



Macroeconomic Unit of the Governing Board of the Indirect Taxation Authority

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In the first half of 2022, the increase in net collection of indirect taxes in B&H amounted to 568.4 million BAM, while in July and August 2022, the increase was 91.6 million BAM, compared to the same two months in 2021 (Chart 1), where half of the effects referred to excise duties on tobacco products. It is also necessary to take into account the fact that most of the effects from the first half of the year were already included in the expected growth of government budget revenues for 2022. Taking into account slowing down of the growth rate (Chart 2), it is obvious that the space for financing various anti-crisis measures from the increase in indirect taxes is getting smaller, especially when taking into account the structure of distribution of revenues from indirect taxes in the entities (see OMA Bulletin No. 168/169 for more information about the system of distribution to entities and within the entities).

Chart 1

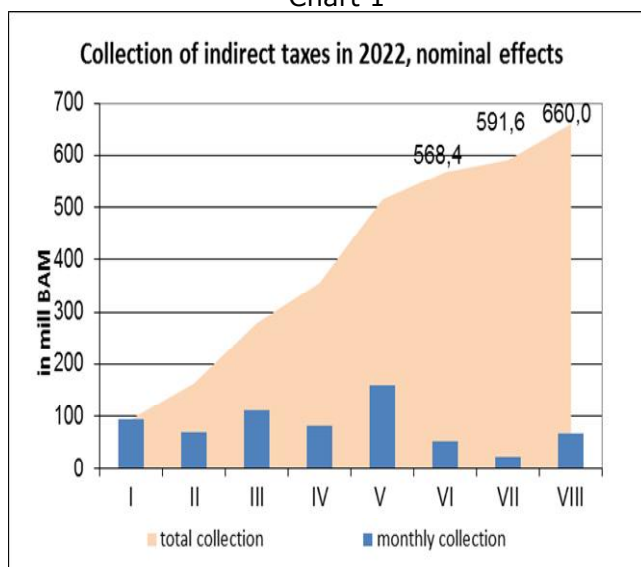
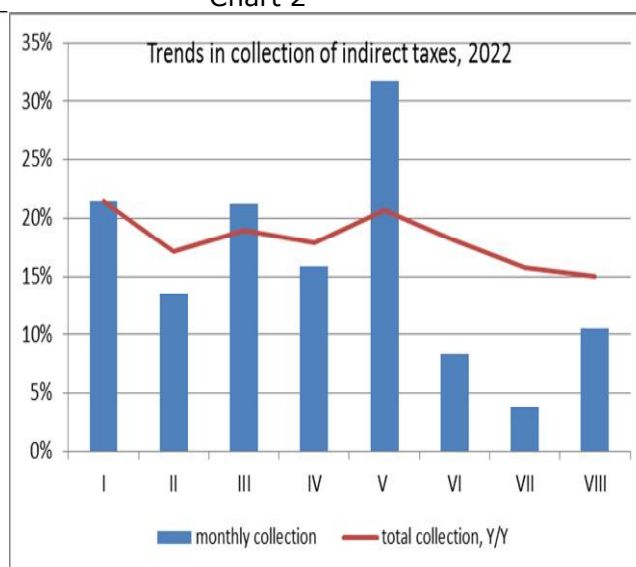


Chart 2



For tax administrations, the distribution of tax revenues to the levels of government is a matter of secondary importance. However, in the indirect tax system of B&H, the distribution of revenues from indirect taxes is closely related to the concept of the VAT system, because the main criterion for the distribution of revenues to the entities is the final consumption in the entities, shown in the VAT declarations. Technically, revealing final consumption, i.e. the amount of VAT for which the taxpayer is not entitled to a refund, by entities, is directly related to the number of VAT rates in the VAT system, which implies that a larger number of VAT rates implies a more technically complex revenue distribution. The issue of implications of introducing two or three VAT rates on the distribution of indirect tax revenues has been completely ignored in public debates. Considering that revenues from indirect taxes are the basic source for repayment of external debt and the main source for budget financing, the issue of distribution of revenues from indirect taxes is crucial for all levels of B&H governments.

Dinka Antić, PhD
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Allocation of indirect taxes in B&H and differentiated VAT rates

(Author: Dinka Antić, PhD)

Compared to other countries, the fiscal system of Bosnia and Herzegovina is characterized by a number of specificities and paradoxes. These are, first of all, the specific constitutional arrangement of Bosnia and Herzegovina, with a very high degree of fiscal decentralization, on the one hand, and a high degree of centralization of taxes from which all levels of government are financed, with a high degree of interdependence between the central and entity governments in terms of policy, administration and allocation, on the other hand. The aforementioned specificities were also reflected in the VAT system, which differs to a large extent from the standard VAT systems of contemporary countries.

The specifics are reflected in the following:

- (i) the unusual institutional organization of VAT administration, which implies the establishment of a tax administration for indirect taxes, which combines customs and tax functions;*
- (ii) the unique concept of managing the VAT policy in the form of the Governing Board, as the only body responsible for creating the policy of indirect taxes in B&H;*
- (iii) the unique concept of allocation of indirect taxes, including VAT revenues, which is based on the final consumption shown on VAT returns;*
- (iv) tax structure dominated by VAT, so that the financing of all levels of government in B&H depends on the VAT collection.*

A comprehensive analysis of implications of initiatives for introduction of differentiated VAT rates should include an overview of the impact of the mentioned specificities of the VAT system and limitations of the VAT policy that they impose. In this issue of the Bulletin, the focus is on the implications of the introduction of differentiated VAT rates on allocation of indirect taxes - an issue that has been completely ignored in public debates.

The concept of allocation of indirect taxes in B&H

The system of financing government levels in B&H from indirect taxes consists of two levels of allocation: the level of B&H, in accordance with the provisions of the Law on the Indirect Taxation System, and at the entity level, which refers to the allocation of transfers of indirect taxes remitted to the entities, in accordance with entity regulations.¹ In accordance with the legal provisions, the funds collected on the Single Account (SA) are allocated on daily basis, respecting the legal order. Refunds to taxpayers have priority in the allocation of revenues from indirect taxes. The B&H institutions are next in line,² while the remaining amount is divided between the entities and Brčko District. It should be emphasized that, as of 2009, the road fee³ from the price of oil derivatives, which is earmarked for the construction of highways, has been excluded from allocation of revenues to the entities and the District.⁴

The concept⁵ of allocation of revenues from indirect taxes to the entities and the District implies that "the part of the remaining amount that is transferred to the Federation, Republika Srpska and the District is determined based on their share in the final consumption shown in the value added

¹ In the Federation of B&H, the allocation is made in accordance with the Law on the Allocation of Public Revenues, and in the RS in accordance with the Law on the Budget System.

² An equal amount is transferred every day from the Single Account of the ITA to the budget of Institutions of B&H, in accordance with the amount of allocation from the Single Account of the ITA, prescribed in the annual budget of the Institutions of B&H.

³ As of July 1, 2009 the earmarked road fee amounted to 0.10 BAM per liter of oil derivative while as of February 1, 2018 it amounts to 0.25 BAM per liter.

⁴ Earmarked road fee is allocated according to allocation coefficients determined by the Governing Board of the ITA.

⁵ Article 21 of the Law on the Indirect Taxation System

tax returns". In order to ensure the application of the mentioned concept, it was necessary for the VAT return to contain data on final consumption for FBiH, RS and Brčko District. In order to ensure application of the mentioned concept, it was necessary for the VAT return to contain data on final consumption for FB&H, RS and Brčko District.⁶ Considering the fractional method of VAT calculation, application of the criteria has required an analytical classification of VAT sales in the taxpayer's bookkeeping, with separate records of sales in FB&H, RS and Brčko that are considered final consumption (retail sales, own consumption, in certain cases when taxpayers have exempt turnover or when the right to deduct input VAT is abolished) in relation to other sales in the supply chain entitled to deduct input VAT.

By the Decision of the High Representative dated July 1, 2007 the allocation coefficient for Brčko is determined according to a different methodology, and cannot be lower than 3.55%. For this reason, only relations between the entities are relevant for the valid concept of allocation of revenues from indirect taxes.

Technical aspect of indirect tax allocation

It should be borne in mind that the concept of allocation of indirect taxes in B&H is technically elaborated⁷ in such a way that due to the time discrepancy between the submission of VAT returns⁸ and allocation of revenues, the allocation is made on the basis of quarterly allocation coefficients, which are of a temporary nature. Quarterly coefficients are adopted by the ITA Governing Board *ex ante*, in advance, for the quarter that has yet to occur. Due to the time mismatch, calculation of the quarterly allocation coefficients is based on final consumption historical data from VAT returns for the previous three months, with a time lag of one month, due to the deadlines for submitting returns.⁹ Two temporary alignments are also provided. The data on final consumption from VAT returns and collection of indirect taxes for the first half of the current year are used for the first temporary alignment, and the allocation of revenues to entities according to the temporary quarterly coefficients in the first half of the year is compared with the allocation according to the actual coefficients calculated for the same half of the year. A temporary alignment for the entire fiscal year is prescribed, when the annual data on final consumption is compared with the annual collection of indirect taxes and their allocation based on quarterly coefficients. The final alignment between the entities after the external audit is also prescribed. Alignments are necessary because corrections in the submitted VAT returns are allowed within five years from the end of the month to which they refer, as well as corrections in the IT system of the ITA, based on inspection decisions and court rulings.

Bearing in mind that taxpayers play a crucial role in the correct recording of final consumption in VAT returns, it was necessary to establish a system of controls within the ITA, as well as supervision by the ITA Governing Board, in order to ensure the reliability of the data on the basis of which the coefficients are calculated and the allocation of indirect taxes is carried out between entities. We should not forget the fact that the allocation of joint revenues in developed countries always represents a factor of possible misunderstandings and conflicts regarding the share of administrative units (provinces, regions) in revenues. A similar thing used to happen in Bosnia and Herzegovina, and disagreements between the entities have sometimes resulted in the blockade in allocation or the non-adoption of current quarterly allocation coefficients.

An overview of the applied coefficients for the allocation of revenues from indirect taxes for FB&H (Chart 1) and RS (Chart 2) in the last six years shows a longer period of even three years in which

⁶ Basically, VAT is entered from final consumption, not the base (consumption) on which it is calculated.

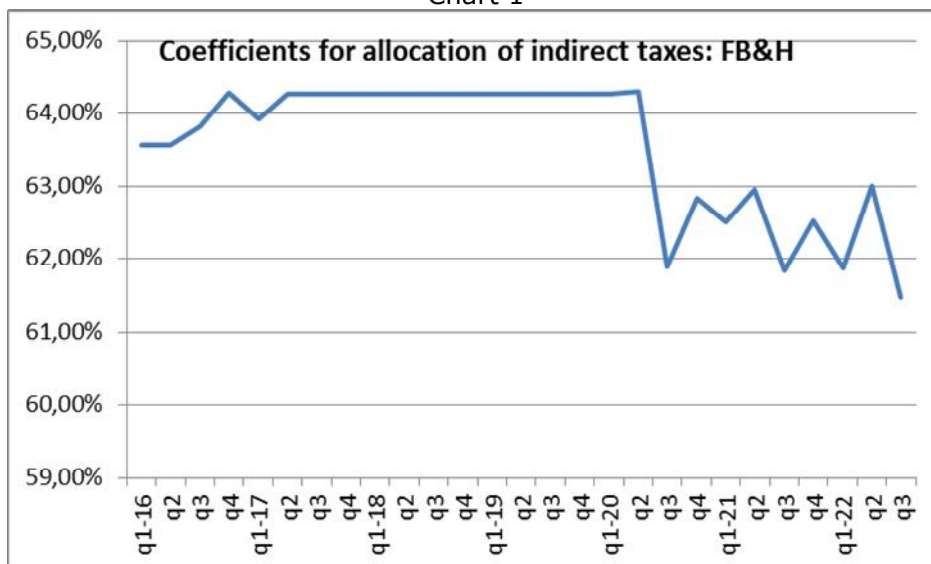
⁷ Rulebook on calculation of coefficients for allocation to the entities (Official Gazette of B&H" No. 62/08)

⁸ According to the Law on VAT, the return for month *t* is submitted by the 10th day of the month *t+1*.

⁹ For example, calculation of the coefficient for the third quarter (July, August, and September) is made in June after the data on final consumption from the VAT returns for March, April and May are available.

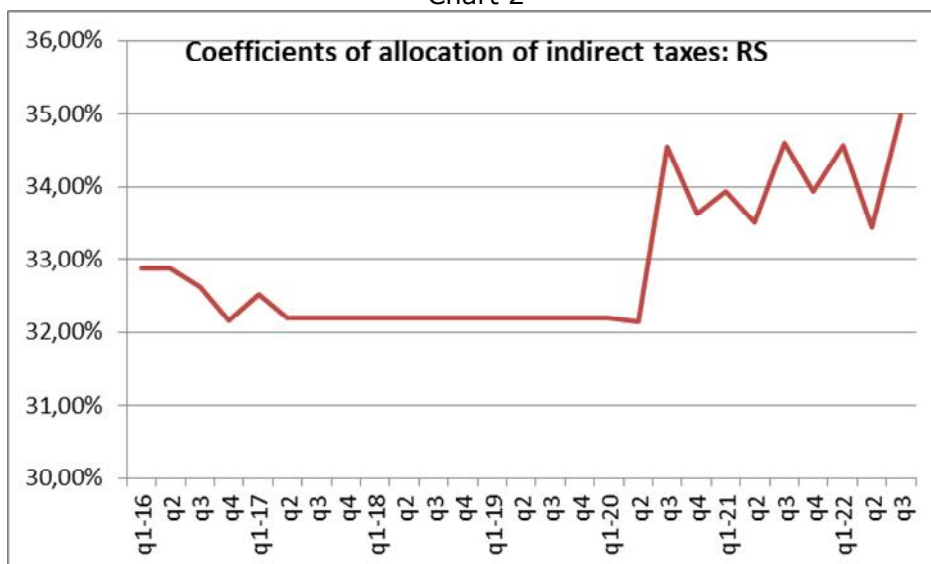
no agreement could be reached on quarterly coefficients, so the last adopted coefficients have been applied. However, in the last two years, a significant progress in the allocation policy has been achieved. Based on the trust gained between the entities, quarterly allocation coefficients have been regularly adopted and temporary semi-annual and annual alignments have been conducted between the entities.

Chart 1



Source: Decisions of the ITA Governing Board, publications in the Official Gazettes of B&H in the period 2016-2022

Chart 2



Source: Decisions of the ITA Governing Board, publications in the Official Gazettes of B&H in the period 2016-2022

Implications of the introduction of differentiated VAT rates on the allocation of indirect taxes

The introduction of differentiated VAT rates requires certain changes in regulations and technical calculation of final consumption, which, ultimately, would inevitably have a negative impact on the allocation of revenues from indirect taxes.

The final consumption represents the basis for VAT calculation, on which the taxpayer is not eligible to a refund. Final consumption for each entity and District is reported separately in VAT returns, and *de facto* this is the **amount of VAT**. Mathematically, when calculating the coefficients under the conditions of application of a single VAT rate, the relative shares of entities remain the same, regardless of comparing final consumption (non-taxable base) or VAT for which the taxpayer is not entitled to a refund. However, if two VAT rates are introduced, the fields will contain a mix of final consumption VAT at a reduced and higher rate, and it will not be possible to calculate the actual final consumption (base). Therefore, **it is necessary to introduce additional fields in the VAT return for a reduced rate¹⁰ for each entity and District**, and exclusive amount of final consumption before taxes should be entered in all 6 fields. This must be highlighted to ensure data consistency.

The introduction of multiple VAT rates in terms of revenue allocation requires the following:

- Governing Board of the ITA should adopt amendments to the Rulebook, in the articles prescribing the methodology for calculating coefficients based on final consumption data from VAT returns;
- Governing Board of the ITA should adopt change in the format of VAT return, by adding new fields, along with adequate changes in the IT system of the ITA and in reports which the ITA submits to the Governing Board;
- In order to control final consumption, tax administrations of entities and District must prescribe changes in the cash register receipts that will reflect multiple VAT rates;
- taxpayers will have to adjust their records (books of outgoing invoices) in order to provide additional fields for final consumption for turnover in final consumption at a reduced rate, which will serve as a basis for filling out VAT returns, and for ITA inspectors as a basis for control of the accuracy of data on final consumption reported on the VAT return;
- software changes for cash registers/systems are necessary.

In addition to the above, extensive adjustments are needed in the ITA (Antić, 2011).

Of course, in a situation where, in addition to the standard rate of 17%, a reduced rate and a higher rate for luxury goods are proposed, the situation becomes more complex in terms of the number of additional fields in VAT returns for the final consumption. In that case 9 of them are required, demanding changes in design of the tax database applications, changes in cash register software as well as in software and analytical records in accounting, in order to create a basis for filling out fields of final consumption, taking into account VAT rates in the amended VAT returns.

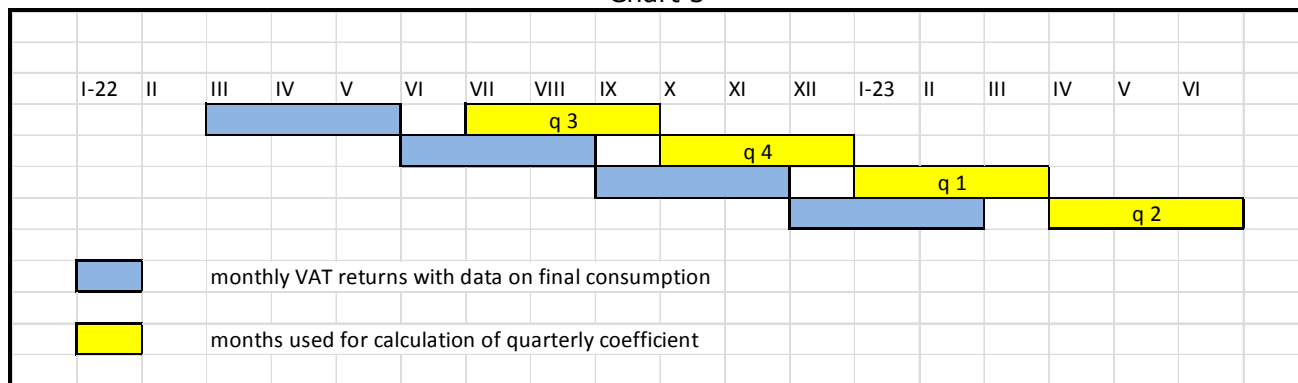
Allocation issues in the system of differentiated VAT rates

The issue of allocation of indirect taxes in B&H in the VAT system with differentiated VAT rates does not end only with the fulfilment of legal-administrative and technical preconditions. Indeed, as it involves serious changes in the procedures and in taxpayers' records, it is necessary that taxpayers who report final consumption (retail sales, etc.) are monitored by the ITA for a longer period. This is necessary in order to **gain insight into the accuracy and comprehensiveness of the data presented in VAT returns**.

¹⁰ This is mandated by the provisions of the Law on Payments into the Single Account and Allocation of Revenues ("Official Gazette of B&H" No. 55/04, 34/07, 49/09 and 91/17), Article 13b. "The entities' allocation coefficient is determined as a relation between final consumption sums indicated in value added tax returns for goods and services on the territory of the revenue beneficiary in question and final consumption sums indicated in value added tax returns on the territory of Bosnia and Herzegovina, entered into Authority records for the same period. Information on final consumption is entered into the Authority records on the basis of tax returns for the tax for which the taxpayer is not eligible to a refund, separately for each value added tax rate.

Even if the quality of data on final consumption for multiple rates would not be problematic, there would be a problem of applying the valid methodology for calculating quarterly allocation coefficients in the conditions of the existence of multiple VAT rates, due to the inconsistency of data from quarterly intervals (monthly VAT returns for three months) for which data on final consumption are taken and intervals for which the coefficients are calculated (quarters) - Chart 3.

Chart 3



If the differentiated rates are introduced temporarily, for example in a period of six months from October 1, 2022 until March 31, 2023, this would mean that for the calculation of the allocation coefficient for the fourth quarter of 2022, data from the returns for June, July and August 2022 would be used, which is the period when a single VAT rate was applied. However, for the calculation of the quarterly coefficient for the first quarter of 2023, the data from VAT returns are not consistent because they include data on final consumption for single rate (VAT return for September 2022) and data on final consumption for multiple rates (VAT returns for October and November 2022).

In order to overcome the problem, it is possible to suspend the allocation according to the existing Rulebook, in a way to freeze the last quarterly coefficient, adopted before the application of the amendments to the Law on VAT, in order to ensure a smooth allocation of revenues at the time of application of the amendments to the Law. Of course, after the expiration of the period of temporary application of differentiated rates, due to three-month intervals, the problem of applying the standard concept of calculating quarterly coefficients which uses data from VAT returns from the single-rate system and the two/multiple-rate system will arise again.¹¹ However, even if the above-mentioned problems were overcome, the question of subsequent temporary semi-annual and annual alignments arises in a situation where we have an inconsistent set of data in the IT system for a period of six or twelve months, without the possibility of time verification in the controls of the application of multiple VAT rates in the short term.

Another solution to the problem of allocation at the time of temporary application of differentiated VAT rates may be to shift to a completely new model of allocation based on monthly coefficients, for which data would be taken from one VAT return, for example, the last monthly return submitted by taxpayers to the ITA. However, monthly coefficients, unlike quarterly ones, are more subject to oscillations, due to the strong oscillations in monthly collection of indirect taxes (Regoje, 2020). It would introduce instability into the allocation and financing of budgets. Finally, in order to apply the new allocation model, the consensus of both the institutions of B&H and both entities is required, which would require the adoption of a new rulebook on the allocation of indirect taxes.

¹¹ In our example, calculation of the coefficient for the third quarter of 2023 would be a problem, because data from March 2023 returns would be used, when the system of differentiated rates would be applied, as well as from April and May 2023 returns, with the data from the single-rate system.

Finally, it should be emphasized that the introduction of differentiated rates damages the integrity of the existing tax application and stored data from VAT returns. The problem with final consumption fields is much wider and more serious than the one described above, because a mix of data with different contents must not be created in the same database. Until the introduction of differentiated rates, fields 32, 33 and 34 of VAT returns were the amounts of calculated VAT, and from the moment of the introduction of differentiated rates, they should be the amounts of final consumption. It is not possible to have different data content in the same fields. Therefore, in order to protect the integrity of the database in the case of the introduction of differentiated rates, it would be necessary to convert all historical data in fields 32, 33 and 34 from calculated VAT into the final consumption, for all the returns submitted as of 2006, for which the taxpayer is not eligible to a refund. However, this would open another, even bigger issue of the credibility of the data in the database in relation to the source (VAT returns) and the mismatch between the records relied on by the ITA inspectors (database) and the analytical records of the taxpayers, especially since a large number of declarations are still active, due to the five-year period of possible changes or due to unfinished administrative and court proceedings. Another option is to enter VAT amount from the lower rate for each entity/Brčko into the new fields. However, such an approach would require that every time when exporting data, for the purposes of calculating the coefficients, a recalculation is made in order to obtain the correct amounts of final consumption (base for VAT) for each entity/Brčko. The introduction of the third VAT rate makes the mentioned problem technically even more complex.

However, regardless of the chosen approach, the problem of the impossibility of quickly verifying data in the new fields of the VAT return would remain during the period of application of differentiated rates, which threatens reaching an agreement on alignment between the entities.

Conclusion

The following can be concluded from the above analysis of the implications of the introduction of differentiated VAT rates in B&H on the indirect tax allocation system:

- It has been shown that trust between the users of the allocation of indirect taxes is crucial for the uninterrupted functioning of the indirect taxation system in B&H, and thus for the stable financing of all levels of government.
- The analysis showed that the introduction of differentiated VAT rates would weaken the current concept of allocation of indirect tax revenues, because changes in implementing rules and technical adjustments of all key actors (ITA, taxpayers, and entity tax administrations) are necessary.
- Due to the impossibility of verifying the reporting of final consumption data on VAT returns for multiple VAT rates in the short term, there is a danger of collapsing the entity's hard-earned trust in the validity of the data, which calls into question future revenue alignments between the entities.

LITERATURE

Antić D. (2011). "Study on the implications of differentiated VAT rates in Bosnia and Herzegovina", ITA Governing Board, p. 13-20, www.oma.uino.gov.ba.

Regoje, A. (2020). "Monthly fluctuations of indirect tax revenues"; OMA Bulletin #175, January/February 2020, www.oma.uino.gov.ba.

Analysis of VAT revenues in the period 2006-2021

(Prepared by: Aleksandra Regoje, Macroeconomist)

Value added tax (VAT) was introduced in Bosnia and Herzegovina in 2006 and since then it has been the most generous tax revenue. The tax system of B&H is consumption-oriented, and indirect taxes make up over 4/5 of the tax revenues of the general government of B&H.¹² Revenues from VAT make up over 63% of net revenues from indirect taxes.¹³

VAT is an all-stage sales tax that is calculated and paid at every stage of the production and sales cycle, and only on the amount of added value achieved at that stage. Obligations and the system of payment of VAT are regulated by the Law on Value Added Tax in B&H.¹⁴ According to the provisions of the Law, VAT is paid on: (1) supplies of goods and services which a taxpayer makes for consideration within the territory of B&H; (2) the importation of goods into Bosnia and Herzegovina. If the amount of input tax in any tax period is higher than the amount of the output tax liability in the same period, the taxpayer shall have the right to have the difference refunded. Any refund due shall be paid no later than 60 days after the expiry of the deadline for submission of the VAT return. Exceptions are taxpayers whose main business is the export of goods and who in successive VAT returns declare an amount of input tax which is higher than the amount of the output tax liability. They shall be entitled to a refund within 30 days after submission of the VAT return. If the taxpayer decides not to refund the difference, then the difference shall be recognized as a tax credit.

In the first part of this article, the collection of VAT revenue by components (gross, refunds, net) in the period from its introduction to 2021 was analyzed. In the second part, the collection and structure of gross VAT revenue was analyzed according to its components: VAT on imports, domestic VAT and other VAT revenues. The third part of the article presents the results of regression analysis based on data on gross VAT collection and data on national accounts. Conclusions were drawn on the impact of GDP components on the structure of gross VAT revenue. The fourth part of the article shows the structure of realized claims of the VAT taxpayers in the form of received VAT refunds or the use of tax credits, and a simulation of the impact of changes in this structure on the gross collection of VAT was also presented.

I Collection of VAT revenues in the period 2006-2021

Compared to the base year 2006, which is the year of VAT introduction, the gross VAT collection in 2021 has more than doubled (Chart 1, left). From 2,786.3 million BAM in 2006, gross VAT collection increased to 5,931.6 million BAM in 2021 (base index 212.9). Refund payments in the mentioned period more than quadrupled (base index 444.9), especially since 2006 was characterized by the suspension of refunds for taxpayers who are not the main exporters, and by the fact that refund payments have started in March. Therefore, the growth of net VAT collection in that period did not follow the growth of gross collection (base index 2021/2006 amounted 180.9). In 2007, a significant part of refunds related to the previous year was paid. At the end of 2007, then existing 10% rate of allocation to the reserve account for refunds of indirect taxes proved to be insufficient, which has led to problems in the servicing of refund payments. At the beginning of February 2008, the Governing Board of the ITA overcame the problem of reserves by making a Decision to allocate 10% to the reserve account, and in the event that the stated amount is not sufficient for the payment of due obligations, Article 9 of the Law on Payments into the Single Account and Allocation of Revenues will be applied, where "the reserve is calculated as the sum of refunds for the next working day".

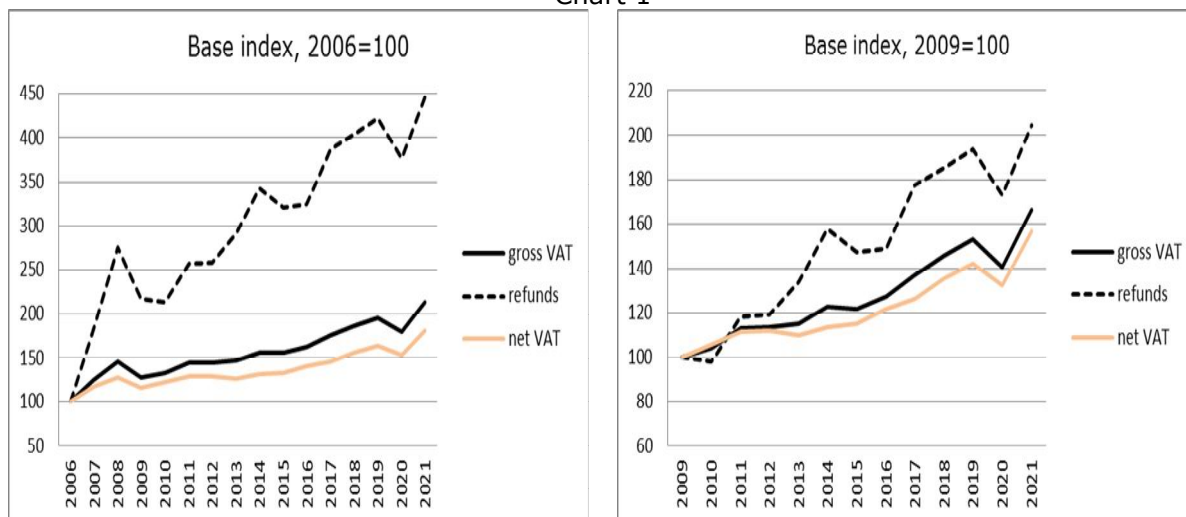
¹² Data for 2020; "Global Framework of Fiscal Balance and Policies in B&H for the period 2022-2024", Fiscal Council of Bosnia and Herzegovina, March 2022

¹³ ITA, data for 2020.

¹⁴ "Official Gazette of B&H", No. 9/05, 35/05, 100/08 i 33/17).

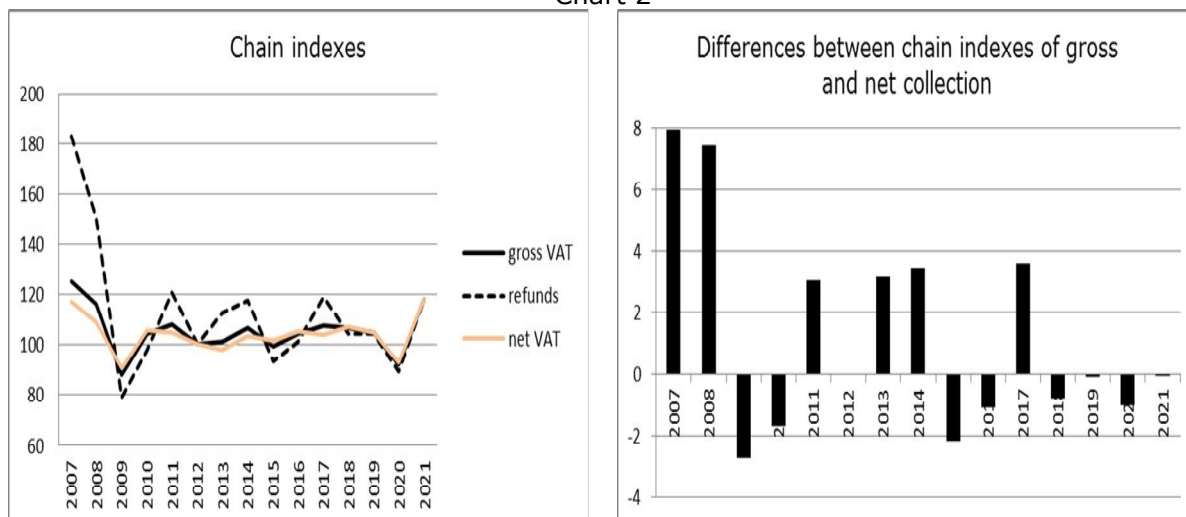
Due to the specificities and turbulences in refund payments in 2006, 2007 and 2008, it is necessary to compare the gross and net collection with 2009, the year when the payment of VAT refunds has stabilized. In that case, there are no such significant differences in the indexes of gross and net VAT collection (Chart 1, right).¹⁵ Compared to 2009, gross VAT collection in 2021 was higher by 66.5%, refund payments by 104.6% and net collection by 56.7%.

Chart 1



Source: Author's presentation based on the ITA data

Chart 2



Source: Author's presentation based on the ITA data

Chain indexes of gross and net VAT collections, as well as refund payments, are shown on the left side of Chart 2. The right side of the same Chart shows the differences of the gross and net collection chain indices. In the years in which this difference is positive, the gross collection of VAT grew more than the net collection, which means that the growth of VAT refunds did not follow the growth of gross collection of VAT. Such a situation was especially pronounced in 2007 and 2008,

¹⁵ When 2006 is taken as the base year, the growth rates of gross and net collection in 2021 differ by 32 pp, while this difference amounts to 9.9 pp in the case when 2009 is taken as the base year.

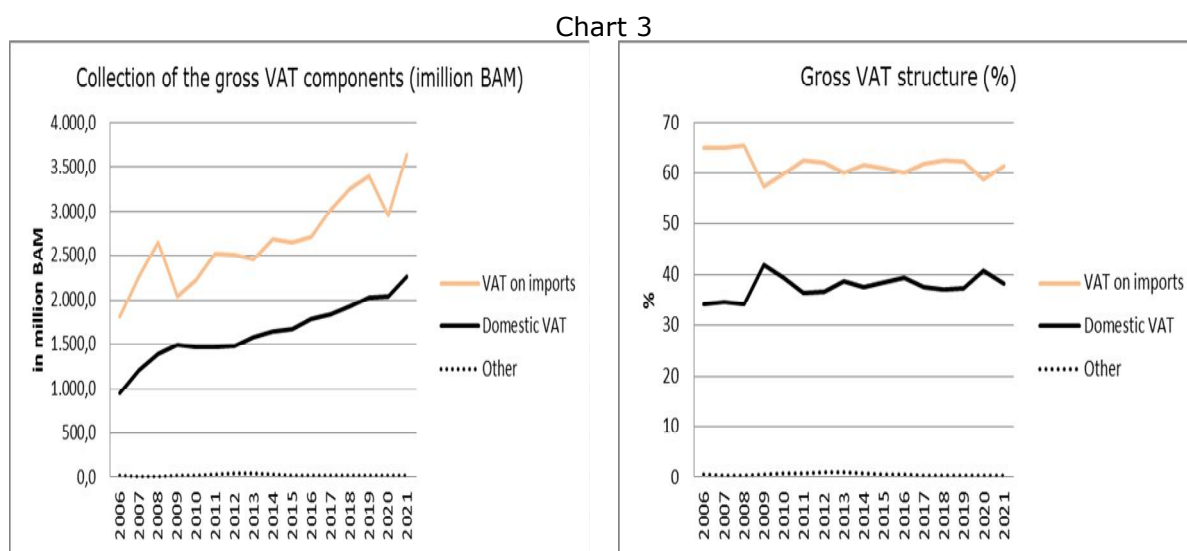
due to the above-explained specifics in refund payments in the preceding years (suspension of refunds in 2006 and the problem of reserves in 2007).

II Structure of gross VAT revenues

Chart 3 shows the structure of gross VAT collection in the period from 2006 to 2021, namely the collection of certain revenue¹⁶ categories in millions of BAM (left) and as the share (%) in gross collection (right).

Collection of **VAT revenue on imports** doubled from 1,813.5 million BAM to 3,640.4 million BAM (base index 200.7) in the period from 2006 to 2021. In the same period, the collection of **domestic VAT** (VAT paid on the basis of the VAT return) more than doubled from 953.4 million BAM to 2,266.2 million BAM (base index 237.7).¹⁷ **Other VAT revenues** (automatic assessment, one-time payments, default interest etc.) have a small weight in the gross collection of VAT, mostly between 0.5% and 1%. Their collection, with ups and downs, ranged between 15 and 48 million BAM in the period from 2006 to 2021.

Revenues from VAT on imports have the largest share in gross collection. The share of VAT on imports in gross VAT revenues from the introduction of VAT (2006) to 2021 ranged from 57.4% (minimum from 2009) to 65.5% (maximum from 2008). In 2022, that share amounted to 61.4% (Chart 3, right).



Source: Author's presentation based on the ITA data

III Influence of components from the national accounts on the structure of gross VAT revenues

Bosnia and Herzegovina has a relatively high share of imports of goods and services in its GDP. According to Eurostat data, the share of imports in B&H's GDP is higher than the Eurozone average by as much as 10.8 percentage points, and by 3.8 percentage points higher than the corresponding indicator for Croatia. On the other hand, the share of imports in the GDP of BiH is lower than in North Macedonia (for a high 25.6 pp), Slovenia (21.9 pp.), and Montenegro (6.4 pp) and Serbia (5.9 pp).

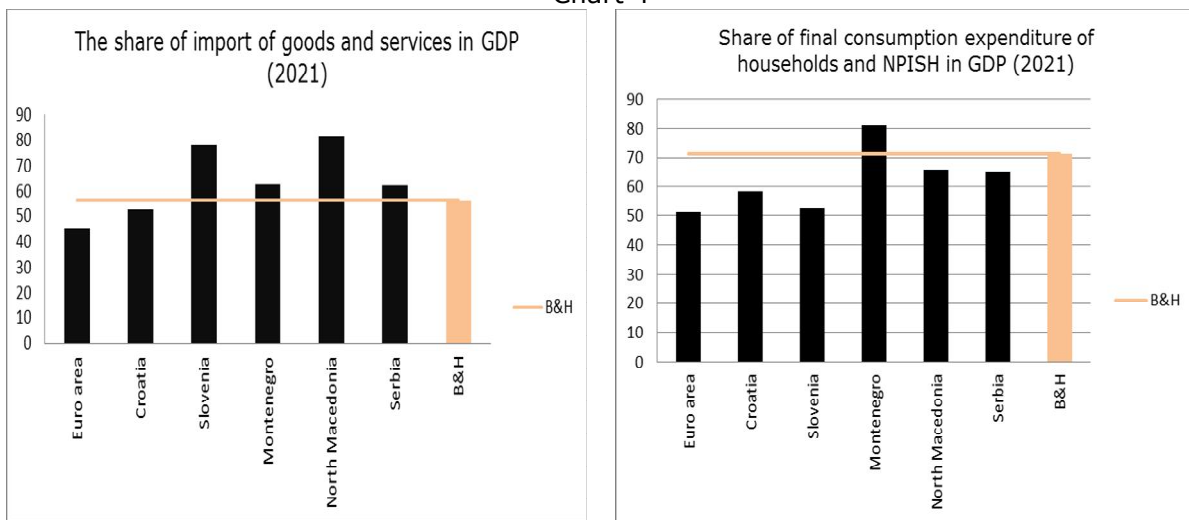
¹⁶ VAT on imports, domestic VAT and other VAT revenues

¹⁷ It should be kept in mind that VAT was introduced in 2006, and that the first major payments were recorded in the month of February.

The share of final consumption of household and NPISH¹⁸ in GDP in B&H is higher than in the Eurozone and in neighboring countries, with the exception of Montenegro.

Bearing in mind the high share of imports and final consumption in GDP, it is not surprising that B&H has a large share of indirect taxes on imports, as well as a generally high share of VAT (which is actually a tax on consumption) in GDP and in total public revenues. Even 71.4% of the gross revenue from indirect taxes in 2021 was calculated on imports (VAT on imports, excise duties on imported products, customs duties and road fees from the price of imported oil derivatives). The share of VAT revenues in GDP of Bosnia and Herzegovina amounted to 10.6%¹⁹ in 2020 and was by 3.9 p.p. higher than in the Eurozone.

Chart 4



Source: Author's presentation based on Eurostat data²⁰

Note: Data for final consumption of households and NPISH for Montenegro are for the year 2020

Below are presented the results of regression analysis based on data on gross VAT collection (ITA data) and data on national accounts (BHAS data).²¹ Annual data in the period from 2006 to 2021 were analyzed. Five regression models were created, where the dependent variables were individual components of the gross VAT collection, while the corresponding components of GDP, calculated according to the expenditure approach, were selected as independent variables. In all five cases, P-values for all variables were zero, meaning that the independent variables were important for models (significant at the 5 percent level).²²

Results of the analysis show that revenues from VAT on imports are closely related to the dynamics of imports of goods and services in B&H. A regression model was created (model (1), table 1), where the dependent variable (y) was "VAT on imports", and the independent variable was "import of goods and services". The calculated coefficient of determination R^2 is a high 98.9%, which means that the variability of VAT revenue on imports according to the specified regression model is that percentage. Based on the results from the regression model and the elasticity

¹⁸ NPISH - Non-Profit Institutions Serving Households

¹⁹ Author's calculation based on the ITA and BHAS data

²⁰ Eurostat database, data extracted on July 25, 2022; tables: "Imports of goods and services in % of GDP [TET00004]" and "Final consumption expenditure of households and non-profit institutions serving households [TEC00009]"

²¹ B&H Agency for Statistics (BHAS): "Gross domestic product by production, income and expenditure approach, 2020", February 28, 2022 and „Gross Domestic Product – Special First Release“, July 19, 2021.

²² P-value is the smallest level of significance at which we can reject the null hypothesis. A null hypothesis is a hypothesis that is held true, as long as there is insufficient evidence to the contrary (in our case, the null hypothesis assumes that the independent variable has no influence on the dependent one).

calculation formula, it can be calculated that the **average** elasticity of VAT revenue on imports in relation to the movement of imports of goods and services in B&H in the period 2006-2021 was about 1.

Based on the created regression models (2) and (3), it is concluded that revenues from domestic VAT show a similar degree of conditionality with the dynamics of expenditures on final consumption (coefficient of determination 96.3%) as with the dynamics of gross domestic product (coefficient of determination 96.7%), with significant differences in elasticity coefficients. Both are above unity, but the coefficient is much higher in the case when final consumption was taken as the dependent variable.

Based on the regression model in which the dependent variable was "net VAT revenues" and the independent variable was "final consumption expenditures of households, NPISH and government" (model (4), table 1), with a lower coefficient of determination of 91.5%, elasticity above unity is obtained. When the government consumption was excluded from the total final consumption expenditures (model (5), table 1), a higher coefficient of determination was obtained in the regression model (94.5%) and a slightly higher coefficient of elasticity.

Table 1. Results of the regression analysis

No	dependent variable	independent variable	R Square	P-value	observ.	elasticity
(1)	Vat on import	import of goods and services	98,9%	0,00	15	
(2)	Domestic VAT	final consumption expenditures of households, NPISH and government	96,3%	0,00	15	
(3)	Domestic VAT	GDP	96,7%	0,00	15	
(4)	Net VAT	final consumption expenditures of households, NPISH and government	91,5%	0,00	15	
(5)	Net VAT	final consumption expenditures of households and NPISH	94,5%	0,00	15	

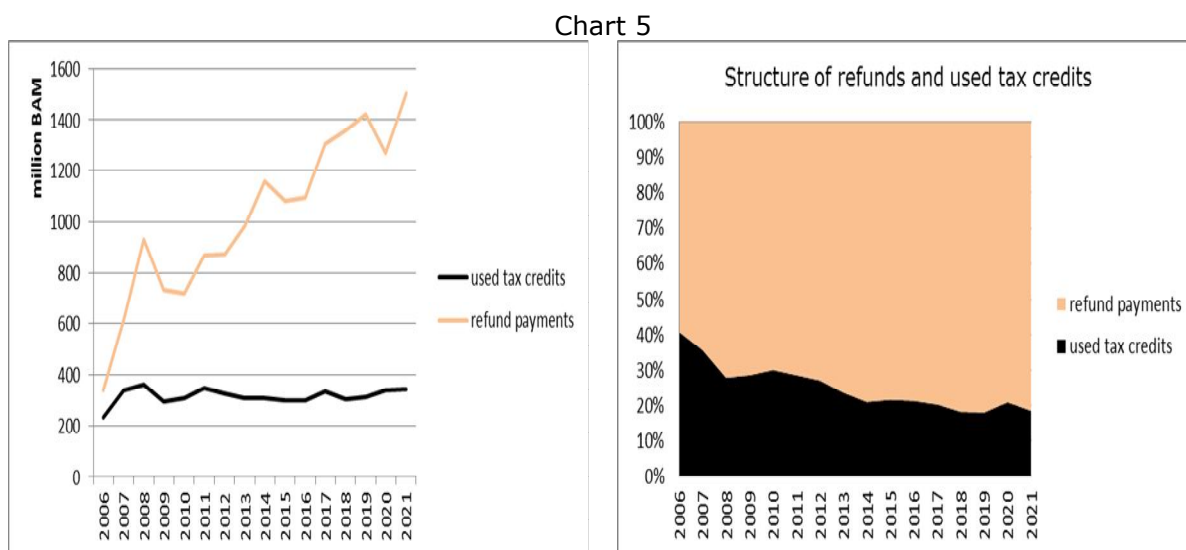
Legend for elasticity

1	1-1,5	1,5-2
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Source: Author's calculation based on the ITA and BHAS data

IV Structure of VAT refunds and used tax credits

Based on the data from Chart 5, we can conclude that the structure of VAT refunds and used tax credits in the period from 2006-2021 has changed significantly in favor of refund payments.



Source: Author's presentation based on the ITA data

The used tax credits ranged from 232 to 361 million BAM during the entire period, while the paid refunds grew from 338 million BAM to 1,502 million BAM.

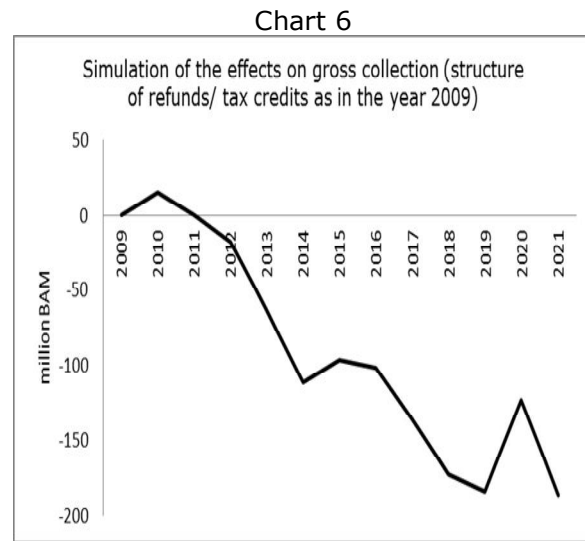
By leaving the right to the taxpayer to decide whether to use a refund or a tax credit in cases where the input tax in the tax period is greater than the amount of the output tax liability, he is actually given the right to partially influence the amount of gross VAT collection in the following period. If a taxpayer whose amount of input tax in the tax period is greater than the amount of the output tax liability decides to use a VAT refund and not a tax credit, his decision will have a positive impact on gross VAT collection in the following tax period and on the growth of VAT refunds. If the taxpayer decides to use tax credit, the gross collection of VAT and refund payments will be less than in the case of using the right to refund payments. The taxpayer's right to choose between the above two options **will not have a significant impact on the turbulences in gross VAT collection** if there are no major changes in decisions of large VAT payers regarding the method of settlement of obligations, i.e. the use of credits or refunds. On the other hand, the choice between the two variants has **no effect at all on the amount of net VAT collection**, unless there was a larger than usual spillover of receivables (use of tax credits or refund payments) into the next fiscal year. Even then, the long-term effects on net collection are neutral.

Table 2. Influence of the taxpayer's choice for refund or tax credit on gross VAT collection

Taxpayer's choice	Influence on gross collection	Explanation
VAT refund	↑	If the amount of input tax in the tax period is greater than the amount of output tax liability for the same period, and taxpayer chooses to refund the difference, then the taxpayer settles the next obligation by paying funds to the Single Account (SA) of the ITA. Settlement of the next liability by payment to SA means a positive impact on the gross collection.
Tax credit	↓	If the amount of input tax in the tax period is greater than the amount of output tax liability for the same period, and the taxpayer chooses not to refund the difference, but to use a tax credit, then the taxpayer offsets the next due obligation with the amount of the claim based on the approved tax credit. By offsetting the due liability, there is a negative impact on the gross collection in the amount of the approved tax credit.

Source: Author's illustration

Effects of the unchanged structure of realization of taxpayers' receivables in the form of refunds and used credits on the gross collection in a certain year can be calculated based on the actual data on realized refund payments and the amount of used tax credits, as well as on the basis of the above explanation of the impact of the taxpayer's choice between these two options. If, in a hypothetical example, the structure of refunds and used credits were the same as in 2009²³, and their total amount corresponded to the actual realization in each year, while ignoring the effects of time lags between arising claims and payment of refunds and use of tax credits, a simulation of the effects can be made on gross collection and refunds in all subsequent years of the observed period. **The net collection of VAT would, of course, remain the same.** The simulation is presented in Chart 6. In the above example, the effects would be greatest in 2021, when both gross VAT collection and refund payments would be approximately 186 million BAM less than actually realized figures.



Source: Author's presentation based on the ITA data

In order to ignore the effects of the taxpayer's choice for refund or tax credit, **the most correct solution is to compare the net collection of VAT when analyzing long-term collection trends.** In addition, in contrast to the gross collection of indirect taxes, the net collection is the only factor that affects the dynamics of revenues from indirect taxes of the general government, because these are actually the revenues that, after settling obligations to taxpayers, flow into public budgets.

²³ The year when the VAT refund payments were stabilized.

Analysis of revenue collection from excise duties on coffee

(Author: Mirjana Popović, expert advisor - macroeconomist)

1. Introduction

Excise products as well as excise duty amounts applied to certain excise products vary from country to country and from product to product. Excise duty is applied to products that are considered luxury or products that are considered harmful to the health of the population and the environment. The main goal of applying the excise duty is to reduce the demand and consumption of a certain excise product for social, health and economic reasons, as well as for the reasons of preservation and protection of the environment. However, from the point of view of the government policies of a country, the goal of introducing excise duty can be attributed to the increase of public revenues through the collection of excise revenues.

In Bosnia and Herzegovina (hereinafter: B&H), coffee is taxed with value added tax and excise duty. B&H is a country with a long-standing cultural tradition of coffee consumption, so the coffee market in the country is quite widespread, from household consumption to catering and tourist facilities. Under the influence of globalization, the last decade has seen an additional growth in the total consumption of coffee both globally and in the country. Considering the mentioned cultural importance and the strong growth of coffee consumption in the country, excise duties on this type of product have a certain effect in terms of increasing revenues.

Coffee has reached a stage where it is evolving from a traditional drink into a drink that is in line with global trends and preferences of western consumers. Demographic changes such as an older or predominantly younger population, and convenience, also determine coffee consumption in the country. Demand for instant coffee or espresso coffee blends is increasing, while the established tradition of drinking so-called turkish or local coffee continues to support sales of freshly ground coffee in the country.

The impact of external factors such as the emergence of the Covid-19 pandemic in 2020, isolation and social distancing measures had a certain impact on coffee consumption. Thus, the emergence of the pandemic had a negative impact on the coffee consumption market, that is, on the collection of excise tax revenue on this excise product in the observed period. In addition to the negative impact on coffee consumption, the measures introduced in the fight against the spread of the virus caused other numerous negative economic consequences in the country and globally. The ban on gatherings and other measures introduced against the spread of the virus reoriented consumers to the consumption of coffee at home, i.e. to the consumption of so-called domestic or Turkish coffee, instant coffee, coffee in "capsules" from home coffee machines and the like, while the consumption of espresso coffee that is mostly consumed in bars and restaurants reduced. The following analysis shows the trends in the collection of coffee excise duty in B&H, as well as the influence of external factors on the collection of these revenues.

2. Coffee taxation policy in Bosnia and Herzegovina

In terms of the Law on Excise Duties in B&H²⁴ (hereinafter: the Law), which defines excise products and their taxation policy, coffee is considered to be: (i) raw coffee (with or without caffeine); (ii) roasted coffee (caffeinated or decaffeinated), whole or ground; (iii) roasted coffee husks and membranes, (iv) other coffee products containing 50% or more coffee²⁵. Revenues based on excise duties on coffee are paid to the Single Account of the Indirect Tax Authority, and

²⁴ "Official Gazette of B&H", no. 49/09, 49/14, 60/14 and 91/17.

²⁵ Excise duty on coffee is paid for one kilogram of the net weight of the coffee. If coffee is placed on the market in packages larger or smaller than one kilogram, excise duty is paid proportionally to the quantity in the package.

their allocation is made in accordance with the Law on Payments on the Single Account and Revenue Allocation²⁶.

Since the beginning of the application of the current Law, more precisely since July 1, 2009, the excise duty on coffee is paid exclusively during cross-border traffic, that is, during importation, which stimulates domestic coffee processors.

An overview of the current excise products according to the Law is presented in Frame 1.

Frame 1.

<p>Article 4. (Excise duties products)</p> <p>a) petroleum products; b) tobacco products; c) non-alcoholic beverages d) alcohol, alcoholic beverages and fruit natural brandy; e) beer and wine; f) coffee; g) biofuels and bioliquids.</p>

Source: Law on Excise Duties in B&H

An overview of excise rates according to the current legislation is presented in Frame 2.

Frame 2.

<p>Article 20. (Amounts of excise duty on coffee)</p> <p>For coffee, excise duty is paid upon import per kilogram, namely for:</p> <p>a) raw coffee 1.5 BAM; b) roasted coffee (in grain or ground) 3.00 BAM; c) husks and membranes of roasted coffee and other coffee products 3.50 BAM.</p>

Source: Law on Excise Duties in B&H

3. Annual trends of revenues from excise duties on coffee

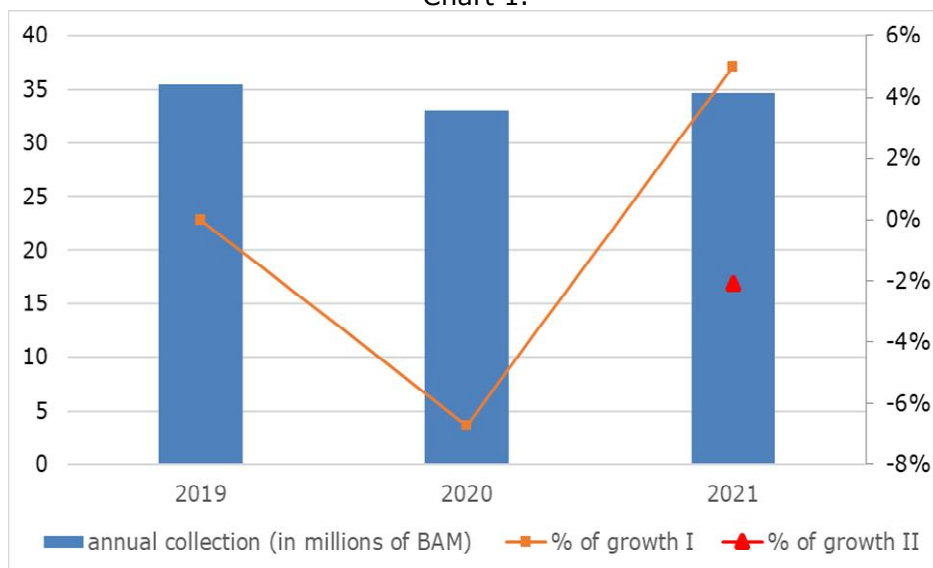
The focus of the annual analysis is the three-year time period 2019-2021. This time series covers the collection of coffee excise revenues in the year before the corona virus pandemic, then the collection of these revenues in the year of the pandemic and the introduction of the most rigorous measures to combat the spread of the virus, as well as in the year after the relaxation of the measures. In the observed three-year period, total revenues from excise duties on coffee accounted for 2.3% to 2.5% of the total revenues from excise duties at the annual level.

Chart 1 shows the movement of the annual collection of excise revenue from coffee during the period 2019-2021, in millions of BAM (left vertical scale), and the annual growth rate of these revenues (right vertical scale)²⁷.

²⁶ "Official Gazette of B&H", no. 55/04 and 34/07.

²⁷ 2019 was used as a base

Chart 1.



Source: Data from the Indirect Taxation Authority of B&H, MAU overview

The drop in revenue from excise duties on coffee in 2020 was influenced by the Covid-19 pandemic, isolation measures, as well as the closing of borders, and a decrease in the collection of these revenues was by 6.7% compared to 2019 (Chart 1, % of growth I). A slight recovery in the collection of these revenues, i.e. a growth of 5.0% was recorded in 2021 compared to 2020 (Chart 1, % of growth I), while compared to 2019 was recorded a decrease of 2.1% (Chart 1, % of growth II). Below is an overview of the quarterly and monthly collection of coffee excise revenue in B&H, as well as a more detailed analysis.

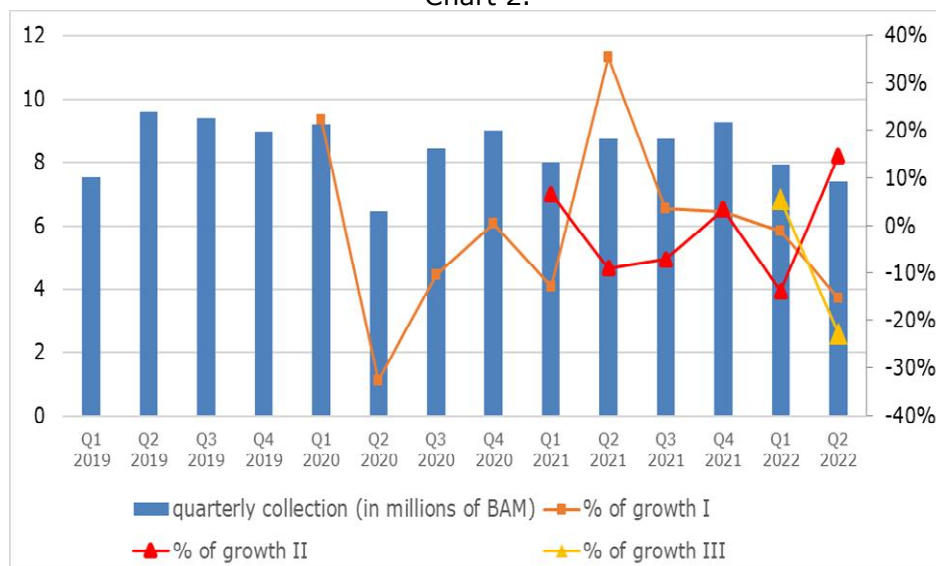
4. Quarterly trends of revenues from excise duties on coffee

The quarterly analysis of the collection of revenues from excise duties on coffee provides an overview of the movement of revenues under the influence of the pandemic and the impact of measures taken to suppress the spread of the virus on a quarterly basis. Also, the quarterly analysis covers the period of the first two quarters of the current year, which were marked by the beginning of the war between Russia and Ukraine, and inflation at the global level.

Chart 2 shows the quarterly trend in the collection of revenues from excise duties on coffee, in millions of BAM (left vertical scale), and the annual growth rate of these revenues (right vertical scale), for the period Q1 2019 - Q2 2022²⁸.

²⁸ 2019 was used as a base

Chart 2.



Source: Data from the Indirect Taxation Authority of B&H, MAU overview

Analyzing the quarterly movement of revenues from excise duties on coffee in the first quarters of the observed four years, the highest collection was recorded in the first quarter of 2020, and compared to the first quarter of 2019, it was higher by 22.3% (Chart 2, % of growth I). In the first quarter of 2021, there was a decrease in the collection of these revenues compared to the first quarter of 2020 by 12.8% (Chart 2, % of growth I), while compared to the first quarter of 2019, the collection was higher by 6.6% (Chart 2, % of growth II). Collection of revenues from excise duties on coffee in the first quarter of the current year is lower by 1.1% compared to the first quarter of 2021 (Chart 2, % of growth I), and by 13.8% compared to the first quarter of 2020 (Chart 2, % of growth II). Compared to the first quarter of 2019, the collection of these revenues is higher by 5.5% (Chart 2, % of growth III).

As a result of rigorous measures in the fight against the pandemic, in the second quarter of 2020, a significant drop in coffee excise revenue by 32.7% was recorded compared to the second quarter of 2019 (Chart 2, % of growth I). In the second quarter of 2021, there was a recovery in the collection of these revenues on a quarterly level compared to the same period of the previous year by 35.3% (Chart 2, % of growth I). However, compared to the same quarter before the pandemic, it is still in decline by 9.0% (Chart 2, % of growth II). The second quarter of 2022 is characterized by a 15.3% decrease in coffee excise revenue collection compared to the same quarter of 2021 (Chart 2, % of growth I), while compared to the same quarter of 2020, an increase in the collection of these revenues was recorded by 14.6% (Chart 2, % of growth II). Compared to the second quarter of 2019, the collection of these revenues is lower by 22.9% (Chart 2, % of growth III).

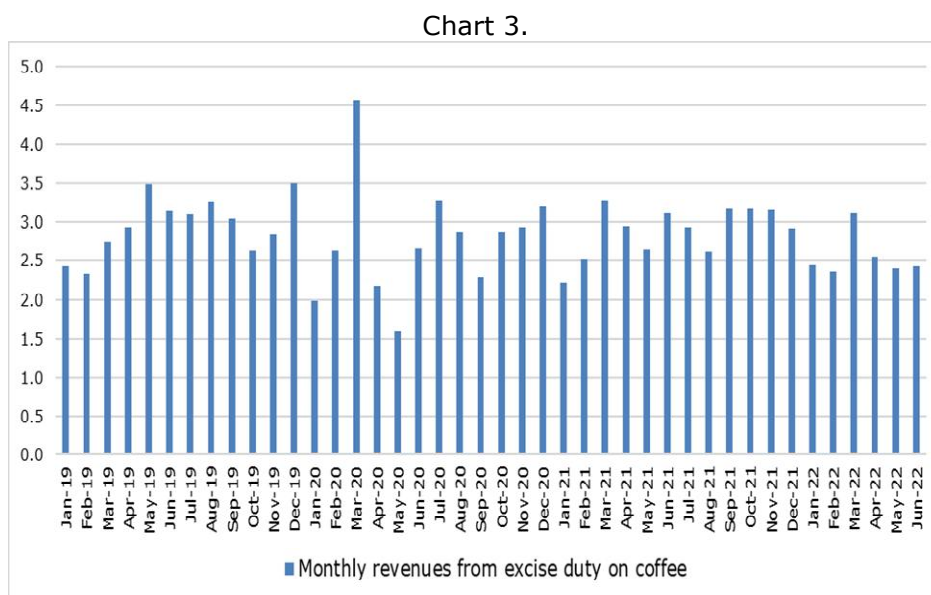
After a sharp reduction in the collection of revenues from excise duties on coffee in the second quarter of 2020, the easing of measures in the third quarter of 2020 resulted in a slight recovery in the collection of these revenues. The sharp decrease in the collection of these revenues was caused by the measures to combat the spread of the corona virus, which was most affected by the closure and restriction of the work of catering establishments where coffee consumption is high. The mild recovery was not enough to exceed the collection of coffee excise revenues from the third quarter of 2019, and compared to that period, these revenues were 10.4% lower in the third quarter of 2020 (Chart 2, % of growth I). In the third quarter of 2021, the collection of these revenues is higher by 3.6% compared to the third quarter of 2020 (Chart 2, % of growth I), while compared to the third quarter of 2019, it is lower by 7.2% (Chart 2, % of growth II).

In the fourth quarters, the collection of total revenues from excise duties on coffee has a slight tendency to increase. Thus, in the fourth quarter of 2021, more of these revenues were collected by 2.8% compared to the fourth quarter of 2020 (Chart 2, % of growth I), and by 3.4% more compared to the same quarter of 2019. (Chart 2, % of growth II).

5. Monthly trends of revenues from excise duties on coffee

Until the preparation of this analysis, monthly data on collected revenues from excise duties on coffee are available as of June of the current year, and Chart 3 shows the monthly trends of revenues from excise duties on coffee for the period January 2019 - June 2022²⁹. The analysis covers the period before the onset of the Covid-19 pandemic, the period during the onset of the Covid-19 pandemic and the period after the onset of the Covid-19 pandemic. Also, the analysis covers the period of the beginning of the crisis caused by the war in Ukraine which began at the end of February 2022, and the period of galloping inflation on a global level, which was largely reflected in the economy of B&H.

Chart 3 shows the monthly movement of revenues from excise duties on coffee for the specified period, in millions of BAM (left vertical scale).



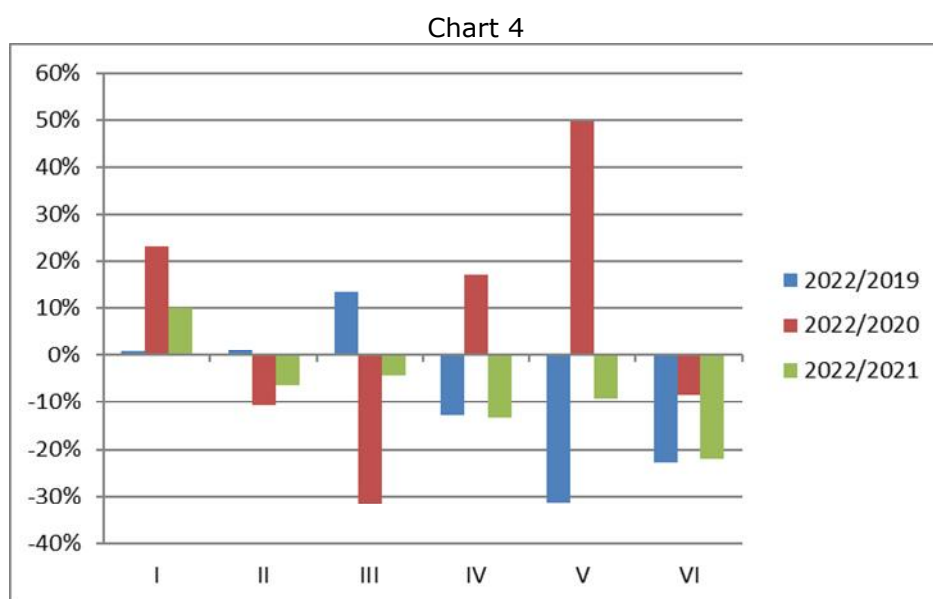
Source: Data from the Indirect Taxation Authority of B&H, MAU overview

In the observed time period, the highest collection of total revenues from excise duties on coffee on a monthly basis was recorded in March 2020, in which these revenues were 66.2% higher compared to the same month in 2019, by 39.8% higher compared to March 2021, and by 46.3% higher compared to March of the current year (Chart 3). The first cases of coronavirus in B&H were recorded in March 2020, the uncertainty and the announcement of the "lockdown" influenced the creation of a large amount of coffee stocks among the population, which leads to a significant increase in the collection of revenues from excise duties on coffee. After March 2020, there was a complete closure, and later a slight and gradual relaxation of the measures, i.e. a limited operation of catering facilities, which resulted in a decrease in the collection of revenue from excise duties on coffee in April and May of the same year (Chart 3). As coffee is an "excuse" for

²⁹ The last available data

various gatherings, isolation measures and the ban on gatherings have significantly contributed to the reduction of revenues from excise duties on this excise product.

Since the middle of last year, coffee prices on the world market have been gradually increasing. The frost that hit coffee fields in Brazil in mid-2021, as well as a long period of drought, caused the first increase in the price of raw coffee on the world market in the observed period. Then, the war between Russia and Ukraine, which began at the end of February of this year, and galloping inflation at the global level, caused an increase in the price of transport, materials and packaging, which additionally affected the increase in coffee prices. The influence of newly created external factors on the collection of revenues from excise duties on coffee in B&H is shown in Chart 4 through the monthly movement of the collection of these revenues for the first six months of the current year compared to the same months of the previous three years.



Source: Data from the Indirect Taxation Authority of B&H, MAU overview

In January of the current year, an increase in collected revenues from excise duties on coffee was recorded compared to January of the previous three years. Thus, in January of the current year, compared to January 2019, these revenues are higher by 0.7%, compared to January 2020, they are higher by 23.4%, while compared to January 2021, they are higher by 9.9%.

The collection of revenues from excise duties on coffee in February of the current year is higher by 0.9% compared to the same month in 2019, while compared to the same month in 2020 it is lower by 10.7%, and compared to the same month in 2021 it decreased by 6.4%.

March 2022 is characterized by a decrease in the collection of revenues from excise duties on coffee compared to the same month of the previous two years, while compared to March 2019, the collection of these revenues increased slightly by 13.6%. Collected revenues from excise duties on coffee in March 2022 are 31.7% lower compared to March 2020, when these revenues were the highest on a monthly basis in the observed period, and 4.8% lower compared to March last year.

In April of the current year, revenues from excise duties on coffee are lower by 12.9% compared to April 2019, while compared to April 2020, the collection of these revenues is higher by 17.1%. Given that April 2020 is the month in which all regular life flows stopped as a result of the Covid-

19 shock, it is not adequate for comparison. Compared to April 2021, the collection of these revenues is lower by 13.4%.

In May of the current year, 31.4% less revenues from excise duties on coffee was collected compared to the same month in 2019, while compared to the same month in 2020, the collection of these revenues is 49.6% higher. Compared to the same period last year, revenues from excise duties on coffee in May of the current year decreased by 9.3%.

Revenues from excise duties on coffee collected in June of the current year decreased compared to the same month of the previous three years. These revenues collected in June of the current year are lower by 22.8% compared to June 2019, by 8.6% compared to June 2020, and by 22.2% compared to June of the previous year.

The monthly analysis shows a decrease in coffee excise revenue on a monthly basis in the second quarter of the current year compared to the same period in 2021 and 2019 (excluding the second quarter of 2020, which is not comparable due to the Covid-19 shock). The increase in coffee prices caused by inflation did not ensure an increase in coffee excise revenue in April, May and June of the current year, but resulted in a decrease in consumption. The lower collection of revenues from excise duties on coffee is a consequence of the decrease in the number of residents in the country, and a consequence of consumer preferences. On the other hand, the rise in coffee prices on the world market could lead to inflationary pressures and disruptions in supply chains. Expectations are that in the summer months, with increased tourist and catering facilities, a larger number of non-residents, tourists, diaspora and citizens of B&H working temporarily abroad, revenues from excise duties on coffee will increase, which will be the subject of analysis in one of the next bulletin of Department.