changed the structure of excise duties on cigarettes, while the simulation of the effects of changes in the structure of excise duties on cigarettes in B&H was performed on the basis of actual data on issued excise stamps. The first part of the paper provides an overview of theoretical considerations of *ad valorem* and specific excise taxation, and a review of the issue of optimal balance in the structure of excise duties. The second part of the paper analyzes the dynamics of changes in the structure of excise duties on cigarettes in selected EU member states, and the implications of policies on the collection of excise revenues. The third part presents the results of excise structure change simulations with four structure change options and two approaches: (i) which maintains the same level of retail cigarette prices and (ii) which maintains the same level of revenues of tobacco companies. In the concluding part, in addition to presenting the results of the research, the reasons *pro et contra* for changing the current structure of excise duties on cigarettes are stated, in light of the positions of key players (*stakeholders*) - state, tobacco industry and market (consumers), as well as the EU reference policy.

<sup>1</sup> As of January 1, 2019 cigarettes are subject to *ad valorem* excise duty in the amount of 42% of the retail price (all taxes included) and specific excise duty in the amount of 1.65 BAM per pack. More in: Antić, D. "Tobacco taxation policy in B&H in the period from 2009 to 2021", March 2021, [http://www.oma.uino.gov.ba/publikacije/ANALIZA\\_2021\\_EN.pdf](http://www.oma.uino.gov.ba/publikacije/ANALIZA_2021_EN.pdf).

<sup>2</sup> In the structure of revenues from excise duties on cigarettes in B&H about 58% refers to revenues from *ad valorem* excises.

<sup>3</sup> Antić, D. (2021). „Cigarette Taxation: EU vs B&H”, OMA Bulletin # 195/196, September / October 2021.

## Taxation theory

There are a number of criteria in taxation theory for distinguishing tax forms. Taxes can be broken down, *inter alia*, into *ad valorem* taxes and specific taxes, according to the method of expressing the base.

**Ad valorem** taxes are taxes imposed on the base expressed in monetary units. They are also called value taxes. Since the tax liability is determined as a percentage of the base expressed in monetary units, *ad valorem* taxes are also called proportional taxes. Scales of rates can also be applied to a certain amount (part) of the base (progressive taxation).

**Specific taxes** are taxes in which the tax base is expressed in units of measurement, and the tax rate in nominal amount per unit of measurement.

Most tax forms are *ad valorem* taxes. At the same time, these are the most important types of taxes that dominate in tax structures (VAT, income tax, profit tax). Specific taxes are less important in tax structures, and are most often specific types of property taxes (e.g. taxes on movable property) or consumption taxes (e.g. excises on alcohol, beer, energy, etc.), when authorities resort to taxation per unit of measure, due to cost-effectiveness of tax collection. However, although there is a clear division of tax forms into *ad valorem* and specific, there is also a "gray" zone. Depending on the policy of the fiscal authorities, the same subject of taxation can be taxed by *ad valorem* tax or specific tax. These are mainly property taxes, where assets (real estate) are taxed either per unit of measure (e.g. area) or per an estimated value.<sup>4</sup> Even if the estimated value is used, it is possible that certain tax reliefs (exemptions) are linked to a unit of measure (area).<sup>5</sup>

In practice, there is also a mix in tax systems that imply the application of a complex tax rate, i.e. the simultaneous application of *ad valorem* and specific tax. Such a situation is characteristic of customs duties on certain types of goods, which, in addition to *ad valorem* customs duties, expressed in percentages, also include a specific duty per unit of measure. Also, the legal framework for excise taxation of cigarettes in the EU prescribes the *ad valorem* excise taxation of cigarettes on the basis of tax included retail selling price (customs, excise duties, VAT) and specific excise taxation charged by unit.

### Optimal balance between *ad valorem* and specific excise duty on cigarettes

The optimal ratio between *ad valorem* and specific excise duty on cigarettes is not easy to determine. The World Health Organization advocates a minimum excise burden of 70% of the retail price of cigarettes, as a criterion for optimal taxation of cigarettes,<sup>6</sup> but does not interfere with the structure of excise duties, since in practice taxation policy is subject to preferences of fiscal authorities at a given time.

It can be said that the advantages of specific excises are the disadvantages of *ad valorem* excises and vice versa. Calculation of the specific excise duty is simple, because it is sufficient to have data on quantities of the excise products placed on the market. In addition, specific excise taxation facilitates the preparation of fiscal projections. Since the specific excise duty is charged on quantity of products, the price changes have no effect on revenue projections, but only the

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<sup>4</sup> Property taxes in most countries are in jurisdiction of lower levels of government or local communities, resulting in different tax treatments of the same taxable items. For example, in B&H in the cantons of the Federation of B&H the property tax is prescribed as a specific tax, and in the Republika Srpska (RS) and the Brčko District as an *ad valorem* tax.

<sup>5</sup> For example, in spite of *ad valorem* real estate taxation in the RS, the exemptions are linked to area, while in the Brčko District the exemption is determined in nominal terms.

<sup>6</sup> More in: WHO. (2021). Technical Manual on Tobacco Tax Policy and Administration.

dynamics of the base, i.e. the real growth of consumption or production. On the other hand, calculation of the *ad valorem* excise duty on cigarettes is much more complex and thus more difficult to administer. It is necessary to determine at which price, at which stage of the supply chain, the *ad valorem* excise tax is calculated (producer - *ex factory*, at the time of import, wholesale or retail price), which, according to the IMF research<sup>7</sup> can result in underestimation of tax amounts, including VAT, and in usage of legal or illegal accounting practices.

Given that the rate of excise duty is expressed in nominal terms, specific excise duty is not immune to rising inflation. Moreover, higher inflation rates erode the real value of the excise rate expressed in nominal amounts, leading to revenue erosion. Given that the retail price represents the base for *ad valorem* excise, the real value of excise revenues is maintained in the conditions of increasing the inflation rate. In order to prevent a decrease in the real value of specific excise duties, governments resort to indexation of specific excise duties, e.g. by retail price index,<sup>8</sup> by incorporating automatic indexation in tax regulations or by leaving the government discretion to adjust the excise rate to inflation.

The advantage of specific taxes is the stability of collection, even in times of recession and declining economic activity and income. The reason is the low price elasticity of cigarettes, which allows faster changes in cigarette prices compared to changes in the quantities of cigarettes sold.

The price tax base also renders more difficult projecting the *ad valorem* excise revenues, since it is necessary to consider the nominal growth of consumption of excisable goods. A negative characteristic of *ad valorem* excise is the inflexibility of price ranges between different product categories in relation to the policy of increasing excise rates. This negative feature of the *ad valorem* excise tax prevents countries from eliminating the use of cheaper categories of cigarettes, which are of lower quality and thus more harmful to human health and the environment, by a more aggressive increase in the excise tax rate. Because the domestic raw tobacco is often of lower quality than imported brands, the policy of high *ad valorem* excise duties serves the governments to protect domestic cigarette production.

### **Dynamics of changes in the structure of excise duties in selected EU member states**

The commitment to a complex excise tax in the EU is a compromise of the member states where the both sides are satisfied at the same time: member states with their own cigarette production (usually southern), protected by *ad valorem* excise; and member states (usually northern) who are cigarette importers, and which, by rapidly increasing the specific excise duty, seek to remove from the use cheap and low-quality cigarettes, harmful to health and the environment. Large differences between member states, in terms of economic development, living standards, and the fact that some member states are tobacco producers, in practice result in very different structure of excise duties in the EU member states, which makes a harmonized excise policy at the EU level difficult.<sup>9</sup>

From the analysis of trends in national excise policies, it can be seen that some member states, which had a very high *ad valorem* excise rate, have dramatically changed structure of the cigarette excise rate in the last ten years, by reducing *ad valorem* excise rates and significantly increasing the specific excise duty. Some member states, such as Sweden and Denmark, have implemented this at a time of adjusting to new higher EU tax standards.

<sup>7</sup> IMF. (2016). "Fiscal Policy. How to Design and Enforce Tobacco Excises". IMF-Fiscal Affairs Department.

<sup>8</sup> For example, the indexation of specific excise can be found in the Law on Excise Duties in Serbia.

<sup>9</sup> More: Antic. D. (2021). "Cigarette Taxation: EU vs B&H", OMA Bulletin # 195/196, September / October 2021.



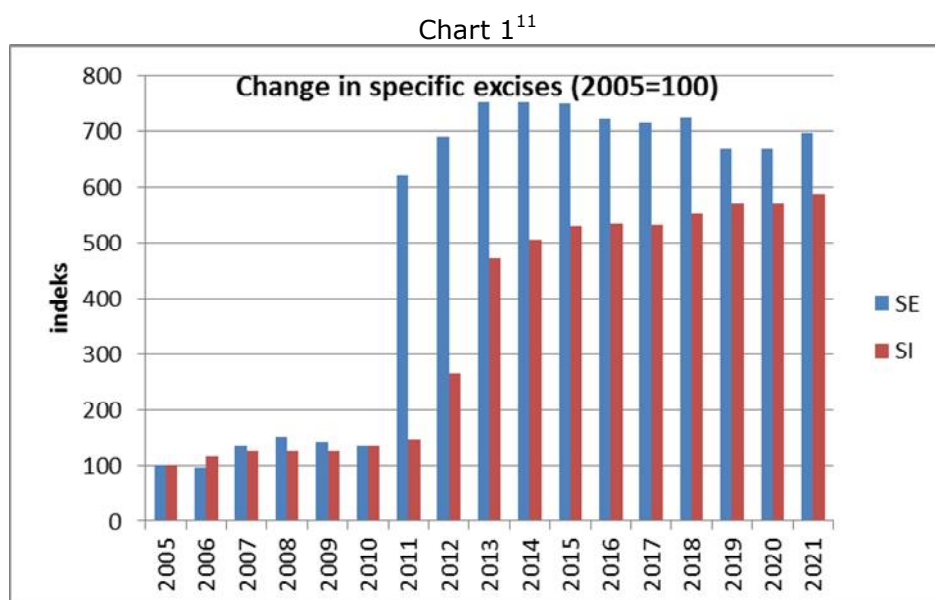
Since B&H is at the top of the list of countries with a high rate of *ad valorem* excise,<sup>10</sup> one of the possible options for future excise policy may be to redefine the structure of excise duties on cigarettes. With this in mind, it is useful to analyze the experiences of member states that have changed the structure of excise duties in favor of a specific excise duty.

To illustrate the flow and dynamics of changes in the structure of excise duties in the EU, the analysis uses data for Sweden and Slovenia, as countries which represent groups of old and new member states that increased the specific excise and reduced the *ad valorem* rate of excise duty. In addition, level of the *ad valorem* excise rate in both countries is close to the *ad valorem* excise rate in B&H, which further nominates them for the analysis. Due to the large discrepancy in the amounts of specific excise duties in Slovenia and Sweden, the base indices were used in the analysis in order to observe the trend in excise policy in comparison to the year preceding the change in the structure of excise duties.

Charts 1 and 2 show the sudden transition to the new excise policy: in Sweden in 2011, and in Slovenia in 2013.

Sweden reduced the *ad valorem* excise rate all at once, from 39.2% to 1% (Chart 2), while increasing the specific excise duty in the period 2011-2013, so that in 2013 the specific excise duty was 4.5 times higher compared to 2010 (Chart 1). Under the pressure of a large drop in cigarette sales and, consequently, a drop in excise revenues, Sweden gradually reduced the specific excise tax in the years after, and increased it again in 2021.

In Slovenia, increase in the specific excise tax went at a slower pace, in two years 2012-2013, so that the specific excise tax in 2013 was 2.5 times higher than in 2011 (Chart 1). On the other hand, the *ad valorem* excise rate was reduced over a period of three years, 2012-2014 (Chart 2). In that period, the *ad valorem* excise tax was reduced from 44% to 21.9%. In the following years, a slight increase in the specific excise tax was noticed in Slovenia, while on the *ad valorem* excise tax the "fine adjustment" of the rate has been performed, upwards by a maximum of 1 percentage point compared to 2011.

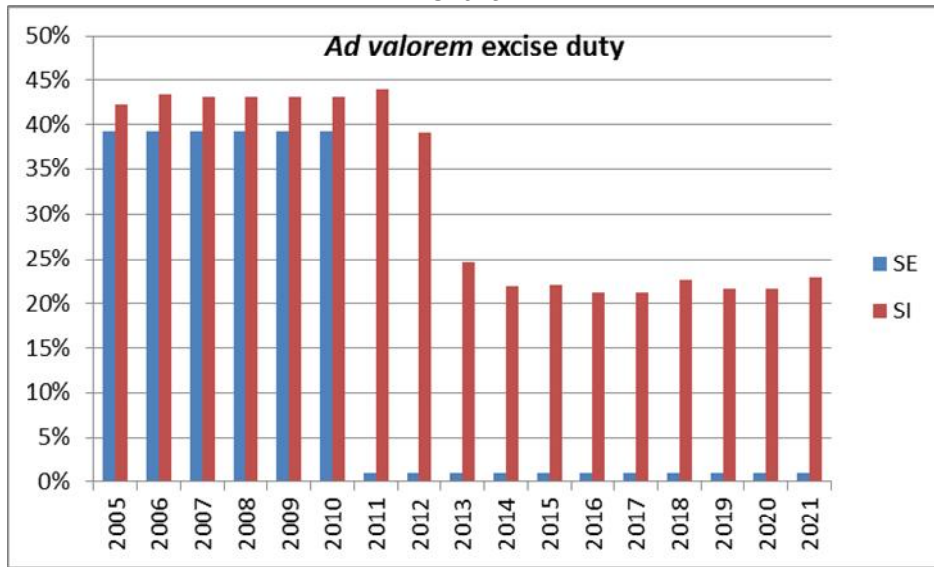


Source: European Commission, database; review and calculation of the author

<sup>10</sup> Ibid.

<sup>11</sup> Abbreviations in charts: SI-Slovenia, SE-Sweden.

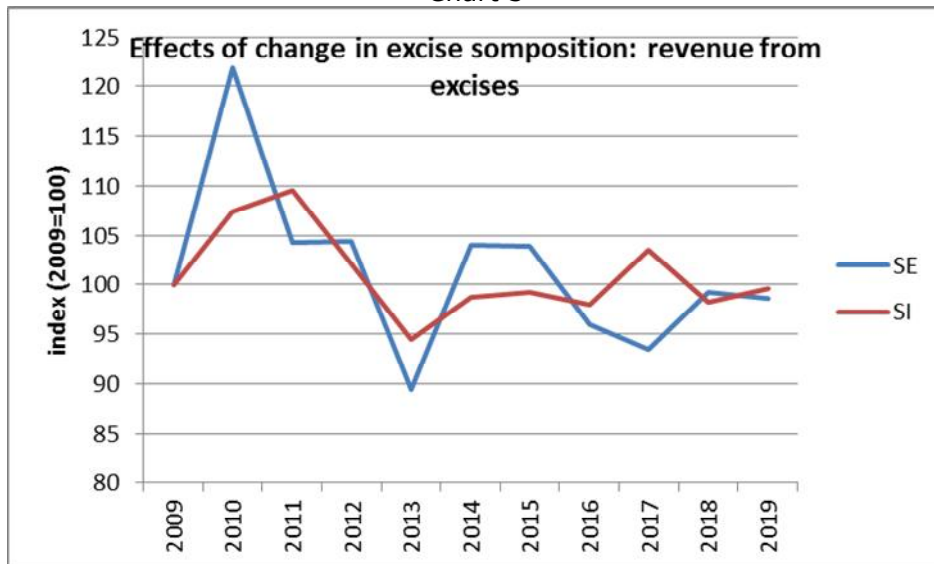
Chart 2



Source: European Commission, database; review of the author

Changes in the structure of excise duties in both countries have brought a decline in excise revenues. In 2013, excise revenues in Slovenia were 5 index points lower than in 2009, and in Sweden as much as 10 index points (Chart 3). In the following years, both countries pursued a stable excise policy regarding the level of *ad valorem* excise. The specific excise in Slovenia has gradually increased after the change in the structure of excise, while in Sweden it was lower than at the time of change in the structure of excise. However, the effects on revenues were similar - after significant oscillations, excise revenues in 2019 in both countries were at the level of 2009 (Chart 3).

Chart 3



Source: European Commission, database; review of the author

## Simulation of changes in the structure of excises in B&H

Given the fact that B&H in 2019 reached the legal minimum in taxation of cigarettes, which is also the minimum that must be met by all EU member states, there are no legal provisions that would impose higher excise rates than the existing rate structure. From 2019, the following structure of excise duties on cigarettes has been applied: *ad valorem* excise of 42% of the tax included retail selling price and specific excise duty in the amount of 1.65 BAM per pack of cigarettes.<sup>12</sup> Since there are no indications that the EU will change the minimum standards of cigarette taxation in the near future, there are no external requirements that would require a change in excise policy in B&H. In such circumstances, the only thing that could be considered is a change in the structure of excise duties on cigarettes in terms of establishing a new balance between *ad valorem* and specific excise duties, prior to future changes in excise policy.

A new balance is possible for two reasons. First, maintaining a high *ad valorem* excise tax, as a measure to protect the domestic tobacco industry, loses its function in a situation where the domestic tobacco industry in B&H operates with minimal capacity.<sup>13</sup> Second, a high *ad valorem* excise rate in a situation where there is no change in legal excise rates (*ad valorem* and specific) still leads to an increase in the effective excise burden on cigarettes if the pre-tax price (which includes cost and profit / margin) increases due to different circumstances (e.g. increase in transport costs or increase in profit) precisely because of the calculation of the *ad valorem* excise tax. In such circumstances, the increase in the excise burden also increases the VAT base, and thus the total tax burden on cigarettes, even without changing the excise policy.

We performed a static simulation of the excise policy, which would imply a reduction in the *ad valorem* excise rate. Data on issued excise stamps in the period from January 1, 2021 to June 30, 2021 were used for the simulation.

The basic starting point of the simulations is that the financial goal is primary in relation to the health policy goals. For the financial stability of B&H, it is necessary to maintain the level of collected excise revenues (and related VAT), bearing in mind their high share in the total collected indirect taxes in B&H.

The starting point of the simulation is a revenue-neutral change in the structure of excise duties, i.e. that the amount of collected taxes (excises + VAT) according to the new structure of excise duty will maintain at the level of tax collection according to the existing rate structure.

The simulation involves two approaches. The first approach is based on the unchanged retail prices, and the second on keeping the same pre-tax price. For each approach, four options of a one-time reduction in *ad valorem* excise of 42% were analyzed: to 30% (option 1), 20% (option 2), 10% (option 3) and a radical 1% (option 4). The initial structure of excise duties, which includes an *ad valorem* excise duty of 42% and a specific excise duty of 1.65 BAM per pack, represents a zero starting point ("2021" in the charts).

### *Simulation # 1: Retaining the same retail selling price (RSP)*

The calculation showed that reducing the *ad valorem* excise tax from 42% to 30% of RSP (option 1), while maintaining the same RSP and the same level of excise and VAT revenues, would require

<sup>12</sup> Regarding the taxation of smoking tobacco in B&H according to the existing methodology, which is prescribed by the Law on Excise Duties, the specific excise tax on smoking tobacco is related to the dynamics of the weighted average retail price of cigarettes. The increase in retail prices of cigarettes in 2020 and 2021 brought an increase in the weighted average price of cigarettes, and thus an increase in the specific excise duty on smoking tobacco.

<sup>13</sup> To illustrate, the share of domestic cigarettes in the total quantity of cigarettes in 2020 was only 7.4%, as opposed to the share of 1/3 in 2010.



an increase in specific excise duty to 2.32 BAM per pack. Reducing the *ad valorem* excise tax from 42% to 20% of RSP (option 2), 10% of RSP (option 3) and 1% of RSP (option 4) requires an increase in specific excise duty to 2.88 BAM per pack, 3.44 BAM per pack and 3.94 BAM per pack, respectively, in order to achieve approximately the same level of revenues as with the excise structure in force in 2021 (Chart 4).

Chart 4

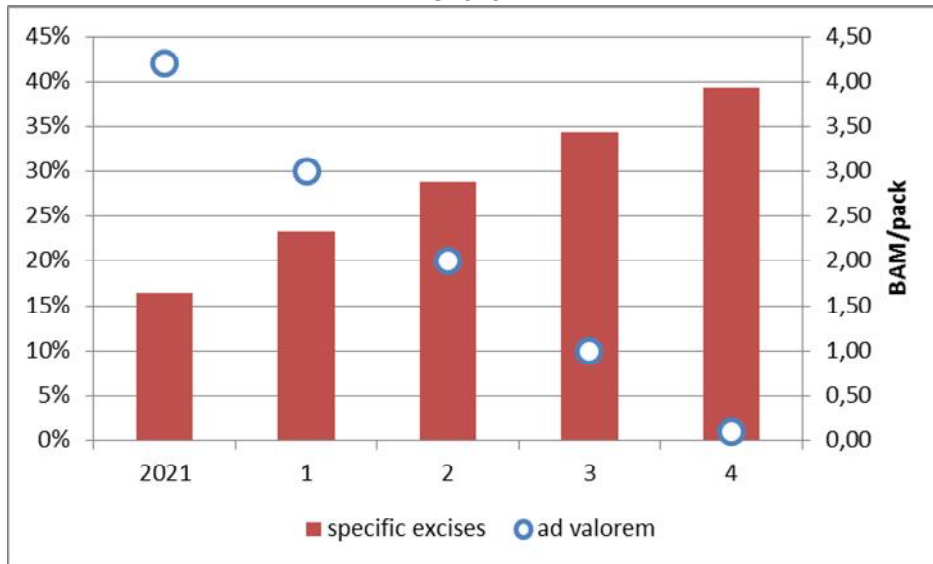
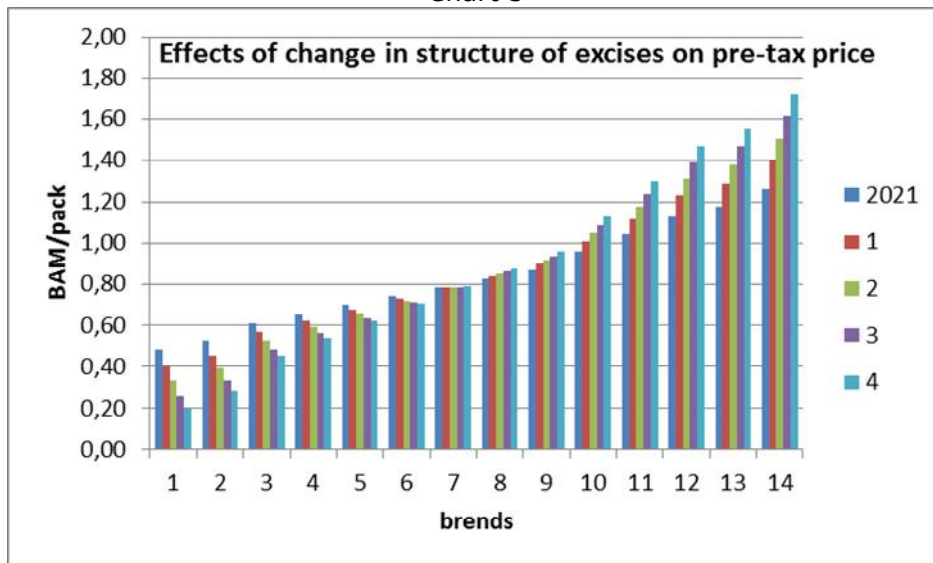


Chart 5



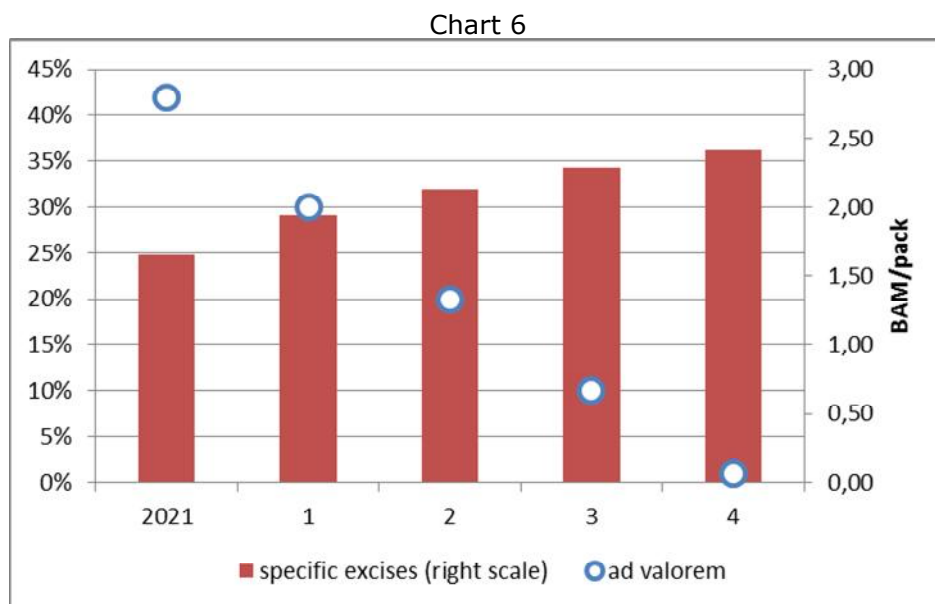
However, due to maintaining the same RSP, change in the excise structure in favor of specific excise, which is fixed in quantity, is reflected in the pre-tax price in such a way that the increase in specific excise exceeds the decrease in *ad valorem* excise in the RSP structure of cheaper brands, which can be offset by cutting costs (cost prices) or reducing profits / margins. On the other hand, in case of more expensive brands, decrease in the *ad valorem* excise tax has a greater effect than the increase in the specific excise tax, resulting in an increase in the pre-tax price, so companies have the opportunity to increase profit / margin with the same retail prices. In this way, cheaper cigarettes are no longer profitable for production, which may result in

abandoning their production (brands 1-6 in Chart 5) and shifting production to more expensive brands (brands 8-14 in Chart 5).

Although retaining the same RSP of cigarettes should not affect quantity of cigarettes, as there is no incentive for more elastic demand (cheaper cigarettes) to migrate to the smoking tobacco or black market of cigarettes, changing the excise structure in favor of specific excise would be detrimental to the tobacco industry, due to its negative impact on the pre-tax price. Neutralization of the increase in specific excise in the structure of RSP of cheaper brands is possible only if there is space in the internal economy of the tobacco industry to reduce their input costs - labor, e.g. by moving their capacity to countries with cheaper labor and raw materials, e.g. by negotiating more favorable terms of purchase from the tobacco producer, reducing transport costs etc., or by consciously bearing the burden at the expense of profit or margin. If these options are exhausted, the consequence is the abandonment of the production of cheaper brands. Therefore, the final fiscal effect, in terms of total excise and VAT revenues collected, depends on the business policies and internal economy of the tobacco industry.

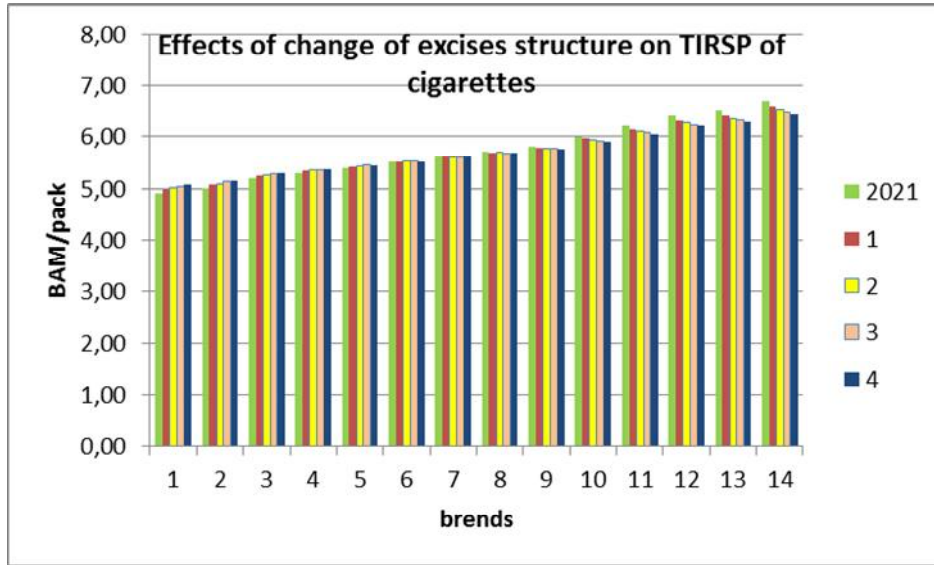
#### *Simulation # 2: keeping the same pre-tax price*

Starting point of the simulation is the unchanged pre-tax price, which is determined by the costs and profit / margin policy of tobacco companies. The calculation showed that decrease in the *ad valorem* excise tax from 42% to 30% (option 1) requires an increase in the specific excise duty to 1.94 BAM per pack, in order to achieve approximately the same level of revenues as with the excise tax structure in force in 2021. Decrease in the *ad valorem* excise duty from 42% to 20% (option 2), 10% (option 3) and 1% (option 4) requires an increase in the specific excise duty on 2.13 BAM per package, 2.29 BAM per package and 2.41 BAM per package, respectively, to achieve approximately the same level of revenue as with the structure of excise duties in force in 2021 (Chart 6).



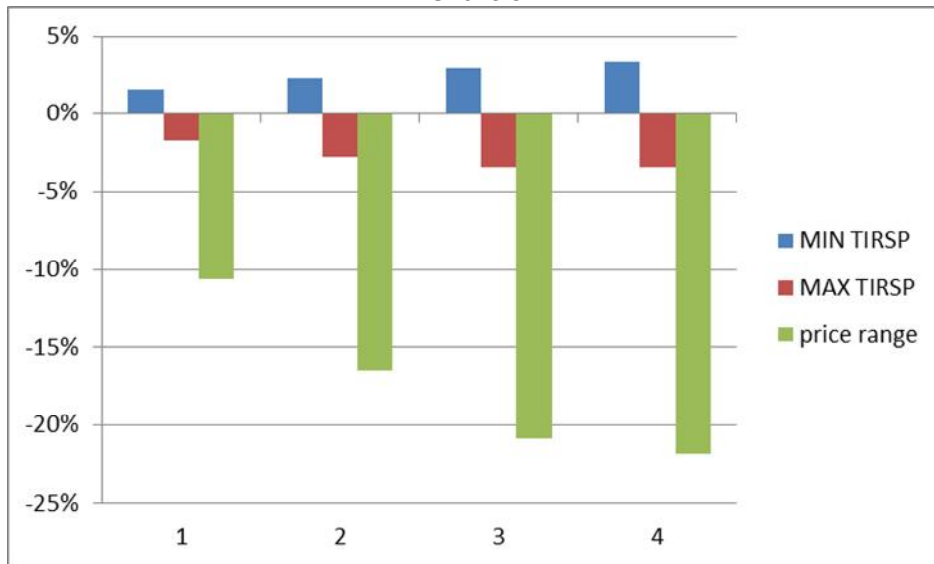
However, what is changing is the level of RSP by brand, in such a way that cheaper brands become more expensive due to the fact that the increase in specific excise is higher than the decrease in *ad valorem* excise, while, on the other hand, greater reduction of *ad valorem* excise compared to increase in specific excise results in lowering the prices of more expensive brands (Chart 7).

Chart 7



Simulation on the example shows the theoretical assumptions about *ad valorem* and specific excise. A reduction in *ad valorem* excise duty along with an increase in specific excise duty brings a reduction in price ranges, which goes in favor of more expensive cigarettes. Chart 8 shows the percentage of increase in the minimum RSP of cigarettes in all options compared to the minimum RSP in 2021, and the percentage of decrease in the maximum RSP of cigarettes in all options compared to the maximum RSP in 2021. Bringing the minimum and maximum levels closer together reduces the price range by 10% in option 1, and maximally by 21% in option 4.

Chart 8



Since this is a static analysis, it is assumed that the rise / fall in prices will not have a greater impact on cigarette sales, and thus on revenue, i.e. that the negative effects of rising prices of cheaper cigarettes, in the form of falling consumption, will be offset by rising consumption of more expensive cigarettes, whose prices should be lower. However, pricing policy is under control of the tobacco industry. Given that the demand for more expensive cigarettes is less price elastic than the demand for cheaper cigarettes, it is possible for companies to use the change in structure to

increase their profits / margins on more expensive cigarettes. In that case, the fiscal effect, in the form of maintaining the same level of excise and VAT revenues, would be extremely uncertain. Likewise, whether the increase in RSP of cheaper cigarettes would produce a mass escape of consumers of these brands depends on whether the disposable income of consumers is growing at the same time.

### Concluding remarks

Simulations of the change in the structure of excise duty on cigarettes in B&H should be taken as an exercise in the implications of hypothetical situation of a one-time reduction in *ad valorem* excise duty in B&H.

Changing the structure of excise duties on cigarettes is not easy to perform, especially in a situation where revenues from excise duties on cigarettes are important for the country's fiscal stability. The reason is that the reaction of two key actors in cigarette taxation policy cannot be reliably predicted - the tobacco industry, which operates through its market and price policy, and consumers, i.e. the price elasticity of cigarette demand.<sup>14</sup>

An analysis of the effects of changes in excise policy in Sweden and Slovenia has shown that changing the structure of excise duties on cigarettes can be a real adventure, with an extremely uncertain outcome in the collection of excise revenues. Radical reduction of *ad valorem* excise, as Sweden has done, should not be an option of some future policy in B&H due to great uncertainty in revenue collection, so a gradual reduction of *ad valorem* excise would be a more likely option, as in the case of Slovenia. The experiences of the member states and the conclusions that can be drawn from the simulations for B&H support the conclusion that radical changes in the structure of excise duties in each country should be implemented in "good times" of economic growth and living standards. In addition to the above, there are several other serious reasons not to change the current structure of excise duty on cigarettes.

*First*, the invariability of excise policy in the long run is beneficial for the cigarette market in B&H, because it enables the consolidation of supply and demand, and the expected economic recovery in the coming years should lead to an increase in consumer income and thus a reduction in the black market.

*Second*, a longer period without a change in excise policy would also be suitable for tobacco companies, as it would contribute to the stabilization of business policies and the creation of long-term strategies on the B&H market. Namely, in the previous ten years of harmonization of excise duties with the EU standards, tobacco companies could not create long-term business strategies, but necessarily adjusted their policies on the B&H market from year to year, which primarily then prioritized their short-term goals. This is indicated by the different marketing policies, which companies implemented before or immediately after the increase in specific excise duty, related to the stockpiling of cigarettes or, for example, pricing policy, in terms of direction (at the expense of profit / margin or at the expense of the buyer) and the amount (in whole or partially) of shifting the additional tax burden.

*Third*, in the coming years, the excise burden on cigarettes in the countries of the region should approach the EU standards, which would reduce pressure in B&H on the black market.

*Fourth*, starting from the "European path" as a strategic goal of B&H, the excise policy must follow the EU standards. The analysis of the existing policy of taxation of tobacco products in the EU, conducted by the European Commission, pointed out certain weaknesses of the existing excise policy. A redesigned excise policy can be expected in the coming years, which should establish new standards for cigarette taxation, both for member states and for countries aspiring to join the EU.

<sup>14</sup> Analysis of trends in the cigarette market in B&H since 2009 have shown that the price elasticity of demand for cigarettes is higher for cheaper cigarettes, since there is a substitute - cut tobacco and hand-rolled cigarettes.

## The impact of the corona virus on indirect taxes and consumption in the EU-27 and B&H in 2020

(Prepared by: Aleksandra Regoje, Expert Advisor - Macroeconomist)

The corona virus pandemic has brought huge troubles to health systems around the world. A large number of countries have implemented measures to stop the spread of the virus. Measures have been implemented in the form of border closures, school and kindergarten closures, quarantines, isolation, travel restrictions, social distancing measures, etc. On the other hand, governments are taking measures to preserve the economy, such as tax reliefs, job preservation measures, etc. **The health crisis has had a serious impact on economic activities in 2020, and has brought turbulences to tax systems and national accounts of countries around the world.**

The report of the European Commission (EC) from July 2020 states that the European Union in 2020 faced the deepest recession after the Second World War, and that, during the period of implementation of the strictest restrictions in 2020, the Eurozone economy has operated with only 70 to 75 percent of its capacity. According to **data from the Eurostat database withdrawn on 31 August 2021, which were used in this analysis**, the average nominal decline in gross domestic product (GDP) in 2020 for the EU-27 was around 4.5 %, while the decline in some member states reached almost 10%. The decline in the average share of private consumption in GDP in 2020 in the EU-27 was as much as 1.3 percentage points (p.p.), while, according to the author's calculation, the nominal decline in private consumption was as much as 6.9%.

In Bosnia and Herzegovina (B&H), indirect taxes in 2020 fell by as much as 9.3% compared to the previous year. In the same year, there was a significant decline in private consumption due to the implementation of restrictive measures, and an increase in government spending due to support for health systems. Taxes on consumption as a share in GDP in Bosnia and Herzegovina in 2020 were analysed in the Bulletin No. 193-194. Here we will briefly review the conclusions of the mentioned analysis, and compare the results with the corresponding indicators in the EU-27 member states.

When comparing the data, the definitions of taxes on consumption in B&H and the EU were taken into account. In the tax system of Bosnia and Herzegovina, taxes on consumption include indirect taxes, i.e. VAT, excises, customs duties and road taxes. The category of consumption tax in B&H differs from the coverage of this type of revenue in the European Union. For this reason, for the purpose of comparing the results, data from indirect taxes were also taken in the case of the EU, and not taxes on consumption. Specifically, the data: "Taxes on production and imports" from the Eurostat database were used.

### *I Share of indirect taxes in GDP in B&H (Briefly about results of the analysis published in the Bulletin 193-194)*

The share of indirect taxes in GDP in B&H in the period 2008-2020 ranged from 16.6% to 18.2%. The calculation of indicators was performed on the basis of data on the collection of indirect taxes on the Single Account of the Indirect Taxation Authority (ITA), and trends in final consumption and GDP, based on data from the Agency for Statistics of B&H (BHAS) published in September 2021. In 2019, a historical maximum of revenues from indirect taxes was collected from the establishment of the ITA in the amount of 6,541.8 million BAM, and their share in GDP was 17.92%. **In the analysis from the OMA Bulletin 193-194**, the share of indirect taxes in the GDP of B&H in the period 2008-2020 was broken down into product components, in accordance with the methodology from the OECD analysis (2020): (1) share of indirect tax revenues in total consumption and (2) the share of total consumption in GDP. In the mentioned analysis, **the data for 2020 partially represented the estimates**, given that at the time of preparing the analysis,



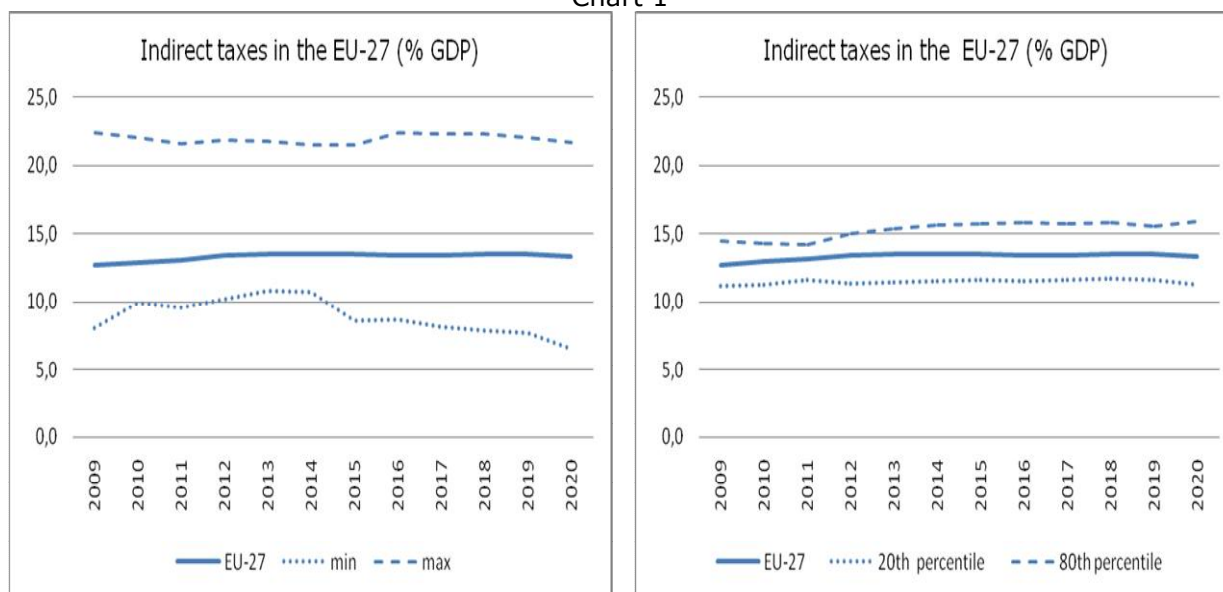
data on collected taxes were available, while data on national accounts were not available, but DEP projections were used. **Here, the figures for national accounts have been updated with the official BHAS data<sup>15</sup> that have been published in the meantime**, so that the data for 2020 no longer represent estimates.

In 2020, there was a sharp decline in the share of indirect taxes in GDP of 1.17 p.p., compared to the previous year, which then reached a level of 16.7%, only 0.1 p.p. more than in the "crisis" year - 2009. Analyzed according to the components of the OECD equation, the decline in the share of indirect taxes in GDP in 2020 was the cumulative result of the decline in the share of indirect taxes in consumption of 1.61 p.p., and the increase in the share of consumption in GDP of 1.50 p.p. In 2020, the share of indirect taxes in consumption amounted 18.3%, while the share of total consumption in GDP amounted 91.3% (private 71.2% and government 20.1%).<sup>16</sup>

## II Share of indirect taxes in GDP in the EU

The average share of indirect taxes in GDP in the EU-27 in the period 2009-2019 ranged from 12.7% (2009) to 13.5% (2019).<sup>17</sup> In 2020, it dropped by only 0.2 p.p. compared to the previous year and amounted to 13.3% (Chart 1).

Chart 1



Source: Eurostat database, Table "Taxes on production and imports", data withdrawn on August 31, 2021.

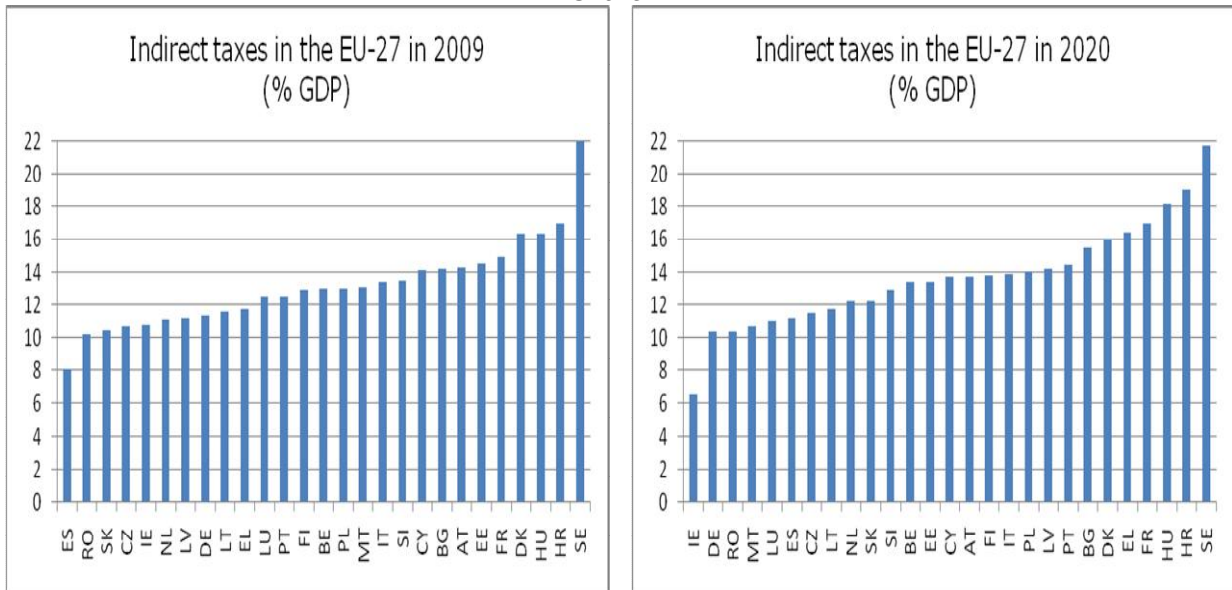
The range between the minimum and maximum values of this indicator among member states is quite high. In 2009, it amounted 14.3 p.p. After 2009, the range gradually decreased to 10.8 p.p. in 2014. After 2014, the range grew again and reached the amount of 15.1 p.p. in 2020. The range between the 20th and 80th percentiles of the value of the share of indirect taxes in GDP in all years of the observed period was much smaller than the range of extreme values and varied from 2.6 p.p. in 2011 to 4.6 p.p. in 2020 (Chart 1, right). Member states with extreme values of the share of indirect taxes in GDP in 2020 (Chart 2) were Ireland (lowest level: 6.6%) and Sweden (highest level: 21.7%).

<sup>15</sup> GDP of B&H for 2020, Expenditure approach, First results; Agency for Statistics of B&H, 30 September 2021

<sup>16</sup> More on the dynamics of the share of indirect taxes in GDP in 2020 in: Regoje A. "Taxes on consumption as a share in GDP in B&H in the period 2008-2020", OMA Bulletin 193-194

<sup>17</sup> Table "Taxes on production and imports" from the Eurostat database, data withdrawn on August 31, 2021.

Chart 2



Source: Eurostat database, Table "Taxes on production and imports", data withdrawn on August 31, 2021.

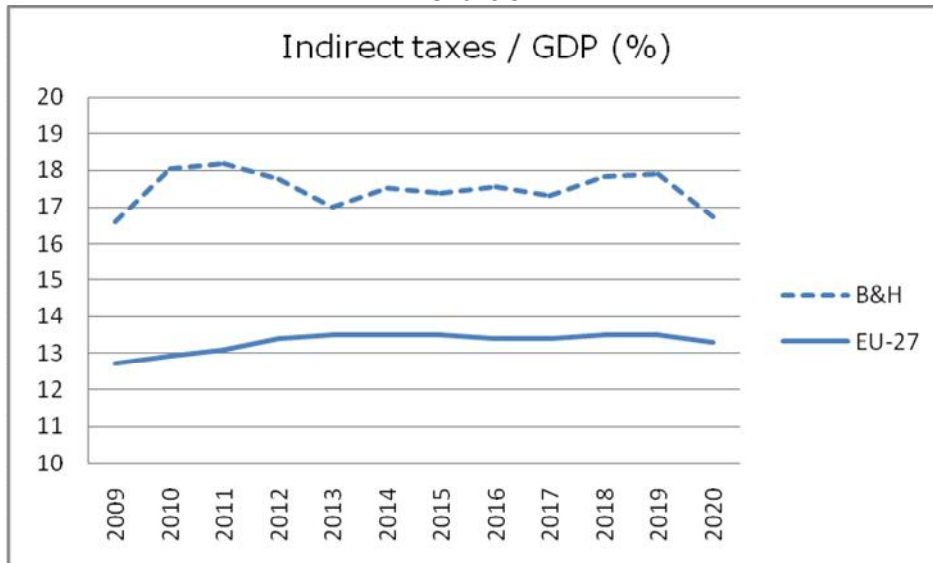
Legend: AT-Austria, BE-Belgium, BG-Bulgaria, CZ-Czech Republic, CY-Cyprus, DE-Germany, DK-Denmark, EE-Estonia, EL-Greece, ES-Spain, FI-Finland, FR-France, HR-Croatia, HU-Hungary, IE-Ireland, IT-Italy, LV-Latvia, LT-Lithuania, LU-Luxembourg, MT-Malta, NL-Netherlands, PL-Poland, PT-Portugal, RO-Romania, SE-Sweden, SI-Slovenia, SK-Slovakia.

### III Components of the share of indirect taxes in GDP in the EU-27 and B&H

Chart 3 presents a comparison of the share of indirect taxes in GDP for the EU-27 and B&H, while Chart 4 presents a comparison of the components.

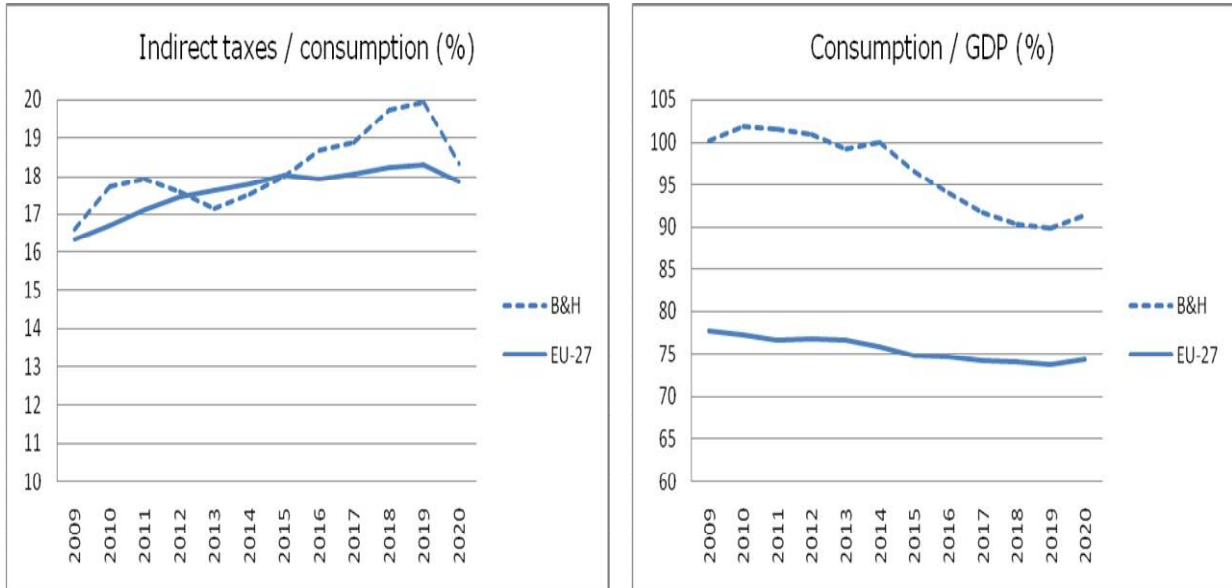
It can be noticed from Charts 3 and 4 that the share of indirect taxes in GDP is at a much higher level in B&H compared to the EU-27, and that a higher share of consumption in GDP is "responsible" for this, while the share of indirect taxes in consumption is at approximately the same level.

Chart 3



Source: Eurostat database, Table "Taxes on production and imports", data withdrawn on August 31, 2021., while the Data for B&H are the author's calculation based on the ITA and BHAS data (September 2021)

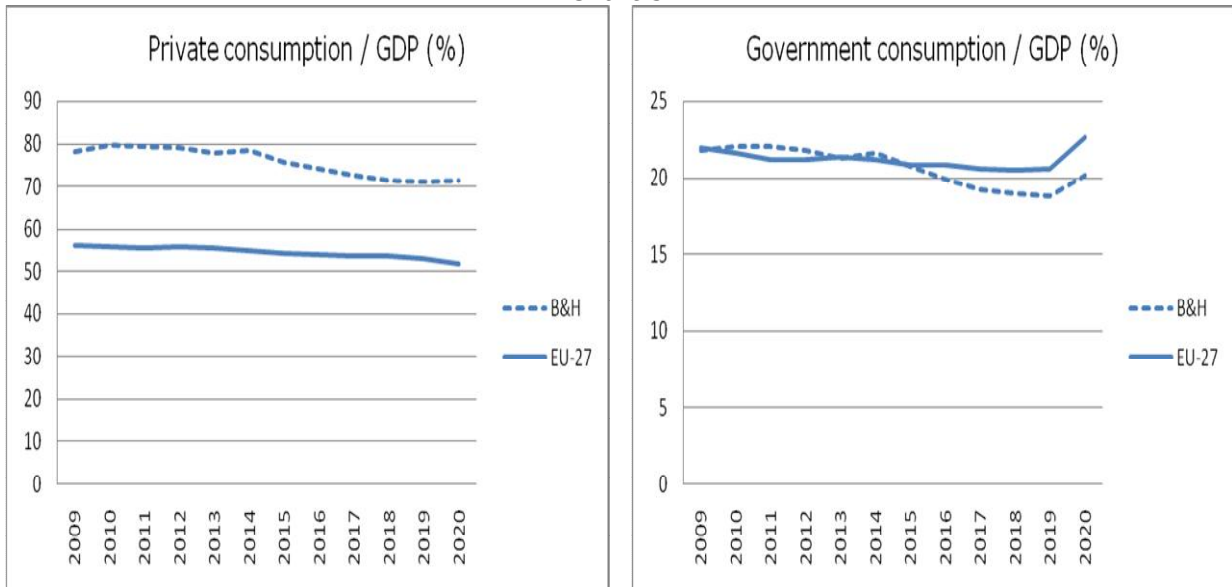
Chart 4



Source: Data for the EU-27 are authors' calculations based on data from Eurostat database (Tables: *Taxes on production and imports, Final consumption expenditure of households and non-profit institutions serving households, Final consumption expenditure of general government and Gross domestic product at market prices*) withdrawn on August 31, 2021, while the data for B&H are the authors' calculation based on the ITA and BHAS data (September 2021)

Chart 5 presents a comparison of the share of consumption components in GDP for B&H and the EU-27. It can be concluded that differences in the shares of consumption in GDP arise from differences in the shares of private consumption, not government.

Chart 5

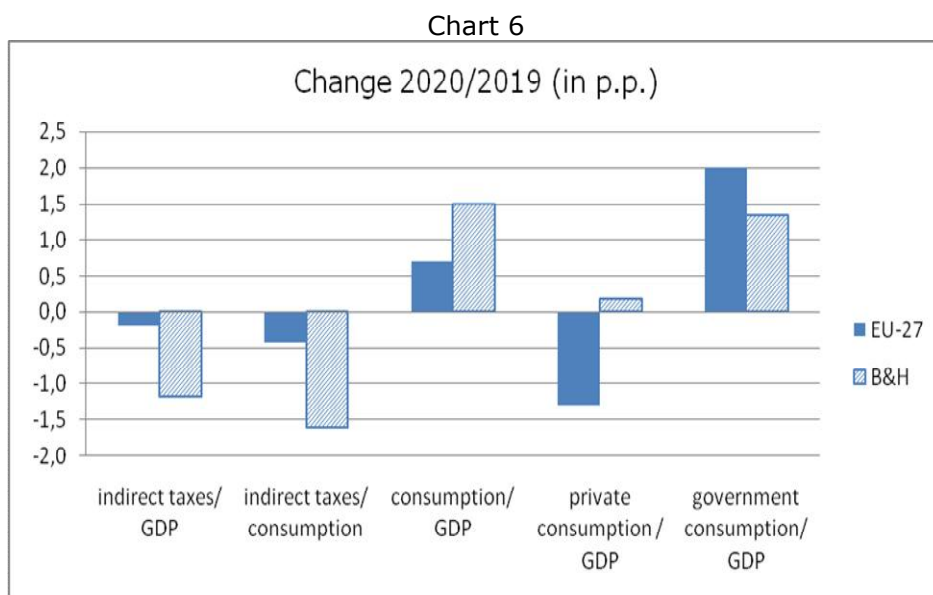


Source: Data for the EU-27 are authors' calculations based on data from Eurostat database (Tables: *Final consumption expenditure of households and non-profit institutions serving households, Final consumption expenditure of general government*) withdrawn on August 31, 2021, while the data for B&H are the authors' calculation based on the ITA and BHAS data (September 2021)

#### IV Change in the share of indirect taxes in 2020: B&H vs EU-27

It has already been mentioned that the share of indirect taxes in GDP in the EU-27 fell by only 0.2 p.p. in 2020 compared to the previous year (from 13.5% to 13.3%; Chart 1). This decline is much smaller compared to the decline in that share in B&H (1.17 p.p.). The factors of dynamics of indirect taxes in GDP in 2020 at the EU-27 level, as well as at the level of individual member states, are analyzed below. As in the case of B&H, the following is analyzed below: dynamics of the share of indirect taxes in consumption, the share of consumption and its components in GDP.

The decline in the share of indirect taxes in consumption in 2020 compared to the previous year was smaller in the EU-27<sup>18</sup> compared to B&H (0.4 p.p. in the EU-27; 1.6 p.p. in B&H). The share of total consumption grew in both cases. In the case of the EU-27, the share of total consumption in GDP increased by 0.7 p.p. and in B&H by 1.5 p.p. The growth of total consumption in the EU was the cumulative effect of the decline in the share of private consumption in GDP (1.3 p.p.) and the growth of the share of government consumption (2.0 p.p.). On the other hand, in the case of B&H, both components of the share of consumption in GDP increased (private by 0.2 and government by 1.3 p.p.).



Source: Data for the EU-27 are authors' calculations based on data from Eurostat database (Tables: *Taxes on production and imports, Final consumption expenditure of households and non-profit institutions serving households, Final consumption expenditure of general government and Gross domestic product at market prices*) withdrawn on August 31, 2021, while the data for B&H are the authors' calculation based on the ITA and BHAS data (September 2021)

#### Box 1. The decline in indirect taxes in GDP: EU-27 vs B&H

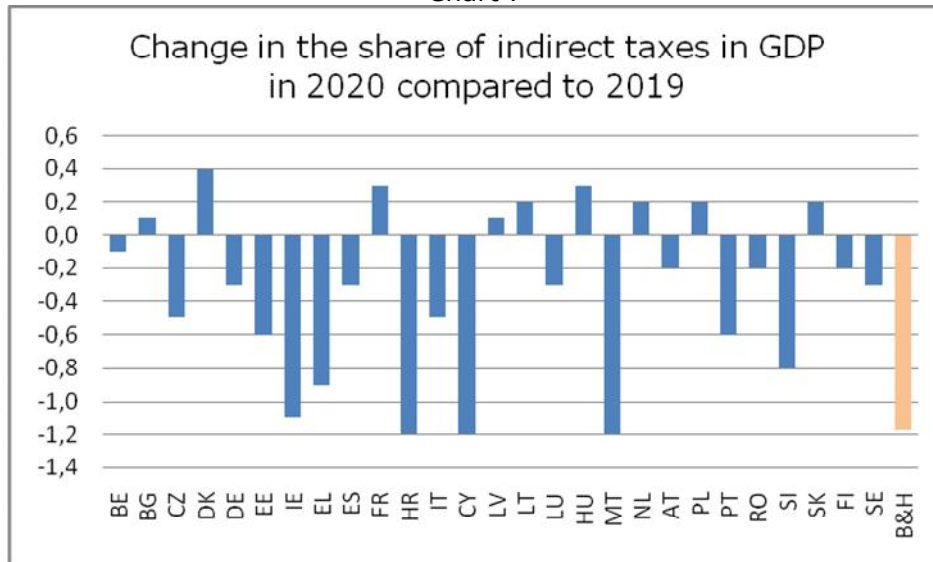
It can be concluded that the decline in the share of indirect taxes in GDP in 2020 was higher in B&H than in the EU-27 due to a higher decline in the share of indirect taxes in consumption, despite higher growth in the share of consumption in GDP in B&H (due to dynamics in private consumption).

<sup>18</sup> Data for the share of indirect taxes in consumption are the author's calculation based on data from the Eurostat database (Tables: *Taxes on production and imports, Final consumption expenditure of households and non-profit institutions serving households, Final consumption expenditure of general government and Gross domestic product at market prices*; data withdrawn on August 31, 2021) and may deviate slightly due to rounding of digits in the database to one decimal place.

## V Change in the share of indirect taxes in 2020: B&H vs individual EU-27 member states

The change in the share of indirect taxes in GDP in 2020 compared to the previous year was quite different among EU-27 member states. The largest declines were recorded in Croatia, Cyprus and Malta (1.2 p.p. each). They are followed by Ireland and Greece with a decline of 1.1 p.p. and 0.9 p.p., respectively. On the other hand, nine countries recorded a modest increase in the share of indirect taxes in GDP in 2020. The highest growth was recorded in Denmark (0.4 p.p.), followed by France and Hungary (0.3 p.p. each).

Chart 7



Source: Author's calculation based on data from the Eurostat database (Tables: *Taxes on production and imports, Final consumption expenditure of households and non-profit institutions serving households, Final consumption expenditure of general government and Gross domestic product at market prices*) withdrawn on August 31, 2021. Data for B&H refer to the author's calculation based on ITA and BHAS data.

### Box 2. Decline in the share of indirect taxes in GDP: EU-27 member states vs B&H

Although the average decline in the share of indirect taxes in GDP in 2020 compared to the previous year in the EU-27 was much smaller than the decline in that indicator in B&H (Chart 6), comparison of B&H with individual member states showed that in the three EU-27 member states (Cyprus, Malta and Croatia) the decline was even higher than in B&H. In addition to these three countries, in Ireland, Greece and Slovenia the decline in the share of indirect taxes in GDP was at approximately the same level as in B&H (1.1 p.p., 0.9 p.p. and 0.8 p.p., respectively).

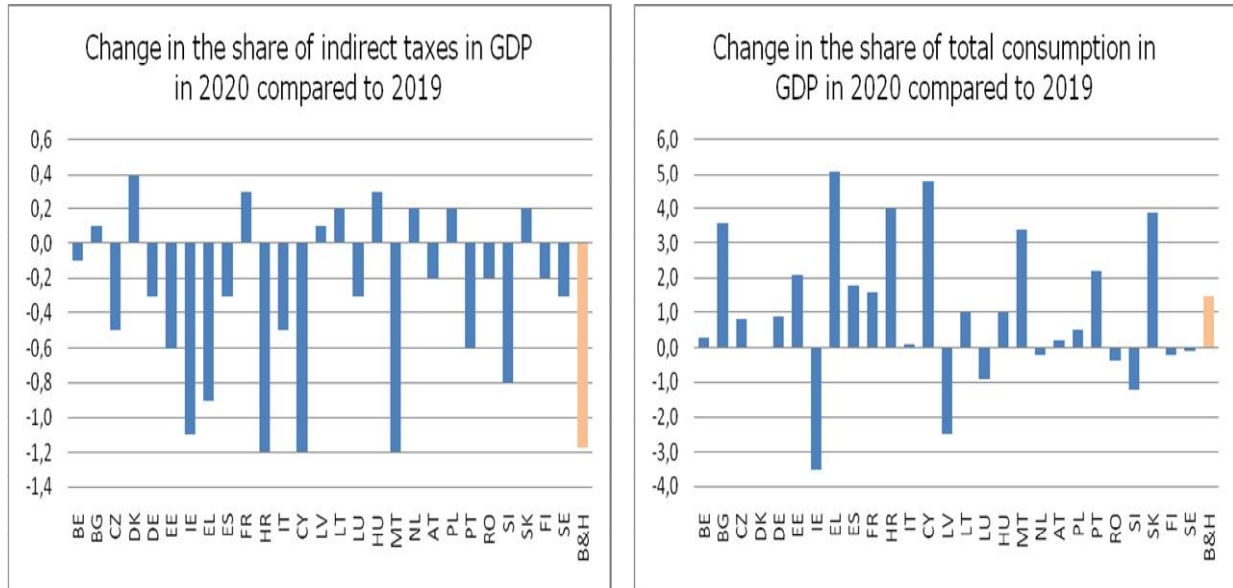
Chart 8 shows the factors for dynamics of indirect taxes in GDP in 2020 for the individual member states. It shows dynamics of the share of indirect taxes in consumption and the share of consumption in GDP. Change in the share of indirect taxes in consumption was negative in most member states. The largest declines were recorded in Malta (2.9 p.p.), Croatia (2.7 p.p.), Cyprus (2.4 p.p.) and Greece (2.0 p.p.). On the other hand, six countries recorded a modest increase in this share, namely: Latvia (0.7 p.p.), Denmark (0.6 p.p.), the Netherlands (0.3 p.p.), Lithuania (0.1 p.p.), Hungary (0.1 p.p.) and Poland (0.1 p.p.).

Change in the share of total consumption in GDP in 2020 compared to the previous year was mostly positive. The highest growth of this share was recorded in Greece (5.1 p.p.), Cyprus (4.8 p.p.), Croatia (4.0 p.p.), Slovakia (3.9 p.p.) and Bulgaria (3.6 p.p.). The decline in this share was



recorded in eight countries, and the largest decline was in Ireland (3.5 p.p.), Latvia (2.5 p.p.) and Slovenia (1.2 p.p.).

Chart 8



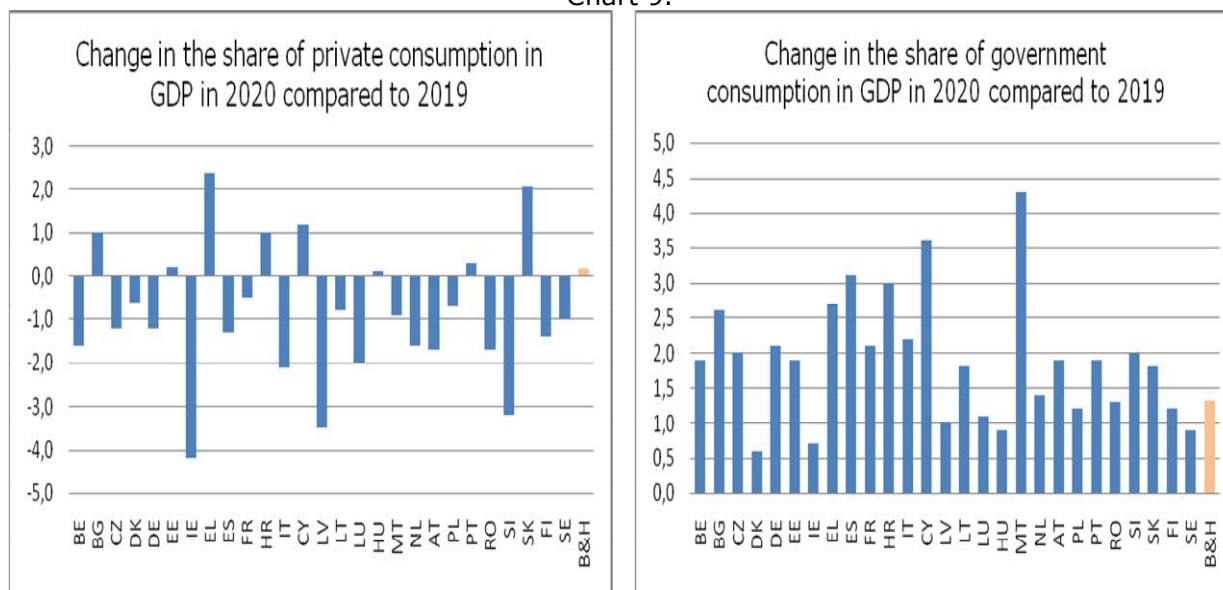
Source: Author's calculation based on data from the Eurostat database (Tables: *Taxes on production and imports, Final consumption expenditure of households and non-profit institutions serving households, Final consumption expenditure of general government and Gross domestic product at market prices*) withdrawn on August 31, 2021. Data for B&H are author's calculation based on ITA and BHAS data.

Based on the data from Charts 7 and 8, it can be concluded that in the three EU member states with the highest decline in the share of indirect taxes in GDP in 2020 compared to the previous year: Cyprus, Malta and Croatia - such a trend was the result of a sharp decline in the share of indirect taxes in consumption in that year (over 2 p.p. in these countries), despite the high growth of the share of consumption in GDP. In addition to these three countries, Ireland is the only country which recorded a decline in the share of indirect taxes in GDP in 2020 over 1 p.p. (-1.1 p.p.), but in its case the decline was the cumulative result of the decline in both the share of indirect taxes in consumption (1.2 p.p.) and the share of consumption in GDP (3.5 p.p.). On the other hand, the largest increase in the share of indirect taxes in GDP in 2020 compared to the previous year was achieved in Denmark (0.4 p.p.), and it resulted from a modest increase in the share of indirect taxes in consumption (0.6 p.p.) and the unchanged share of consumption in GDP.

### Box 3. Decline in the share of indirect taxes in consumption: EU-27 member states vs B&H

The decline in the share of indirect taxes in consumption in 2020 compared to the previous year was much smaller in the EU-27 (average) compared to B&H (Chart 6). Comparison of that share in B&H and in individual EU-27 member states (Chart 8 - left), showed that in four EU-27 member states (Malta, Croatia, Cyprus and Greece) the decrease was higher than in B&H.

Chart 9.



Source: Author's calculation based on data from the Eurostat database (Tables: *Final consumption expenditure of households and non-profit institutions serving households*, *Final consumption expenditure of general government*) withdrawn on August 31, 2021. Data for B&H are the author's calculation based on ITA and BHAS data.

Based on the data from Chart 9, it can be concluded that the change in the share of private consumption in GDP in 2020 compared to the previous year was mostly negative, while the change in the share of government consumption in GDP was positive in all member states. The largest declines in the share of private consumption were recorded in Ireland (4.2 p.p.), Latvia (3.5 p.p.) and Slovenia (3.2 p.p.). The largest increases in this share were recorded in Greece (2.4 p.p.) and Slovakia (2.1 p.p.). The growth of the share of government consumption in GDP in 2020 compared to the previous year is explained by the increased involvement of governments in the conditions caused by the corona virus pandemic, and was highest in Malta (4.3 p.p.), Cyprus (3.6 p.p.), Spain (3.1 p.p.) and Croatia (3.3 p.p.).

#### Box 4. Change in the share of consumption in GDP: EU-27 member states vs B&H

It was already concluded based on the Chart 6 in Section IV of this analysis that in 2020, B&H recorded a higher growth of the share of consumption in GDP compared to the EU-27 average, due to the dynamics of private consumption. The majority of EU-27 member states recorded a decline in the share of private consumption in GDP in 2020 (Chart 9 - left), and the change in the average at the EU-27 level was -1.3. p.p., while in B&H there was an increase in the share of private consumption for a modest 0.2 p.p. The growth of the share of government consumption in GDP in 2020 was higher at the EU-27 level than in B&H. In B&H, however, the growth of this share was higher than in as many as nine EU-27 member states, namely: Denmark, Ireland, Sweden, Hungary, Latvia, Luxembourg, Finland, Poland and Romania.

#### Instead of a conclusion

The decline in indirect taxes in GDP of B&H in 2020 was higher than in the EU-27 due to a higher decline in the share of indirect taxes in consumption, despite the higher increase in the share of consumption in GDP in B&H, which resulted from the dynamics of private consumption. A comparison of the dynamics of indirect taxes in GDP in 2020 in B&H with individual EU-27 member

states showed that in three EU-27 member states the decline was even higher than in B&H, and that in three more member states the share of indirect taxes decreased at approximately the same level as in B&H. Also, the decline in the share of indirect taxes in consumption in 2020 was much higher in B&H compared to the EU-27 average, but a comparison with individual EU-27 member states showed that in four EU-27 countries the decline was higher than in B&H, and that it was at approximately the same level in three other countries. Most EU-27 member states recorded a decline in the share of private consumption in GDP in 2020, while in B&H there was a modest increase in this indicator. The increase in the share of government consumption in GDP in 2020 was higher at the EU-27 level than in B&H, but the growth of this share in B&H was higher than in as many as nine EU-27 member states.