

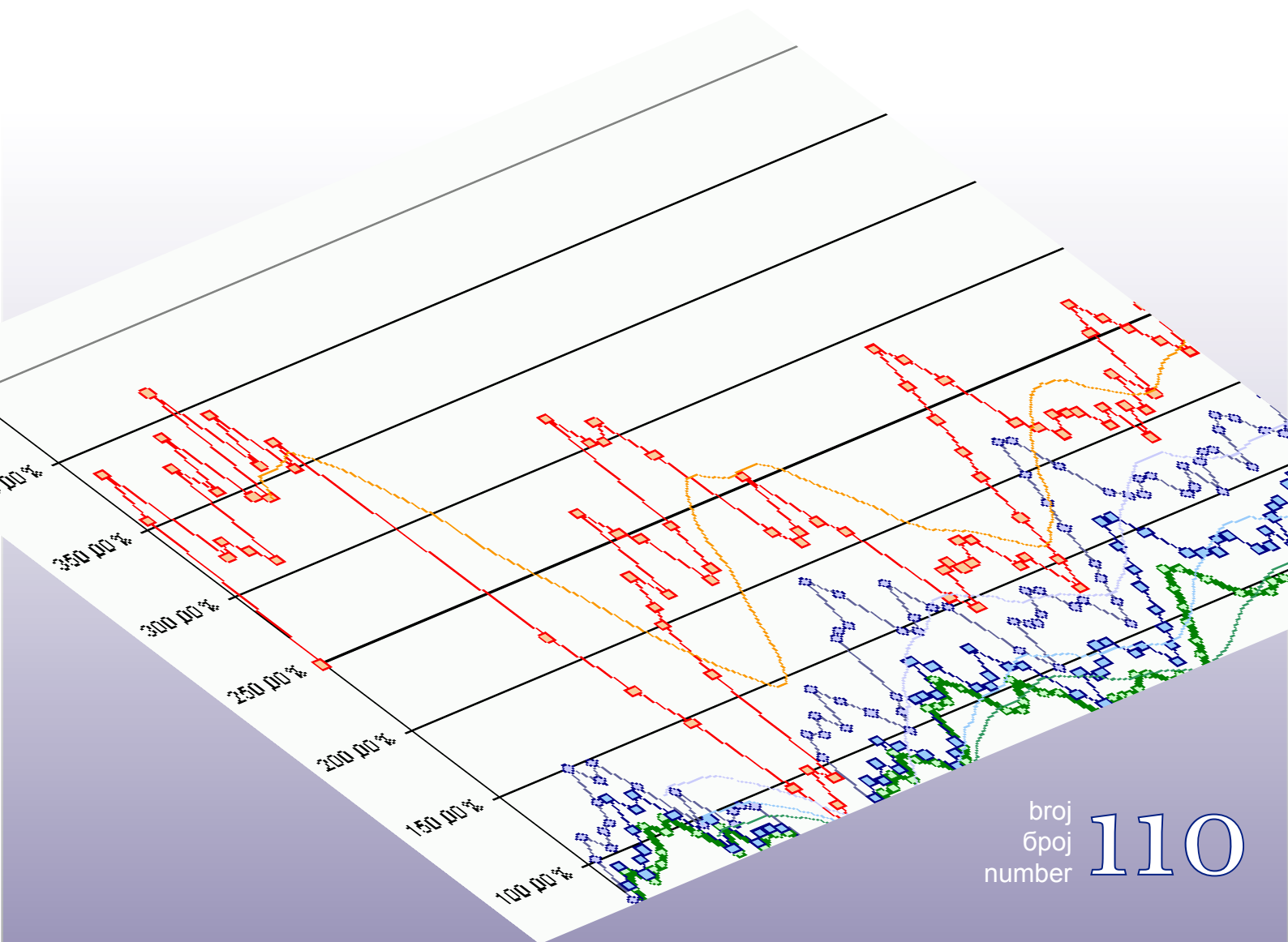
Bosna i Hercegovina
Odjeljenje za makroekonomsku analizu
Upravnog odbora Uprave za indirektno-
neizravno oporezivanje



Босна и Херцеговина
Одјељење за макроекономску анализу
Управног одбора Управе за индиректно
опорезивање

Macroeconomic Unit of the Governing Board of the Indirect Tax Authority

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broj
број
number **110**

• Septembar 2014 • Rujan 2014 • Септембар 2014 • September 2014 •

With this issue

Positive developments in the collection of indirect taxes in July also continued in August 2014. According to the preliminary report of the ITA the net collection in August was 10,7% higher compared to a net collection in the same month of 2013. Significant growth in net collection is a result of growth in gross collection of 9,7% and poor growth in refunds of indirect taxes of 4,9%. Positive developments in August led to the improvement in trends in cumulative net revenue collection from indirect taxes. The surplus in gross revenues in the period January - August was even 162,8 million BAM. However, due to strong growth in refunds of indirect taxes of 13,7%, the surplus in net collection in eight months amounted to 74 million BAM, which represents an increase of 2,3% (Chart 1).

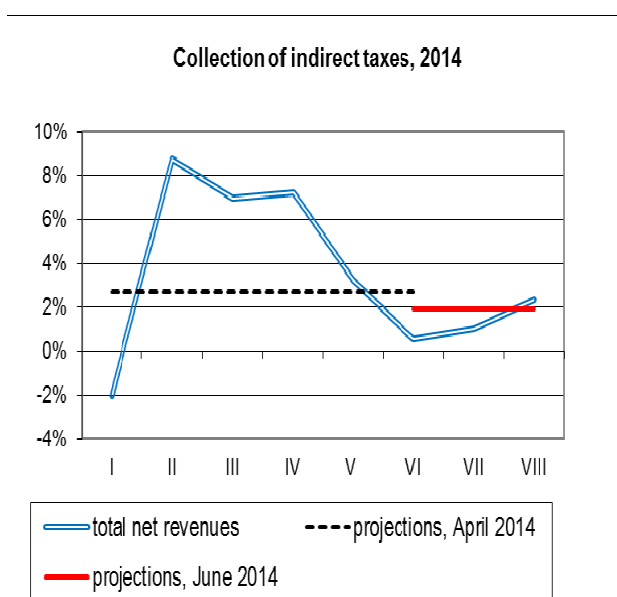


Chart 1

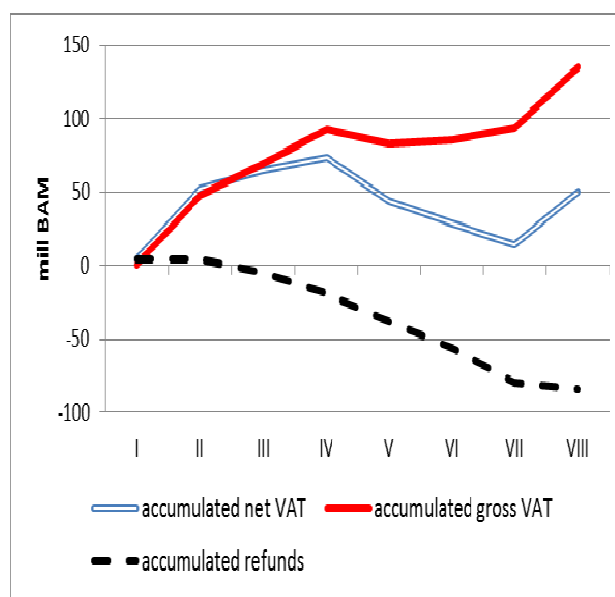


Chart 2

After negative trends which lasted three months, there was a strong increase in net revenues from VAT of 13,4% in August 2014, as a result of increase in gross collection and smaller allocations for refunds. Sudden improvement of the trend in VAT collection also reflected in the growth of cumulative collection (Chart 2). The slowdown in refund payments together with strong growth in gross collection brought an increase in net collection of 2,5% or net surplus in revenues from VAT of 50 million BAM.

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Fundamentals of VAT gap

(Prepared by: Aleksandra Regoje)

Theoretical tax is one that would have been collected under conditions when all taxpayers fully meet their obligations in accordance with the applicable tax regulations. The difference between the theoretical tax liability and actual tax collections is called the tax gap. The tax gap should not be confused with the shadow economy or to the concept of tax evasion. The tax gap is narrower concept of the shadow economy. The shadow economy includes all taxable economic activities carried out informally, while the tax gap is the amount of tax that should be paid to these activities. It is mainly a result of tax evasion, but could also be related to the reported but unpaid taxes, tax losses due to the bankruptcy of taxpayers, debt relief etc. In this article we address the gap related to value added tax or VAT gap.

Efficiency of the VAT system

There are numerous efficiency measures of the VAT system. Many are thoroughly explained in the previous editions of the bulletin. We will mention here some of them in order to make a comparison with the measure of VAT gap, which is the subject of this article.

❖ VAT Revenue Ratio (VRR)

The indicator 'VAT Revenue Ratio' (VRR) is defined as a ratio of actual VAT revenues to the revenues that would be raised if VAT were levied at the standard rate on all final consumption, without exemptions (Equation No. 1)

Equation No. 1

$$VRR = \frac{VAT\ revenues}{VAT\ rate * (final\ consumption\ expenditures - VAT\ revenues)}$$

Source: Eurostat¹

The final consumption expenditures in Equation No. 1 include:

- a. final consumption of households,
- b. final consumption of non-profit institutions serving households (NPISH),
- c. final consumption of government.

The advantage of this indicator is that it can be easily calculated from the data that are generally readily available, and it allows international comparison of the share of VAT revenues in potential. According to Eurostat data, only around 50 % of the theoretical VAT revenues were collected in 2011 in the EU countries (EU-27) as a result of exemptions, reduced VAT rates as well as evasion.² We see that the VRR indicator may represent only a starting point for evaluating the efficiency of the VAT system given that, based on it only, either the degree of tax evasion or tax policy impact on VAT revenues cannot be assessed. Besides that, final consumption from the national accounts, which is used in calculating the VRR, does not reflect the real tax base. It includes some items that are not subject to VAT taxation, and excludes some that are.

¹ Eurostat, Taxation trends in the EU (2013), p. 273.

² Ibid, p. 31

In order to draw more concrete conclusions about efficiency of the VAT system, it is necessary to carry out the adjustment of final consumption in order to assess closely the tax base, as well as to separate the effects of tax policy and of evasion on revenues from VAT. Thus VRR can be broken down into the gap relating to compliance, and one that is related to the tax policies (so-called compliance gap and policy gap).

❖ Compliance gap and policy gap

Compliance gap arises due to imperfect implementation of tax regulations, and its zero value means that all taxpayers meet their obligations properly. Policy gap refers to the shortfall of revenue in comparison with the theoretical which results from legal solutions. Policy gap could be further broken down into the rate gap and exemption gap³. Rate gap reflects influence of differentiation of VAT rates, while the exemption gap results from exemptions.

The policy gap is calculated assuming perfect compliance, while the compliance gap is calculated assuming that policy is whatever it is.⁴ The fact that goes in favor of this way of calculating gaps is that tax administrations want to have information about efficiency of implementation of applied regulations, not a hypothetical one. Compliance and policy gaps are not independent of each other. The degree of regulatory compliance, inter alia, depends on its arrangement (exemptions, thresholds, reduced rates). Change of policy can affect both policy and compliance gap, while the change in the efficiency of implementation of regulations affects only the compliance gap.

In the analysis of tax gap of the countries of the European Union published by the European Commission⁵ compliance gap is called VAT gap.

Definition of VAT gap

VAT gap measures the difference between potential and collected revenues which is attributable to noncompliance with the tax rules and not with the arrangement of the tax law. In order to calculate the VAT gap we need information about collected VAT revenues and those that would be raised under conditions of full regulatory compliance (VAT total tax liability according to the law or VTTL).

It is calculated as a difference between VTTL and collected VAT revenues (Equation No. 2.1).

Equation No. 2.1

$$VAT\ gap = VTTL - VAT\ revenues$$

It can also be expressed in % of VTTL or as a proportion of the above mentioned difference in VTTL (Equation No. 2.2).

Equation No. 2.2

$$VAT\ gap = 1 - \frac{VAT\ revenues}{VTTL} = \frac{VTTL - VAT\ revenues}{VTTL}$$

³ Keen M., „The Anatomy of the VAT“, IMF Working Paper (2013)

⁴ Ibid.

⁵ „Study to quantify and analyse the VAT Gap in the EU-27 Member States“, CASE -Center for Social and Economic Research, CPB Netherlands Bureau for Economic Policy Analysis, Warsaw, July 2013, http://ec.europa.eu/taxation_customs/resources/documents/common/publications/studies/vat-gap.pdf.

VTTL is an estimate of the theoretical VAT revenue based on applied tax regulations (rates, exemptions, etc.). Estimation of VTTL is a very complex procedure. Assessment according to the "top-down" approach is done on the basis of macroeconomic accounts. VAT gap calculated in this way includes VAT included in all components of aggregate demand and in all institutional sectors. According to the macroeconomic approach, the total theoretical VAT equals to the sum of theoretical VAT contained in household consumption, gross fixed capital formation and other consumption (government and intermediate). Then a number of adjustments are being made in order to take into account specifics of the tax system such as the thresholds, purchase of goods for which taxpayers can not deduct input VAT etc.

It is also very important to define what the VAT revenues include in the equation for measuring the VAT gap, in order to ensure international comparability of data. Revenues collected in a given period include some payments related to liabilities incurred in earlier periods while, on the other hand, some liabilities incurred in the present period will not be collected until future periods. Change in tax policy, such as dynamics of refunds, can also significantly affect the relation between accrued and cash revenue. Countries use different rules in calculation of accrued revenue which can significantly affect the measurement of gaps. Indicators on VAT gap in the EU countries that are presented in this paper⁶ are calculated on the basis of data published by Eurostat. In most cases these numbers are cash collections offset by two months. For example, the reported accrued VAT collections for 2011 are cash collections for the March 2011 through February 2012 period. These data allow international comparability, although they have a number of disadvantages (e.g. influence of dynamics of refunds, of usage of tax credits, etc.). Although it is possible to calculate the accrual income in a lot more precise way, the data needed for such calculations are available only in tax returns and are not registered in any internationally comparable database.

Due to the fact that in some countries more than half of the VAT gap can be attributed to other factors besides tax evasion, even the best estimate of the gap can not be used as an indicator of frauds. This aggregate indicator includes the effects not only of tax evasion, but the effects of many other factors such as change in debt stocks, modification of refund scheme, write-off of debt and bankruptcy of companies, delayed payments, etc. It can only be used as a starting point for assessing the effectiveness and efficiency of tax administration.

Text box No. 1

Tax avoidance and VAT gap

An arguable question is dealing with revenues lost through avoidance i.e. revenues which are lost through exploiting so-called legal loopholes. For example, in 2009-10, about one-third of the estimated compliance gap in the United Kingdom was attributed to such legal avoidance (HMRC 2010, taken from CASE & CPB 2013). Some argue that tax evasion and avoidance shouldn't be separated and should be considered together (so-called avoidance) despite their different legal status. Others classify the revenue loss from avoidance in the policy rather than in compliance gap, due to the viewpoint that governments have the option of closing legal loopholes.

⁶ CASE & CPB, 2013.

VAT gap in the EU Member States

Chart 1 shows value of the VAT gap for the 26 Member States of European Union (EU-26) ⁷ in 2011. It is estimated that the total VAT gap for these 26 countries amounted to approximately Euro 193 billion. Four large EU economies contributed over half of the total amount of the gap (about Euro 114,8 billion or 59,5%) and these are France, Germany, Italy and the United Kingdom.

If we look at the VAT gap as a share of GDP, for the EU-26 it amounted to 1,5% of their total GDP. The countries with the largest share of the gap in their own GDP are Romania, Latvia, Greece, Lithuania and Slovakia. The same countries have the largest share of the VAT gap in their VTTL (Chart 1).

Chart 2 shows the levels of the VAT gap (in % of VTTL) by groups of EU-26 countries. If we look at countries grouped in the so-called Old Member States (OMS) and New Member States (NMS) ⁸, it can be seen that their levels of VAT gap vary significantly (left side of the Chart). NMS, which rely much more their budgets on revenue from VAT, have greater share of the gap in VTTL. In the period 2000-2003 the share of the VAT gap in VTTL in the NMS was twice as high as in the OMS. Difference of shares from that period (12 percentage points) was significantly reduced after the accession of the foremost to the European Union, and in the period 2004- 2007 amounted to 7 percentage points. With the onset of the economic and financial crisis, the difference of VAT gap shares of VTTL between the NMS and the OMS increased again. It amounted to 9 percentage points in the period 2008-2011.

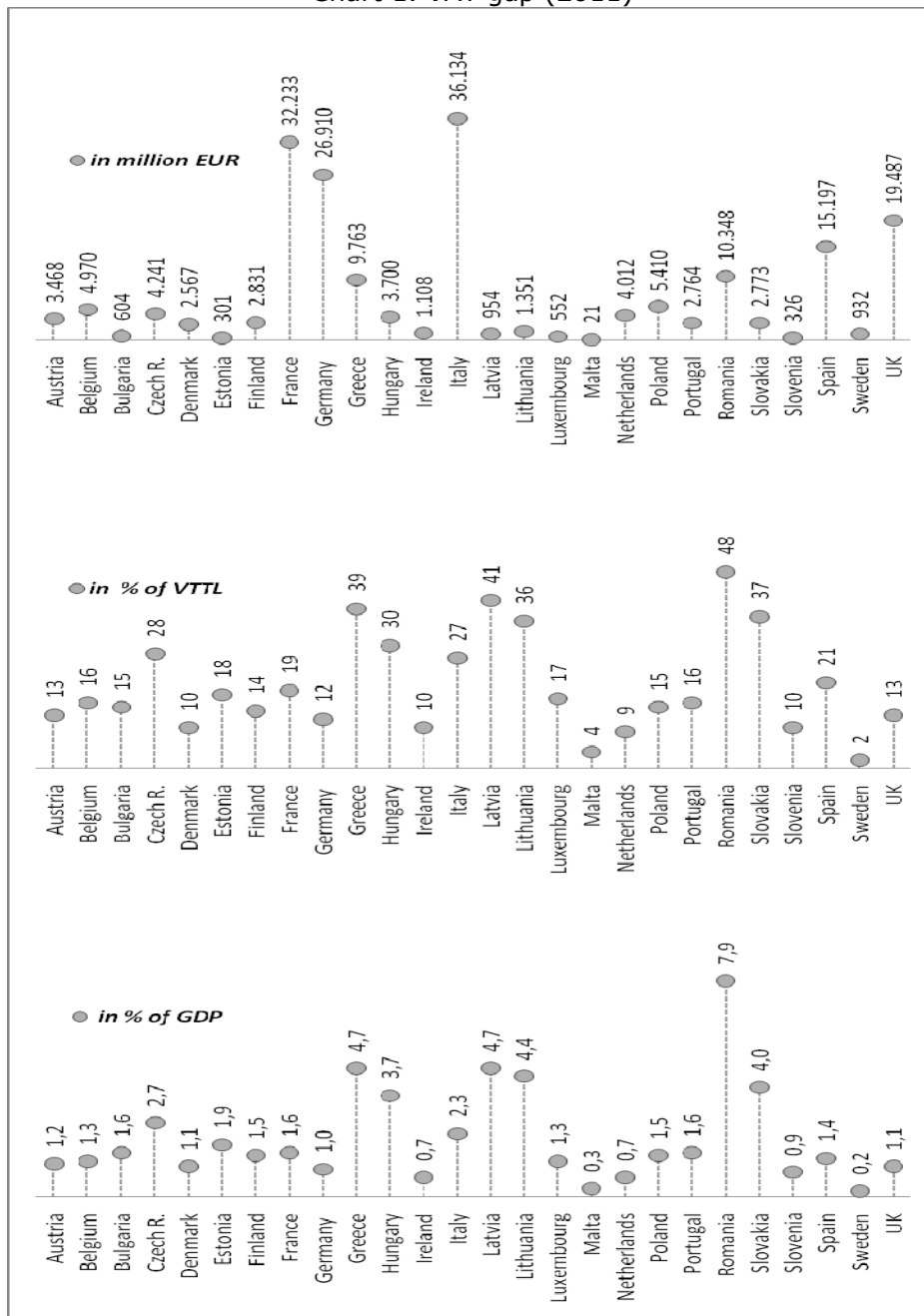
It is similar the relationship between VAT gap shares of VTTL for the countries grouped in the Eurozone⁹ and those outside it (right side on the chart). The biggest difference of the shares was in the period 2000-2003 (9 percentage points). It was reduced to 4 percentage points in the period 2004-2008 (13% vs. 17%), while it increased to 5 percentage points in the period 2008-2011 (17% vs. 22%).

⁷ All current Member States except Cyprus and Croatia

⁸ excl. Cyprus

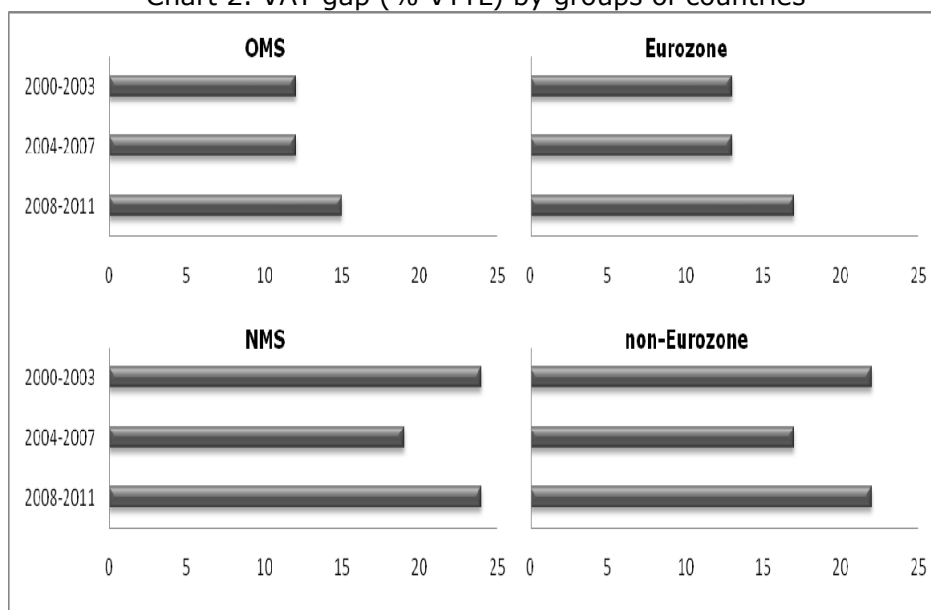
⁹ excl. Cyprus

Chart 1. VAT gap (2011)



Source: CASE and CPB (2013), Table 3.1.1, p.29.

Chart 2. VAT gap (% VTTL) by groups of countries



Source: CASE and CPB (2013), Table 3.2.1, p.30.

The dynamics of VAT gap shares of VTTL in all 26 observed countries is shown in Table 1.

Table 1. Vat gap in EU-26

	2000-2003	2004-2007	2008-2011
VAT gap (% of VTTL)	17	15	19

Source: CASE and CPB (2013), Table 3.2.1, p.30.

VRR gap in the EU member states

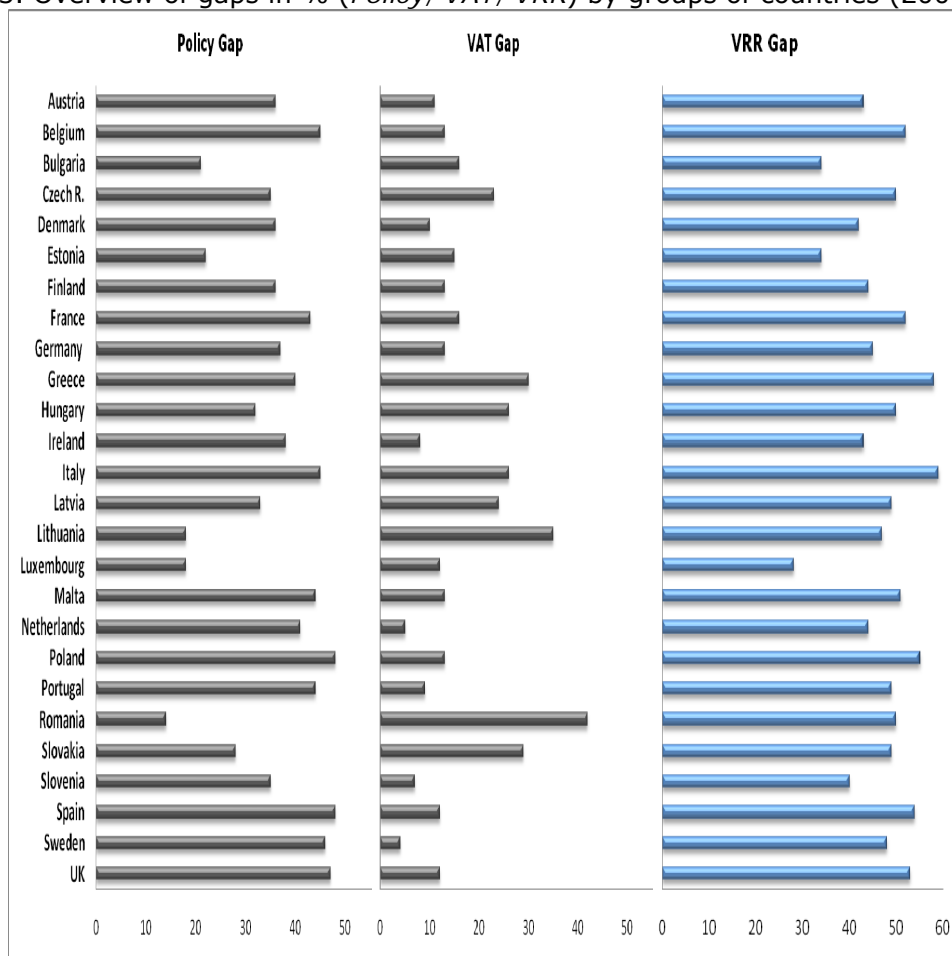
VRR (Equation No. 1) is a share of VAT revenue in the revenue that would be raised if the standard rate is applied to total final consumption, without exemptions (potential revenue). It is shown in equations 3.1-3.3 how VRR gap can be obtained on the basis of assessment of policy and VAT gaps.

$$\text{Equation No. 3.1} \quad VRR \text{ gap} = 1 - VRR = 1 - \frac{VAT \text{ revenues}}{\text{potential revenues}}$$

$$\text{Equation No. 3.2} \quad VRR \text{ gap} = 1 - \frac{VAT \text{ revenues}}{VTTL} * \frac{VTTL}{\text{potential revenues}}$$

$$\text{Equation No. 3.3} \quad VRR \text{ gap} = 1 - (1 - VAT \text{ gap}) * (1 - Policy \text{ gap})$$

VRR gap is a measure that indicates the total VAT loss due to the both applied legal provisions (exemptions, reduced rates, etc.) and noncompliance. The Chart 3 gives an overview of estimated policy and VAT gaps by countries, as well as estimates of VRR gap (blue bars in the chart).

Chart 3. Overview of gaps in % (*Policy, VAT, VRR*) by groups of countries (2000-2011)

Source: CASE and CPB (2013), Table 3.2.2, p.36.

Only in three countries the estimate of VAT gap is higher than of policy gap (Hungary, Luxembourg and Latvia). In fifteen countries of the observed sample the policy gap is more than double higher than the VAT gap, which can also be said for the average of all 26 countries.¹⁰ It can be concluded from this that the lower level of revenues compared to revenues from "ideal" VAT system (with a single rate, with no exemptions and full regulatory compliance) stems largely from the government's commitment to the policy of reduced VAT rates and exemptions. Will the choice of individual Member States to overcome their fiscal imbalance be through a reduction in policy or in VAT gap depends on the specifics of tax policy and the efficiency tax administration in each individual state.

For example, VRR was 74% in 2011 in Bosnia and Herzegovina.¹¹ It means that VRR gap was 26%.¹² No data are available on how many percentage points of VRR gap relates to compliance,

¹⁰ Average policy gap is 36% and average VAT gap is 17%.

¹¹ Calculation of the author on the basis of ITA data (cash revenues) and BHAS

¹² When comparing indicators with other countries, it is necessary to take into account the inclusion of the gray economy in the national accounts.

and how many on the policy component, but the low level of this indicator is expected given the single VAT rate in B&H.

Literature

- CASE - Center for Social and Economic Research, CPB Netherlands Bureau for Economic Policy Analysis, „Study to quantify and analyse the VAT Gap in the EU-27 Member States“, Warsaw, July 2013.
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- Reckon LLP, „Study to quantify and analyse the VAT gap in the EU-25 Member States“, 2009.

Consolidated reports

Table 1 (Consolidated report: General Government)

Preliminary consolidated report includes:

- revenues and expenditures of the budget of Institutions of Bosnia and Herzegovina,
- revenues and expenditures of the budget of the Federation of Bosnia and Herzegovina, cantons, cantonal directorates for roads, municipalities and funds,
- revenues and expenditures of the budget of the Republika Srpska*, directorates for roads/highways, municipalities and funds,
- revenues and expenditures of the budget of Brčko District and funds

**Includes: (A) Budget of the Republic and extra-budgetary resources recorded in Treasury General Ledger of the RS, (B) total foreign debt for the projects realized through municipalities and companies, and (C) Budget users who have their own bank accounts (including some foreign project implementation units established by ministries)*

Preliminary report: General government, I-VI 2014

(in million KM)	Q1	Q2	Total
Revenue	2.648,0	2.962,3	5.610,3
Taxes	1.352,4	1.421,9	2.774,3
Direct taxes	241,7	238,2	479,9
Taxes on income, profits and capital gains	212,8	206,0	418,9
Taxes on payroll and workforce	2,5	3,9	6,5
Taxes on property	26,3	28,3	54,6
Indirect taxes	1.109,1	1.181,0	2.290,1
Other taxes	1,6	2,8	4,4
Social security contributions	961,1	1.051,2	2.012,3
Grants	15,0	16,0	31,1
Foreign grants	14,3	15,1	29,5
Transfers	0,7	0,9	1,6
Other (non-tax) revenue	319,5	473,2	792,6
Expenditure	2.588,1	2.780,7	5.368,8
Expense	2.531,5	2.686,3	5.217,8
Compensation of employees	797,9	819,9	1.617,8
Use of goods and services	462,2	500,7	962,9
Social benefits	1.102,6	1.119,4	2.222,0
Interest	44,0	59,5	103,5
Interest payments to non-residents	21,6	28,5	50,1
Interest payments to residents	22,5	31,0	53,4
Subsidies	37,0	66,6	103,6
Grants, transfers	23,7	29,7	53,4
Other expense	64,0	90,6	154,6
Net acquisition of nonfinancial assets	56,7	94,4	151,0
Acquisition of nonfinancial assets	66,2	98,8	165,0
Disposal of nonfinancial assets	9,6	4,4	14,0
Gross/Net operating balance (revenue minus expense)	116,5	276,0	392,5
Net lending /borrowing (revenue minus expenditures)	59,9	181,6	241,5
Net financing = (Minus) Net lending /borrowing	-59,9	-181,6	-241,5

Table 1