

Efficiency of a single-rate and broad-based VAT system: the case of Bosnia and Herzegovina

DINKA ANTIĆ, PhD*

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Dinka ANTIĆ

Governing Board of Indirect Taxation Authority of Bosnia and Herzegovina, Bana Lazarevića bb,
78000 Banjaluka, Bosnia and Herzegovina

e-mail: dinka.antic@uino.gov.ba

Abstract

The aim of this paper is to analyze the performance and efficiency of the VAT system in B&H and explore the effects of internal and external factors influencing VAT collection. The VAT system in B&H is a consumption-type, single-rate and broad-based system. Ever since its implementation, VAT collection in B&H has been subject to strong oscillations, from an extremely high performance in the first two years after the introduction, to a sharp drop at the beginning of the crisis. After a temporary recovery, VAT collection declined in the last quarter of 2012 and has been negative ever since, although a weak recovery of the B&H economy was observed in 2013. The key hypothesis is that the high efficiency of the broad-based and single-rate structured VAT system may be neutralized by the country's specific circumstances and VAT policy design. Applying a set of indicators for VAT efficiency analysis, developed by IMF, OECD and EU, we find a deterioration of the components of the policy gap caused by derogations of the VAT Law, and an increasing compliance gap, due to an increase of the VAT debt and tax evasion, in consequence of poor policy design in the field of excises. As a result of the influence of the country's specific circumstances and its VAT policy design the identifiable current net losses on VAT in 2013 amount to 4% of net VAT collection or 0.4% of GDP. The analysis presented in the paper proves the main hypothesis that a VAT design, even when it is close to theoretically ideal concept, cannot on its own produce a high level of VAT efficiency and performance.

Keywords: value-added tax, VAT efficiency

1 INTRODUCTION

Tax systems are expected to be effective, equitable and easy to administer both for taxpayers and for tax administrations. The rapid global expansion of value added tax (VAT) in over 150 countries is the result of its neutrality in decisions of economic agents, the collection efficiency and easiness in collection for taxpayers and tax administrations (IBFD, 2014). In the tax structures of modern countries, VAT has an important place, and in developing countries, such as Bosnia and Herzegovina (B&H), due to the low level of economic development, it represents a dominant source of budgetary revenues.

B&H relatively recently (2006) introduced VAT as part of a comprehensive reform of the indirect taxation system. The VAT system in B&H is of a consumption type and invoice-credit method. The system is based on the standard rate, a relatively high threshold for registration and an extent of exemptions complying with the Council Directive 2006/112/EC ("Directive"). In addition to strong revenue growth and reduction of the grey economy the introduction of VAT has contributed to the internal market integration and adjustment of fiscal architecture in the direction of the European integration requirements. However, due to the fulfillment of international obligations of the EU and international financial institutions the VAT Law was rapidly weakened by an expansion of the scope of exemptions and the introduction of a zero rate in domestic trade of goods and services, indi-

rectly through VAT refunds on international projects. At the time of implementation of VAT, B&H began the process of liberalization of foreign trade with neighboring countries and the EU, as well as the process of harmonization of excise duties with EU standards. Despite the modest economic growth in the last two years, VAT collection has been burdened by increasing refunds and debts to such extent that 2013 ended with a drop in revenue from VAT of 1.9%.

The paper aims to investigate, through empirical research and comparative analysis of the efficiency of the VAT system in B&H, the influence of special circumstances regarding derogations from the VAT system, the development of the B&H economy and its integration into regional and global processes on deviations on actual payment in relation to the potential effects of a desirable VAT system. A review of relevant literature, international methodologies and analytical tools developed for VAT efficiency analysis is given in part two. Part three shows the basic characteristics of the VAT system in B&H and derogations from it. Part four gives an analysis of trends in revenue collection from VAT for a period of introduction (2006) to the end of 2013. In part five the analysis focuses on the impact of design elements of the VAT system on the efficiency of VAT collection, and in part six on the scale of implications of the most important external reforms and processes on the VAT base and revenue collection. Part seven presents an analysis of the efficiency of the VAT system in B&H, according to international standards of VAT efficiency developed by the OECD, IMF and EU. The research in this paper is aimed at confirming the hypothesis that the expected high efficiency of a VAT system with a wide base and a single rate can nevertheless be reduced or even neutralized by special circumstances, policies and processes related to a particular country.

2 REVIEW OF LITERATURE AND METHODOLOGY

2.1 RELEVANT LITERATURE

Although VAT is considered to be the most successful fiscal innovation in the second half of the 20th century, Bird concludes that in practice not even one VAT system is as good as it could be because the scope of the application (base) is lower, the rate structure is below optimal and the administration is below perfect efficiency (IFS, 2010a). Facing a dilemma between the principle of efficiency (buoyancy) and equity a large number of countries decided for a *trade-off*, to sacrifice the high efficiency of the VAT system with a single rate for the benefit of the potential redistributive effects of a VAT system with more rates. According to the OECD (2010) the introduction of differentiated VAT rates in developing countries could be justified for redistributive reasons, since developing countries have fewer budgetary instruments for targeted transfers. However, on the other hand, tax administrations in these countries do not have sufficient capacity effectively to administer multiple rates or to fight the frauds that may arise.

The Copenhagen Economics study (2007) on the functioning of the VAT system in the EU member states has shown that due to the system of differentiated rates

the total system in the EU suffers from large fiscal and economic losses. The study recommends a VAT model with a single VAT rate as far the best policy option of VAT taxation from an economic point of view that could provide significant compliance savings to companies and tax administrations, reduce deviations in the functioning of the internal market and enhance consumers' welfare. Empirical studies of the IMF (2010), Crawford, Keen and Smith (IFS, 2010a) and IFS (2011) showed that differentiated rates in developed and emerging economies are an inefficient means of redistributing income to the poor, since the rich in an absolute amounts spend more on items taxed at lower rates than the poor. The IFS study on the design of the tax system in Great Britain concludes that benefits of the VAT system with a single rate in terms of easy administration outweigh the possible benefits of differentiated rates. The study recommends the removal of zero and reduced rates and, if possible, exemptions, with the introduction of a comprehensive package to compensate for the poorer members of society (2010b).

Strategic documents of the EU produced in order to create an appropriate environment for business, point to the need to ensure the neutrality of VAT, spread the base (reducing derogations, exemptions and scope of reduced rates), simplify administration and reduce compliance costs (EC, 2010a). Not only do exemptions undermine the logic of VAT (IMF, 2010) but Crawford, Keen and Smith (IFS, 2010a) stress that they create inefficiencies of an unknown magnitude. Strategic documents on the development of the VAT system in the EU, starting with the negative consequences of exemptions on VAT system neutrality, decisions on investments and consumption (EU, 2010b), indicate the need to revise the rules of exemptions and narrow their scope. However, although VAT collection in member states is far below what could be achieved if the standard rate were applied across the board, because of the existing exemptions, zero and reduced rates, recent analyses have shown that the majority of member states decided to increase the standard rate, while only five of them have adopted measures to spread the VAT base (Garnier, 2013). The results of one survey (CASE, 2013) suggest there is an increasing gap between potential VAT revenues and collected revenues in relation to the findings from the Reckon study (2009). It can be concluded that the current policy of increasing the standard rate of VAT in the EU member states, without expansion of the base, and with the existing rate structure, would jeopardize the efficiency of VAT collection in the EU. On the other hand, an increase in the standard rate, according to the IMF's research (2013), has not been used in any country for strategic tax shifting from labor and profit taxation to taxation on consumption, property and green taxes, in order to achieve a desirable long-term, growth-friendly tax structure, not even for short-term fiscal devaluation, in terms of revenue neutral transfer of the tax burden from labor taxation to consumption taxation, as suggested by Mooij and Keen (2012). Instead of providing a stimulus to spending and economic activity, high standard rates and the current scale of rates have acted pro-cyclical, deepening distortions in the market and slowing down the coming out of the crisis. Directions in tax reforms in the EU confirm the conclusion made by Crawford, Keen and Smith that it is political will that is primarily

needed for a restructuring of the VAT system, for least recognizing the unfairness and wastefulness of the existing rate structure (IFS, 2010a).

Analyzing trends in evolution of the VAT system in the EU Member States, Bird considers that the current VAT model, which is called a “first generation” model, should be transformed into a “second generation” model, modeled on the comprehensive taxation of consumption in New Zealand or Australia (IFS, 2010a). Bird noted that even in these countries there is also a possibility for further customization of the VAT model and rate structure in the direction of achieving the ideal model of the “third generation”.

2.2 REVIEW OF METHODOLOGY USED FOR VAT EFFICIENCY ANALYSIS

Comparative international evidence suggests the conclusion that a transition from a sales tax to the VAT system produced a strong increase of revenue worldwide. According to IMF research, the immediate effects of VAT introduction on revenues by regions amounted, on average, to 1.1 % of GDP (Ebrill, 2001), but in the long run VAT adoption increased the tax burden (revenue-to-GDP ratio) by 4.5% (Keen and Lockwood, 2007). Evidence from neighboring countries confirms the IMF’s conclusion. According to the data from the Ministry of Finance in the first year of VAT introduction Croatia collected even 47.6% more VAT and lagging sales tax than in the previous year, or 30% more than projected (Jelčić and Bejaković, 2012). However, after the introduction of the zero rate on foodstuffs in Croatia, VAT collection declined by 10%. Similarly, a moderate increase of VAT revenues of 5.9% in Serbia illustrated the negative influence of reduced rates on initial VAT effects. VAT collection is affected not only by the rates but by a number of other factors. Some of them are related to the VAT system while the others are of an external character. The OECD (2012) classifies factors that affect the efficiency of VAT collection into five categories: (1) structural characteristics, (2) the evolution of consumption, (3) the taxation rules in international trade, (4) the capacity of the tax administration, and (5) tax discipline of taxpayers. Structural factors include basic elements of VAT design: rates, exemptions, the base and threshold for VAT registration. Keen (2013) believes that the main factors affecting revenue collection from VAT are: (1) the standard rate, (2) efficiency, measured by C-efficiency ratio, and (3) the share of consumption in GDP. It is very difficult to give a general assessment of VAT system efficiency in a country. Despite the common principles of taxation of goods and services and invoice-credit methods, systems of VAT in different countries differ from each other, starting from the structure of rates, basis, refund rules and other elements of VAT system design. For this reason Keen is of the opinion that more reliable estimates of VAT efficiency in a country can be gained by analyzing the movement of indicators of VAT efficiency over a longer period.

Influenced by the global expansion of VAT in the last two decades and under researches of the OECD, IMF and EU, several criteria for evaluating the efficiency of the VAT system have been developed, such as the efficiency ratio, which is also

known as VAT productivity ratio (Ebrill et al., 2001), and the VAT revenue ratio (VRR), which is called by the IMF the C-efficiency ratio.

The efficiency ratio (productivity) of VAT is calculated by dividing revenues actually collected from VAT and potential revenues obtained by applying the standard VAT rate on GDP. Although it has been used for many years as a comprehensive measure of efficiency, the reliability of the efficiency ratio is not high mainly due to errors in the measurement of GDP, as a result of excluding non-observed activities in the calculation of GDP. The reliability of GDP, and thus all indicators that rely on GDP, is inversely proportional to the degree of the non-observed economy of a given country. In addition to errors and uncertainty in the measurement of GDP, a fundamental shortcoming of the productivity ratio of VAT is of a conceptual nature, since the ratio is based on a production rather than the consumption type of VAT, which is found in most countries in the world (Ebrill et al., 2001). Besides the common efficiency ratio, Martinez-Vazquez and Bird (2010) introduced a “non-standard” efficiency ratio, called the “ratio of gross VAT collection”, which is calculated only on the basis of expenditures on the final consumption of households.

In order to improve the quality of VAT efficiency measurement the OECD developed its VAT revenue ratio (VRR). This ratio measures the deviation of actual VAT collection in respect to a potential base, calculated by applying the standard rate on the potential base – final consumption with VAT previously excluded (OECD, 2012). The VRR decomposition developed indicators that can be used to quantify the impact of the policy gap and compliance gap on the efficiency of VAT collection (OECD, 2012). In this way, the C-efficiency is not only an indicator of the VAT efficiency and gap ratio between the revenue collected and the potential VAT revenue. The indicator is also an analytical tool that indicates the factors which contribute to the VAT gap and thus measures and policies by which it is possible to increase the efficiency of VAT collection without increasing the tax burden.

The effectiveness of the VAT reform can be measured on the basis of the work efficiency and capacity of the tax administration. The OECD (2013) and IMF (Tait, 1988) have developed a typology of indicators of the efficiency of tax administrations, which are fundamentally based on the variation of the mutual relationships of several variables: costs of tax administration, the amount of revenue collected, the number of taxpayers, the number of tax officials. According to international standards of tax administration efficiency measurement, efficiency indicators are reliable, comparable and relevant for further analyses only if the conditions in which the administration operates in the long term (for example several years) remain unchanged. The recommendation is that the efficiency of tax administrations should be measured in a period when there has been a consolidation of the tax administration (OECD, 2013). It is not possible to obtain a reliable indicator of the work efficiency if the administration is in a phase of transition

(merger into a single institution) or an internal reorganization on a large-scale (for example regionalization of work). In addition, introduction of radical changes in tax policy (new types of taxes, the introduction of differentiated rates, changes in the threshold of taxation, etc.) or large movements of personnel and investment may influence efficiency of the tax administration. Almost all the above mentioned (cumulative) happened during the reform of indirect taxation in B&H, which “blurs” the true effects of work, i.e. results achieved are burdened by non-standard one-time costs (occur in one or two fiscal years).

Ratio of imperfection of VAT policy shows the ratio of “legal” VAT obligation to “ideal” VAT obligation, i.e. the share of theoretical VAT revenue that can be charged using the current law in relation to the potential revenue from VAT on total expenditures for final consumption (CASE, 2013). Starting from the basic concept of Mooij and Keen (2012) and the elaborated methodology of Keen (2013) a further decomposition of the C-efficiency has been made on the component which measures the impact of a reduced rate(s) (the rate gap) and the component of exemption (the exemption gap) on the extent of policy gap. As distinct from the methodology of the OECD (2012) Keen’s calculation of the mentioned components of (in)efficiency of VAT is based on the application of the weighted average rate of VAT on total consumption (Mathis, 2004). Martinez-Vazquez and Bird (2010) emphasize that the compliance gap involves the interconnection of two factors – tax discipline (tax morale) and effectiveness of tax administration. VAT system is subject to frauds particularly in refunds. Having in mind the fractional character of VAT it is necessary to analyze at which stage the most extensive VAT frauds are possible, Keen and Lockwood (2007) argue that there is a positive relation between the openness of the economy, in terms of reliance on imports of goods, and the collection efficiency of VAT. In contrast, the openness of the economy, in terms of the importance of exports, may be a critical factor in VAT efficiency (Keen and Smith, 2007). The OECD has also developed a ratio for dynamic monitoring of tax debts, necessary for compliance gap analysis, which measures trends of total accumulated tax debts in relation to annual net tax collection (OECD, 2013). The OECD research on tax debts shows a rapid growing trend of total tax debts in the post-crisis period in only a few EU member states.

The EU developed two concepts relevant for VAT efficiency analysis. The indicator “VAT reduced rate and base indicator”, created by De Laet and Wöhlbier (2008) and widely accepted by the EU, points out the difference between the statutory standard rate and the VAT component of implicit rate, expressed as a percentage of the standard rate. This indicator points out the significance of reduced rates, zero rate and exemptions in the VAT system and the size of deviations from the pure, theoretical concept of taxation of overall consumption by a single VAT rate. Another approach to the analysis of the theoretical base for VAT involves the application of the implicit rate methodology dividing net VAT revenues by final consumption expenditures for households (EU, 2013).

Empirical research on VAT efficiency in B&H relies on the relevant international methodology in that field, with slight revisions where necessary, mainly due to lack of data or specific circumstances related to B&H. It should be noted that B&H only a few years ago began to publish statistics of GDP based on expenditure method; a subsequent recalculation was made for previous periods. As the reliability of the national account statistics is much higher in developed economies than in developing countries and countries in transition when forming conclusions based on the obtained ratios of VAT efficiency in B&H a high level of grey economy should also be taken into account. According to the latest survey the grey economy in B&H is estimated at 26.52% of GDP in the period 2001-2003 while in 2008 it came to 22.76% of GDP (Tomaš, 2010). The economic reforms in the sphere of taxation, of which the most significant is the introduction of VAT, are highlighted as the most important factors that have contributed to improving the situation. It should be emphasized that available statistics of consumption in B&H do not allow precise quantification of the VAT gap in line with the EU methodology (Reckon, 2006).

For the purpose of the assessment, the statistics of final consumption expenditures of households were used, structured only by basic COICOP¹ classification codes (01-12). Bearing in mind legal provisions the exempted consumption includes expenditures on health services (06), recreation and culture (09), education (10) and others (12), where social and financial services are dominant as well as insurance services. Expenditures on housing, etc. (04) include expenses that are not subject to VAT (imputed rent for housing) or on which VAT should generally not be paid (actual rents for housing) under the existing Law. In 2012 a reassessment of imputed rent for housing was made for the period 2000-2011. As the estimate of the imputed rent in 2012 has not been published yet, for the purpose of this paper the amount of imputed rent for 2012 is estimated at the level of 2011.

The analysis and author's calculations presented in this paper are based on the set of official macroeconomic indicators and external trade statistics in the period of implementation of VAT in B&H, provided by the Agency for Statistics of B&H² and the estimation of macroeconomic trends for 2013, internally prepared by the Directorate for Economic Planning³. Fiscal data (collection of indirect taxes and fiscal operation of general government) are internally available at the Indirect Tax Authority (ITA)⁴ database, the database of the Macroeconomic Analysis Unit of the ITA Governing Board (MAU)⁵ and from the Central Bank⁶ of B&H where necessary.

¹ Statistics on consumption in B&H is categorized under the UN COICOP classification (Classification of Individual Consumption According to Purpose) only by grouping items under basic two-digit classification (01-12). Standard COICOP classification includes an additional breakdown within each code (see <http://unstats.un.org/UNSD/cr/registry/regest.asp?Cl=5&Lg=1>).

² www.bhas.ba.

³ www.dep.gov.ba.

⁴ www.uino.gov.ba.

⁵ www.oma.uino.gov.ba.

⁶ www.cbbh.ba.

3 THE SYSTEM OF VAT IN BOSNIA AND HERZEGOVINA

3.1 BASIC CHARACTERISTICS OF THE CONCEPT

VAT was introduced in B&H on 1 January 2006. VAT introduction was the final phase of a comprehensive reform of the indirect taxation system. In addition to the transfer of constitutional authority and centralization of legislation and administration of indirect taxes, the reform included the redefinition of the funding system of all levels of government in the complex and decentralized fiscal structure of B&H and incorporation of elements of cooperative and executive federalism in the indirect tax policy sphere in B&H (Antić, 2009).

The VAT system applied in B&H is of the consumption type and invoice-credit method, which in principle implies the right to deduct VAT on all supplies of goods and services, except for a small number of constraints defined by the Law on VAT (“the Law”). From the introduction of VAT, a single rate in the amount of 17% applied. Although initiatives for the introduction of differentiated VAT rates are continuously present, especially during the election period, due to the specific way of decision-making in the area of indirect taxation (Antić, 2013) in the complex and highly decentralized fiscal structure of B&H, which requires the consent of Entities (i.e., the Federation B&H and the Republic of Srpska), it was not possible to reach a political consensus. Analyses have shown that the introduction of a reduced rate of 8% on goods and services under Annex III of the Directive would require an increase of the standard rate to 24% (Antić, 2011a). The VAT registration threshold is prescribed in the amount of BAM 50,000 (EUR 25,565), but small firms, whose annual turnover is below the threshold for registration, have the option of voluntary VAT registration. Similarly, the threshold for registration for farmers amounts to BAM 15,000 (EUR 7.669), with the possibility of voluntary registration. The tax period is one month. VAT returns are submitted within ten days of the end of the tax period, and in the same terms taxpayers are obliged to pay the VAT obligation. VAT refunds to predominant exporters are carried out within 30 days while to other taxpayers VAT refunds are paid within 60 days. The taxpayer has the right to choose a tax credit instead of refunds, with the exception of the first year of the implementation of VAT when other taxpayers were allowed the tax credit instead of the right to a refund. The ITA is obliged to pay unused amount of tax credit within a period of six months. At the time of the introduction of VAT the Law on VAT was fully compliant with the EU Sixth Directive on VAT. Exemptions from VAT were limited to public sector services, social services, postal, financial and insurance services. In some segments the Law included what was then the best practice of the leading EU member states in the fight against tax evasion, which was later incorporated in the recast of Council Directive 2006/112/EC.

3.2 DEROGATIONS FROM THE VAT CONCEPT

Despite the strong commitment of local fiscal authorities and the international community in B&H there were derogations from the basic concept of VAT in B&H at the end of 2005, just before the introduction of VAT. After the war, post-

Dayton B&H used huge amounts of international assistance for recovery and reconstruction and later to build the required institutions, infrastructure and major construction ventures. At the initiative of the International Community changes to the Law were made in order to enable VAT refunds to beneficiaries of international relief projects approved by the B&H Council of Ministers. As the term “relief” is not precisely defined in the Law the right to a refund is interpreted in an extensive way. VAT refunds were approved not only for international projects involving non-refundable and interest-free grants and donations but also for credit arrangements concluded with low interest rates, raising the question of potential discrimination of projects financed by domestic credit funds in relation to international credit arrangements.

Another derogation from the Law was made at the end of 2008, when exemptions from paying VAT on imports and supplies of goods and services in the country within the EU projects financed by Instruments for Pre-Accession Assistance of EU-IPA were allowed, in accordance with the Regulation of the Council no. 1085/2006. This regulation stipulates that “Community financing shall in principle not be used for paying taxes, duties or charges in beneficiary countries listed in Annexes I and II”. Although the exemption from VAT may be made directly, on delivery of goods and services, or indirectly, through subsequent refunds, B&H has opted for a model of exemptions, regardless the fact that this model can create space for VAT frauds.

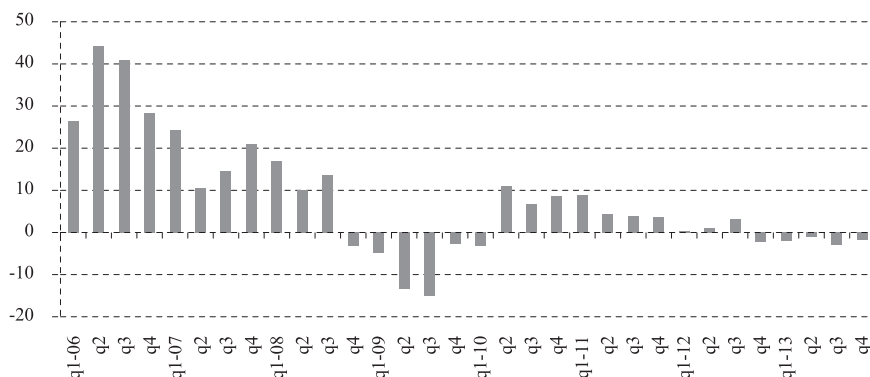
4 TRENDS IN VAT COLLECTION (2006-2013)

Switching from the sales tax to VAT brought strong fiscal effects in first two years of implementation. If the VAT system efficiency in B&H were measured by the amount of revenue collected as compared that in the period in which the sales tax was in force, it could be concluded that the reform of indirect taxation was a very successful reform. In 2006 as much as 51% more tax was collected in VAT and lagging sales tax than in 2005. Projections of revenue from VAT/sales tax for 2006 were exceeded by 17.5%. The first year of the VAT introduction was also specific for the significant share of lagging sales tax, as a result of the increase in imports of goods and services that were not taxed or taxed at a lower rate of sales tax (10%) before the introduction of VAT. Low refunds contributed to a high initial VAT collection for two reasons. Due to the characteristics of the administration of VAT, the first refunds were paid in March 2006. Secondly, the Law prescribed the suspension of VAT refunds to other taxpayers during 2006. Due to these circumstances the implementation of the Decision adopted by the Indirect Taxation Authority Governing Board (ITA GB) on the allocation to the reserve account for refund payments in the amount of 10% of collected indirect taxes led to a surplus in the reserves account of 0.5% of GDP. The abolition of suspension of VAT refunds to other taxpayers led to a strong increase in VAT refunds. As refund requests exceeded the limit of reserves allocation during 2007 there was first a slow-

down in refunds payment and then a blockade of payments. Problems with refund payments resulted in the transfer of a significant portion of refunds from 2007 to 2008, which had a positive impact on the fiscal balance in 2007 while on the other hand it burdened the fiscal balance in 2008. “The refund crisis” was resolved by removing administrative constraints on the allocation of refunds and switching to a flexible financial management of the distribution of revenues collected from indirect taxes, taking into account the deadlines for payment of refunds, payment of external debt and financing the budget of all levels of government (Antić, 2013). In addition to the massive transfer of refunds, the year 2008 was also characterized by a strong growth in VAT collection caused by the increase in prices of raw materials, food and energy-generating products on the world market. The first signs of the crisis occurred in the fourth quarter of 2008 when taxpayers, in order to maintain liquidity, opted for VAT refunds instead of tax credits. The share of VAT refunds in the mentioned quarter reached a maximum of 26.7% of gross VAT, so the net collection of VAT was negative for the first time since the introduction of VAT (chart 1). The year 2009 recorded negative trends in VAT collection as a result of the fall in consumption and economic activities.

CHART 1

Trends in VAT collection, change in %, q/q



Source: Database of Macroeconomic Analysis Unit of the ITA Governing Board (MAU).

The first signs of the recovery of the economy in B&H were recorded in 2010. The growth of the economy in 2010 led to an increase in consumption and VAT revenues, which, during 2011 and then in 2012, exceeded the effects of pre-crisis 2008. The continuous trend of positive growth in VAT revenues, which lasted for ten quarters, was interrupted in the fourth quarter of 2012. Despite the forecast positive economic growth, the increase of refunds (table 1) to taxpayers and international projects in 2013, frauds and VAT debts, led to a decline in VAT net collection of 1.9%.

TABLE 1
Trends in VAT

	2006	2007	2008	2009	2010	2011	2012	2013
Net VAT collection, in bn BAM	2.7	2.9	3.1	2.8	3.0	3.1	3.2	3.1
As % of total revenues of general government	31.5*	29.2	28.6	27.1	27.9	28.2	28.2	27.9
As % of GDP	12.6	12.3	12.0	11.0	11.6	11.8	11.6	11.0

* Figure for 2006 includes VAT and outstanding sales tax declared for 2005, but collected in 2006.

Source: Author's calculation; indirect tax revenues: Indirect Tax Authority (ITA); general government revenues: Central Bank of B&H (2006-2008)/MAU (2009-2013); GDP: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

TABLE 2
VAT refunds, as % of gross VAT

	2006	2007	2008	2009	2010	2011	2012	2013
Total VAT refunds	12.1	17.7	23.0	20.6	19.3	21.6	21.6	24.1
VAT refunds to taxpayers	11.3	16.6	21.8	18.6	17.3	19.2	19.4	21.5
VAT refunds to international projects	0.8	1.1	1.1	1.9	2.0	2.4	2.1	2.7

Source: ITA.

5 IMPLICATIONS OF STRUCTURAL CHARACTERISTICS ON VAT COLLECTION IN BOSNIA AND HERZEGOVINA

5.1 VAT RATE

Tax reform in B&H, which entailed replacing sales tax with VAT, according to intention of fiscal authorities, should have been a revenue-neutral reform. According to estimates, the same level of revenues as in the sales tax system could have been achieved by applying a VAT rate of 16%. However, given the high rate of tax evasion, especially in a highly decentralized country like B&H, in order to neutralize the risk, a statutory rate of 17% was determined. The excess of achieved revenues from VAT over those projected indicate that the introduction of VAT led to a reduction of the grey economy and tax evasion in B&H. The number of VAT taxpayers in relation to the projected number, calculated on the basis of the records of sales taxpayers, was doubled as early as the time for VAT registration. Starting from the tax base from 2005 it can be concluded that the same level of revenues in 2006 could be accomplished with a rate of 13.5%. Any further increase in the VAT rate by 0.14 percentage points corresponded to an increase in revenues by 0.86 percentage points. Given that B&H was committed to align the VAT system with EU rules, the standard rate could have been as low as 15%. However, even with that lowest allowed rate B&H would have been able to accomplish a revenue growth in 2006 of 9.5%. Given the large discrepancy between the revenue-neutral VAT rate and the statutory rate it can be concluded that the statutory VAT rate was an important factor in the efficiency of VAT collection in the first years of its implementation in B&H.

The trend in the effective VAT rate in the period 2006-2013, calculated on the basis of the actual collection of VAT and expenditures for final consumption (IFS, 2011), reveals strong fluctuations (table 3) which can be explained by comparing trends in VAT collection and expenditures for final consumption. Given the different trends of government and private components of final consumption, it can be noted that in time the range between calculated effective rates increases as a result of the growth of government expenditures for final consumption.

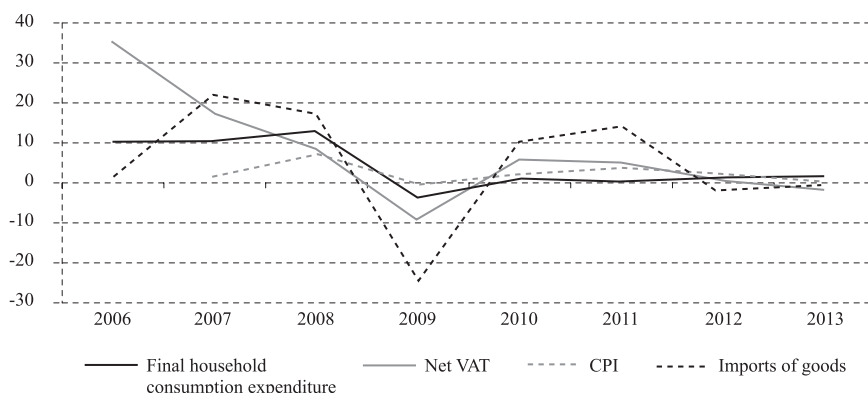
TABLE 3
VAT rate in B&H, in %

	2006	2007	2008	2009	2010	2011	2012	2013
Statutory rate	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0
Effective VAT rate, based on final consumption expenditure	12.3	13.4	12.8	11.8	12.3	12.6	12.4	12.0
Effective VAT rate, based on households' final consumption expenditure	15.5	16.6	15.9	14.9	15.7	16.5	16.4	15.8
Weighted average VAT rate	16.9	16.8	16.8	16.6	16.6	16.5	16.5	16.4

Source: Author's calculation; VAT revenue: ITA; consumption: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

Trends in VAT collection and consumption until 2012 (chart 2) confirm the conclusion of the empirical studies conducted by Sancak, Velloso and Xing (2010) that the changes in revenues from VAT as a dominant type of consumption taxes become sharper in relation to changes in economic trends. However, in the last two years, a fall in VAT collection and a growth in consumption have led to a drop in the effective VAT rate, although economic growth was recorded.

CHART 2
Trends in prices, final consumption, imports and VAT, in %



Source: VAT revenue: ITA/MAU; CPI/consumption/import of goods: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

5.2 VAT BASE

Starting from the fact that the VAT system in B&H has a single rate, VAT collection is directly determined by movements in the base (consumption). Bearing in mind that B&H introduced the VAT system with a wide base and a strictly limited scope of exemptions from VAT, the movement of the base (consumption) should have been determined by the movement of the economy, employment and prices. However, the basis for the VAT calculation was to some extent altered by the introduction of exemptions for supplies of goods and services within projects financed from IPA funds and by the approval of VAT refunds based on international projects. According to data released, the amount of exempted VAT on imported goods is negligible, while for the exemption in the country there are only the records of approved certificates of exemptions. According to available data and estimates the amount of lost VAT in the period 2010-2012 ranged around 1% of net VAT, i.e. 0.1% of GDP. However, since exemptions in the country always represent an incentive for tax frauds, tax expenditures of this derogation are certainly higher. In the coming years, after the removal of political blockages, the financing of EU projects through IPA funds is expected to be strengthened, and greater tax expenditures will thus be generated.

Although the VAT system is based on the standard rate, VAT refunds in the case of international projects *de facto* have the same effects as the application of the zero VAT rate on domestic trade of goods and services. The impact of indirect application of the zero rate can be quantified using the methodology which Mathis (2004) used to calculate the weighted average rate of VAT. Due to the application of the zero rate on domestic trade the weighted average rate for 2013 deviates for 0.57 percentage points compared to the statutory rate of 17% (table 3).

A comparison of weighted average and effective VAT rate on the total expenditure for final consumption in B&H with EU member states calculated by Borselli, Chiri and Romagnano (2012) points out that only two member states (Cyprus and Luxembourg) have a lower tax burden of expenditures for final consumption than B&H, while the tax burden on taxable consumption in B&H is at the level of the weighted average VAT rate in the EU.

From the overview given in table 4 it can be seen that the share of the taxable base on which VAT was not paid due to the indirect application of the zero VAT rate increased year by year, with the expectations that in the coming years, due to major infrastructure projects (construction of highways network) it will be more important.

In order to analyze the impact of evolution on the basis of revenue collection from VAT it is necessary to assess the theoretical basis for VAT under the applicable regulations based on analysis of consumer trends and changes in its structure. The

difference between the actual revenue collected from VAT and the theoretical VAT liability represents the VAT gap.

TABLE 4

Decomposition of taxable base, in %

	2006	2007	2008	2009	2010	2011	2012	2013
Standard rate	99.13	98.66	98.55	97.72	97.55	96.99	97.37	96.63
Zero rate	0.87	1.34	1.45	2.28	2.45	3.01	2.63	3.37

Source: Author's calculation; VAT revenue: ITA/MAU.

The taxable base can be calculated as the difference between final consumption expenditures reduced by the amount of VAT paid, and consumption exempted from VAT, including exemptions for IPA funds. The taxable base is further divided into the base on which VAT is charged and the base that has remained non-taxable. The structure of the taxable base includes the value of goods and services supplied on the basis of international projects for which VAT is refunded. The base which is taxed at a zero rate is calculated from data on refunds to international projects.

TABLE 5

Decomposition of final consumption, in %

	2006	2007	2008	2009	2010	2011	2012
Standard rate	72.1	79.0	75.0	69.1	72.3	74.0	73.1
Zero rate	0.0	0.0	1.1	1.6	1.8	2.3	2.0
Non-taxed base	6.5	-0.7	2.6	8.2	5.7	3.9	5.6
Exempted, IPA	0.0	0.0	0.0	0.1	0.7	0.5	0.8
Exempted base, other	21.4	21.7	21.2	21.0	19.5	19.3	18.6

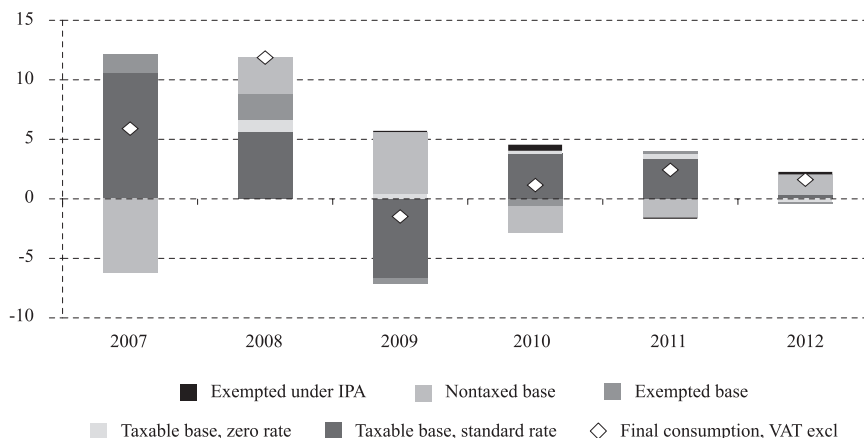
Source: Author's calculation; consumption: Agency for Statistics of B&H.

Calculations (table 5) show an increase in the VAT gap – that part of the taxable base on which VAT should have been charged since 2008, on account of the taxable base. Despite a growth in the taxable base after a sharp drop in 2009 everything points to the erosion of the VAT base.

Chart 3 shows the contribution of components to the movement of final consumption, measured in percentage of GDP. The growth of final consumption in 2008 was a result of the growth of the base on which VAT is charged as well as of the growth of exempted consumption and consumption that was supposed to be taxable (the VAT gap). The strong decrease in revenues from VAT in 2009 is a result of the simultaneous effects of two negative trends, the fall of the base on which VAT is charged and the growth of VAT gap. In the next two years the consumption growth was mainly the result of the growth of the taxable base on which VAT is charged and the fall of tax evasion. However, positive trends were stopped in 2012.

CHART 3

Decomposing changes in final consumption, % of GDP



Source: Author's calculation; VAT refunds: ITA; consumption: Agency for Statistics of B&H.

Applying the EU concept of implicit tax rate (ITR) to trends of consumption and the collection of VAT in B&H, fluctuations in the amount of implicit rate and apparent downward trend can be noted in the last two years (table 6).

TABLE 6

VAT component of Implicit Tax Rate

	2006	2007	2008	2009	2010	2011	2012	2013
ITR VAT, in %	13.6	14.9	14.3	13.5	14.0	14.4	14.2	13.6
Change Y/Y, in %	n/a	9.5	-3.4	-5.8	3.9	2.2	-1.3	-4.0
VAT base indicator, in p.p.	1.0	-0.3	0.2	1.0	0.5	0.2	0.4	0.9

Source: Author's calculation; VAT revenue: ITA/MAU; consumption: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

Applying EU methodology for calculating the “VAT reduced rate and base indicator” in B&H (table 6) an illogical situation in 2007 can be seen as a result of a surplus generated by transferring refund payments from 2007 to 2008. In other years one can see an increase in the variation related to the statutory standard rate, which may be the result of two factors – the widening of non-taxable base or reduction of efficiency in VAT collection. The widening of the non-taxable base can be explained by increasing VAT frauds, as well as by the effects of exempting trade of goods and services financed from IPA projects, which, given that it is difficult to control them, may represent an incentive for frauds. Finally, the strong tax evasion induced by differentiated excise policy, which has escalated in the last two years, has led to changes in consumer's behavior. Substitution of cigarettes

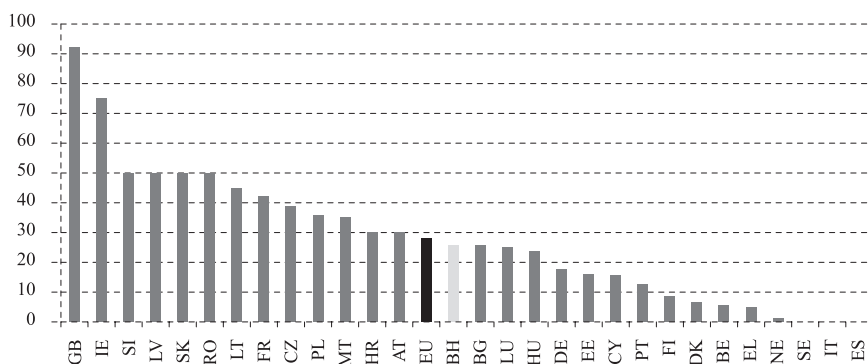
with fine-cut tobacco, as well as substitution of diesel fuel with heating oil resulted in the erosion of the taxable base for VAT. Notwithstanding the foregoing, in comparison with the values of indicators for EU member states (EU, 2011), the deviation of the implicit from the statutory VAT rate in B&H is minimal, as the result of a broad base and application of the standard VAT rate.

5.3 VAT THRESHOLD

The threshold for registration is, in addition to the rate and base, the third important factor in the design of VAT system. According to standards of the OECD (2012) by the height of the threshold for registration of VAT, B&H can be considered as a country with a relatively high threshold. In relation to the EU member states threshold for registration in B&H is about the arithmetic average of the EU (chart 4).

CHART 4

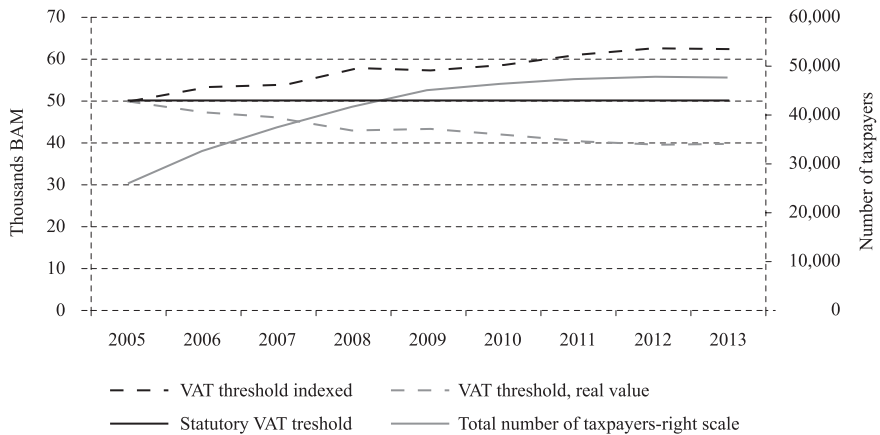
VAT threshold in the EU, in thousands of euro



Source: IBFD (2013); author's calculation.

The application of a relatively high threshold for registration should have positive effects on the VAT collection due to the cascading effect of input VAT contained in costs of small firms that are not registered for VAT, the financial sector, post office and others exempted from VAT. Despite the relatively high threshold, a sharp increase in the number of taxpayers was recorded. One of the reasons is the significant migration of companies from the grey to the regular economy, as one-off effect of VAT introduction. Another important factor is the legal option of voluntary registration for small businesses. According to internal data of the ITA about 40% of registered taxpayers are related to voluntary registration. Net contribution of this group of taxpayers to the revenue collection is negligible, since refunds to small firms almost annul the tax obligation. Finally, the increase in the number of taxpayers is a logical consequence of the growth impact of CPI (see chart 2) during the period of implementation of VAT on the amount of trade of small firms. The fact that the real value of the threshold for registration in 2013 was 20% lower than in 2005, when the initial registration for VAT was carried out (chart 5), points to the conclusion that some small firms in this period reached the legal threshold for registration.

CHART 5
VAT threshold in B&H



Source: Author's calculation; VAT revenue: ITA/MAU; CPI: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

6 IMPLICATION OF REFORM PROCESSES

6.1 IMPLICATIONS ON THE VAT COLLECTION

In addition to internal factors, which came out of the basic elements of the VAT concept and VAT policy, the collection of revenues from VAT in B&H is also influenced by regional and global integration processes which B&H has joined.

The time of implementation of VAT in B&H coincided with the implementation of the process of foreign trade liberalization. In the first phase, which began in 2007, joining CEFTA (Central European Free Trade Agreement) B&H abolished almost all customs duties in goods trade with neighboring countries. The second phase of liberalization, which began in mid-2008 with the application of the EU Stabilization and Association Agreement, entailed a gradual reduction in imports of goods originating from the EU to customs duty-free imports within the period of five years. Given the dominant share of trade with the EU and neighboring countries in foreign trade (around 85%) the process of liberalization has led to a sharp decrease in revenues from customs duties. The third phase of the process of foreign trade liberalization implied the abolition of non-fiscal customs barriers with the fiscal effects on imports of goods from third countries since the fourth quarter of 2011. It was expected that the liberalization process would produce direct losses in revenues from customs duties, but also indirectly, through the increased substitution of imports from third countries, which remained burdened by customs, by customs-free imports from the EU and under CEFTA. However, activation of the domestic Oil Refinery at the beginning of 2009, led to a strong growth in oil imports from Russia. Consequently, additional customs revenues from imports from Russia partially offset losses made in the process of foreign trade liberalization.

The main objective of the indirect taxation system reform in B&H was the harmonization of indirect tax policy with EU standards. The introduction of VAT represented a key condition for the start of the harmonization process of indirect taxes. At the height of the crisis B&H started with the process of the harmonization of tobacco products excises with the minimum EU standards. The new Law on Excise Duties, which came into force on 1 of July 2009, introduced a minimum excise duty and a structured rate of excise duty on cigarettes (*ad valorem* and specific). The process of harmonization implies a constant increase in the specific excise duty in order to achieve the minimum excise duty on cigarettes in the EU. In the period 2008-2012 the weighted average retail selling price of cigarettes doubled, while revenues from excise duties on tobacco increased by 110%. The increase in excise duties on cigarettes has significantly contributed to the collection of additional VAT revenues, given that the value of the cigarette market increased 35% over that of 2008. However, as the increase of the tax burden on cigarettes has not been accompanied by adequate harmonization of excise duties on cut tobacco, the growing gap between the taxation of cigarettes and cut tobacco, as a substitute, has led to strong tax evasion and the expansion of the black market. As a result, for the first time in 2013 a negative growth in revenues from excise duties on tobacco was recorded and thus a negative contribution of excise duties on tobacco to the growth in revenues from VAT.

In order to provide funds for the repayment of international loans for the development of a network of highways B&H, in the middle of 2009, in addition to the existing road tax in the price of oil derivatives, introduced an additional road tax earmarked for the development of highways. Both road taxes have the characteristics of excise duties on oil, by the method of collection and the impact on the basis for calculation of VAT. Since the road tax is paid on motor fuels only, the introduction of the additional road tax has increased the gap between tax burden on motor derivatives and heating oil, which has stimulated the use of heating oil as motor fuel, producing tax evasion with negative consequences for the collection of road taxes and VAT.

When assessing the effects of the mentioned reforms on the collection of certain types of revenues from indirect taxes, a baseline scenario was created, which assumes an unchanged policy of indirect taxes (customs duties, excise duties, VAT) for the period 2006-2013. Nominal fiscal effects on the VAT collection, obtained by applying macroeconomic indicators (imports, consumption, CPI) on the collection of certain types of revenues starting from the base 2006 year, have in the last three years been around 0.3% of GDP (table 7).

It should be noted that the calculated effects on the VAT collection only refer to aggregate positive effects on excise duties on tobacco and additional road taxes. Bearing in mind the phase character of VAT as a form of tax, collection of less VAT on imports due to any possible customs value reduction occurring after the elimination of customs duties, does not necessarily mean an actual reduction in

net VAT. This can occur only in the case of cost-elastic products where the reduction of the customs basis could lead to a reduction in retail prices and thus in VAT. Due to the high index of the B&H economy openness (around 45%), measured according to the OECD methodology (2011), the reliance on imports and dominant share of trade with the EU and neighboring countries in foreign trade (around 85%), it was expected that the reduction and then the abolition of customs duties on most imports should lead to the reduction in retail prices of goods and services and thus to the reduction in revenues from VAT. Another reason tending to support those expectations was that the liberalization of imports from the EU took place at a time of global economic crisis, a fall in income, consumption and economic activity. However, a continuous growth in retail prices, recorded in previous years, led to the conclusion that the savings on customs duties spilled over into extra profit without compromising the net VAT base/collection.

TABLE 7
Effects of reforms

	2008	2009	2010	2011	2012	2013
Net effect on VAT, as % of net VAT		0.93	2.07	2.34	2.49	2.33
Net effect on VAT, as % of GDP		0.10	0.24	0.27	0.29	0.26
Net effect on indirect taxes, as % of GDP	-0.45	-0.20	0.36	0.25	0.24	0.04

Source: Author's calculation.

Studies have shown that developing countries, under the pressure of the liberalization process of foreign trade, have been faced with the problem of maintaining the level of revenue in a situation of progressive reduction in customs revenue. Baungsgaard and Keen (2005) considered that the continuation of the trade liberalization process in many developing countries would be brought to an end if alternative sources of revenue were not found. According to them, most developing countries manage to pay a maximum of 60% of lost revenues from the exchange, mainly by strategies to increase excise duties and VAT, although there are also countries that compensate for lack of revenues from indirect taxes by increasing the income tax. From the analysis of the effects of foreign trade liberalization in this paper it is implied that B&H is something of an exception among developing countries because it managed to compensate the loss of customs revenue as a result of trade liberalization fully every year by increasing excise duties on tobacco and oil derivatives. However, the escalation of VAT refunds and debts as well as tax evasion in excise revenues as a result of the rapid growth of the tax burden and uncoordinated policy of differentiated rates, led to the erosion of the VAT base and the loss of revenue from indirect taxes in the past two years. The fact that the net contribution of the reform to the level of indirect taxes in 2013 fell to a level of only 0.04% of GDP (table 7) suggests that B&H, in the case of continuing negative trends, will have no more opportunities to compensate losses of customs revenue by increasing excise duties in the next step of foreign trade liberalization in the EU accession process.

6.2 IMPLICATIONS ON THE TAX STRUCTURE

The cumulative impact of global economic crisis, reforms and trade liberalization process led to changes in the structure of indirect taxes and tax burden, measured by percentage of GDP (table 8).

TABLE 8

Tax structure in B&H

	2006	2007	2008	2009	2010	2011	2012	2013
As % of GDP								
Indirect taxes	20.1	19.9	18.8	17.2	18.5	18.6	18.3	17.2
o/w VAT/ST ^a	12.6	12.3	12.0	11.0	11.6	11.8	11.6	11.0
Customs duty	2.6	2.8	2.5	1.3	1.1	1.0	0.8	0.7
Excises	4.0	3.9	3.6	3.9	4.5	4.7	4.8	4.5
Road fees	0.8	0.8	0.7	1.0	1.2	1.1	1.1	1.0
Direct taxes	2.7	2.5	2.9	3.2	3.3	3.4	3.4	3.3
Social security contributions	11.9	12.5	13.7	14.3	15.0	15.1	14.9	14.4
As % of total revenue of general government ^b								
Indirect taxes	50.2	47.2	45.0	42.6	44.5	44.6	44.4	43.8
o/w VAT/ST ^a	31.5	29.2	28.6	27.1	27.9	28.2	28.2	27.9
Customs duty	6.5	6.6	5.9	3.3	2.8	2.5	2.0	1.9
Excises	9.3	8.8	8.4	9.0	9.3	10.5	11.3	11.7
Road fees	2.1	1.9	1.7	2.4	2.9	2.6	2.6	2.6
Direct taxes	6.8	5.9	7.0	7.9	7.9	8.1	8.2	8.5
Social security contributions	29.6	29.6	32.7	35.5	36.1	36.2	36.1	36.6

^a Figure for 2006 includes VAT and outstanding sales tax declared for 2005, but collected in 2006.

^b Consolidated revenues of all levels of government (central level, entities, cantons, local level and extra-budgetary funds).

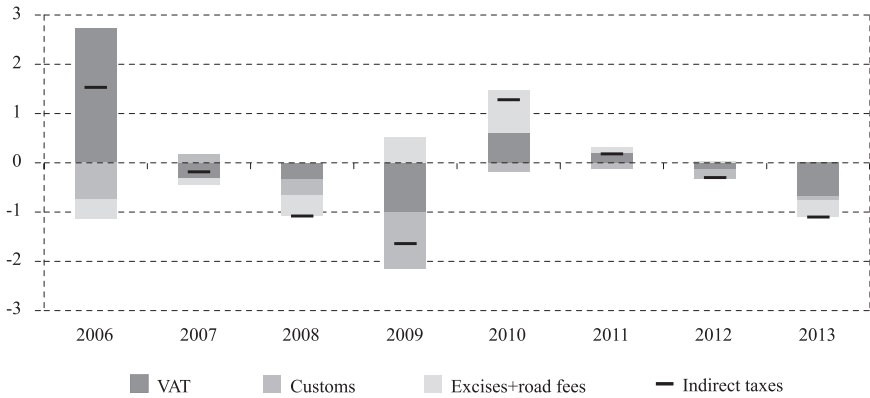
Source: Author's calculation; indirect tax revenues: ITA/MAU; other revenues: Central Bank of B&H (2006-2008), MAU (2009-2013); GDP: Agency for Statistics of B&H (2006-2012)/ Directorate for Economic Planning (estimation for 2013).

In the last two years a reduction in the collection of all types of indirect taxes was recorded. The distribution of contributions of VAT and other types of revenue in changes in total revenue collection from indirect taxes, measured by percentage of GDP, is shown in chart 6.

Expenses for final consumption of households and governments are in addition to VAT also burdened by other taxes on consumption such as excises duties, customs duties, etc. In addition to the direct impact on the tax burden on final consumption other indirect taxes affect households indirectly, by being included in the basis for the VAT calculation. Keeping in mind economic reforms in B&H and implications of foreign trade liberalization through the analysis of components of the implicit rate on consumption it is possible to consider the direct impact of other indirect taxes on the VAT component. Chart 7 shows downward trends in ITR components

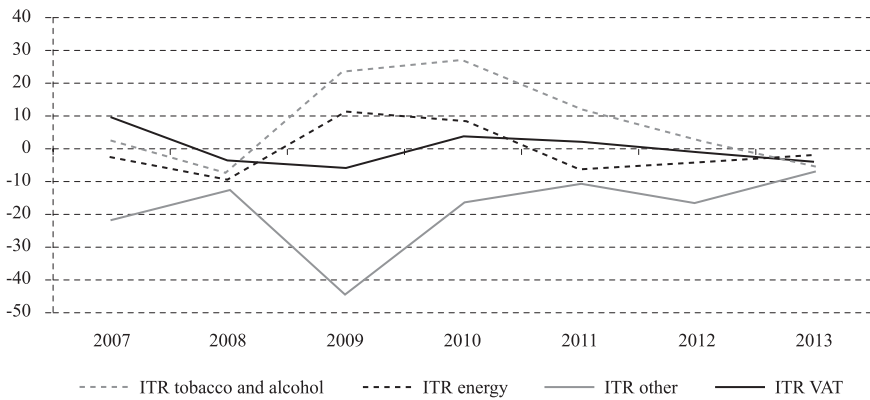
on tobacco as a result of the strong tax evasion in the last two years. On the other hand, it can be noted that negative ITR related to other revenues (customs duties) is weakening as the five-year process of foreign trade liberalization with the EU is closer to its end.

CHART 6
Contribution of tax types to total indirect tax performance, % of GDP



Source: Author's calculation; GDP: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

CHART 7
Decomposition of Implicit Tax Rate on consumption, change Y/Y, in %



Source: Author's calculation; VAT revenues: ITA; consumption: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013); other countries: OECD (2012).

FINANCIAL THEORY AND PRACTICE 38 (3) 303-335 (2014) DINKA ANTIĆ: EFFICIENCY OF A SINGLE-RATE AND BROAD-BASED VAT SYSTEM: THE CASE OF BOSNIA AND HERZEGOVINA

7 EFFICIENCY OF VAT COLLECTION IN BOSNIA AND HERZEGOVINA

7.1 EFFICIENCY RATIO

The quality of the calculated ratios of the efficiency of the VAT system in B&H depends on the quality and structure of the existing statistics of national accounts in the country. For this reason certain adjustments of the potential taxable basis for VAT cannot be precisely determined in accordance with the OECD methodology (2012) and Keen (2013).

The efficiency ratio (productivity) in B&H in period 2006-2013 varied in the range 0.72-0.82. The maximum level was recorded in 2007 (0.82), and the minimum in 2009 and 2013 (0.72). If final consumption is used as the denominator instead of GDP, the obtained efficiency ratio is slightly lower, as a result of the specific structure of GDP in B&H where consumption is dominant.

TABLE 9

Efficiency ratio

	2006	2007	2008	2009	2010	2011	2012	2013
Based on GDP – “Productivity ratio”	0.79	0.85	0.82	0.75	0.80	0.81	0.80	0.75
Based on consumption	0.75	0.81	0.78	0.72	0.75	0.77	0.76	0.74
VAT gross collection ratio	0.91	0.98	0.94	0.87	0.92	0.97	0.96	0.93

Source: Author’s calculation; GDP/consumption: Agency for Statistics of B&H.

It is noted that fluctuations of “ratio of gross VAT collection” are sharper than fluctuations of the efficiency ratio, as a result of sharper changes in final consumption of households than in total final consumption (table 9).

For the purpose of analyzing the efficiency of VAT collection in B&H the amount of expenditure for final consumption (households, non-profit organizations and government) has been used as a denominator. In the period 2006-2013 in B&H VRR ranged from a minimum of 0.69 in 2009 to a maximum of 0.79 in 2007 (table 10).

TABLE 10

VAT Revenue Ratio

	2006	2007	2008	2009	2010	2011	2012	2013
B&H	0.72	0.79	0.75	0.69	0.72	0.74	0.73	0.71
Chile	0.64	0.67	0.70	0.59	n.a	n.a	n.a	n.a
Denmark	0.64	0.65	0.62	0.59	n.a	n.a	n.a	n.a
Japan	0.70	0.69	0.67	0.67	n.a	n.a	n.a	n.a
New Zealand	1.03	0.96	0.97	0.99	n.a	n.a	n.a	n.a

Source: B&H – Author’s calculation; VAT revenue: ITA/MAU; consumption: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013); other countries: OECD (2012).

Given the availability of data it is possible to compare VRR for B&H with other countries only for the period 2006–2009 (OECD, 2012). Another aggravating factor is the structure of the VAT systems of those countries for which data are available because most of them apply the VAT system with a scale of rates. In comparison with the results of the OECD's survey it can be concluded that the VAT system in B&H is more efficient than in countries with a single rate, like Chile and Denmark, while it less efficient related to Japan (OECD, 2012). Comparison with the system in New Zealand represents *de facto* a comparison with the VAT regime which is close to the theoretical ideal. It is noted that due to the crisis in these countries the efficiency ratio fell, maximum (0.5) in Denmark and Chile, 0.04 in New Zealand and 0.03 in B&H and Japan.

7.2 DECOMPOSING EFFICIENCY RATIO

According to the OECD methodology, policy efficiency ratio and compliance efficiency ratio are also calculated (OECD, 2012). Theoretical VAT revenues are obtained by applying the standard rate on the theoretical taxable base calculated on taxable components of consumption (see table 4).

TABLE 11

VAT revenue ratio decomposition in B&H

	2006	2007	2008	2009	2010	2011	2012
Policy efficiency ratio	0.79	0.78	0.78	0.77	0.77	0.77	0.78
Rate differentiation (r)	0.00	0.00	0.01	0.02	0.02	0.03	0.03
Exemptions (x)	0.79	0.78	0.77	0.77	0.77	0.77	0.78
Compliance efficiency ratio	0.92	1.01	0.97	0.90	0.93	0.96	0.94

Source: Author's calculation; Consumption: Agency for Statistics of B&H.

7.2.1 Policy gap

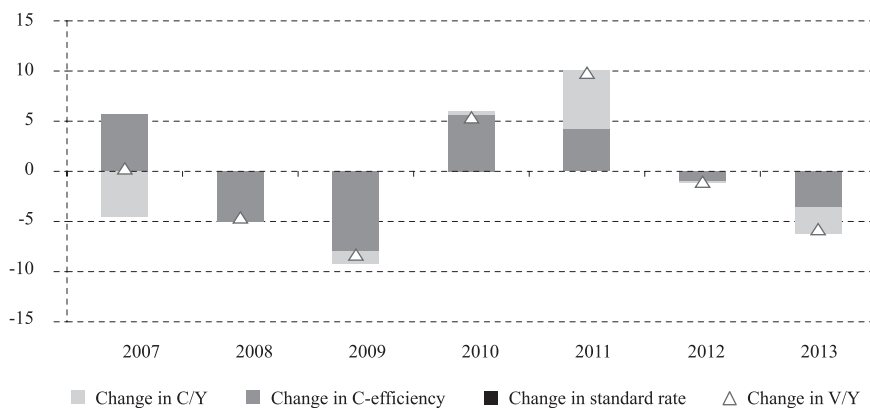
The weak oscillations of the coefficient of imperfection of VAT policy in B&H (table 11) are the result of derogations (exemptions from VAT on the supply of goods and services financed by IPA funds and refunds in the country with the effect of the zero rate). In general, the extent of the policy gap is significantly below the EU average, as expected, due to the application of the standard rate (CASE, 2013). On the other hand, stronger oscillations are noted in the compliance ratio, which is measured as the ratio of VAT collected and the theoretical VAT revenues that can be collected by the applicable law. The ratio shows the proportion of "lost" revenues from VAT, i.e. tax expenditures. The ratio for 2007 exceeding 1 indicates cases emphasized by Keen (2013), when a high C-efficiency ratio does not necessarily mean a better VAT system. Due to problems with allocating reserves for refunds, some of the refunds from 2007 were transferred to 2008 resulting in a higher net VAT collection in 2007. With the outbreak of the crisis the compliance efficiency fell to the lowest level of 0.90. The growth of ratios in the next two years was temporary. There was already in 2012 a deterioration of tax discipline

among taxpayers which was manifested through increased refund requests that did not follow the growth of economic activities that affect them (exports, investments), increased payments of unused tax credits and expansion of various forms of VAT frauds.

Despite the negligible impact of VAT policy on VAT efficiency we have performed a decomposition of the policy gap. Since B&H applies only the standard rate of VAT the rate gap in B&H should be zero. However, through derogations from the Law in the sphere of VAT payment within international projects, in an indirect way, the system included zero rate taxation in the country. Keen suggests that the effects of the zero rate should be included in the calculation of “exemption gap”, and not “rate gap”, because the part of consumption (base) for which the zero rate is applied is not included in the national account statistics (Keen, 2013). In the case of B&H we decide to include the effects of the zero rate in the rate gap for two reasons. First, unlike other countries that apply a zero VAT rate the application of the zero rate in B&H is an indirect consequence of VAT refunds by international agreements on financing projects of national significance. Due to this specificity, the base for calculation of VAT, which will be refunded to the beneficiary of the project in the next step, can be easily identified through analytical records of VAT refunds. Second, the inclusion of “indirect” zero rates in the calculation of the rate gap opens up the possibility for understanding the effects of this derogation from the Law on the efficiency of VAT collection.

CHART 8

Decomposing changes of VAT revenue in B&H, in %



Source: Author's calculation.

With regard to the VAT system with a single rate, decomposition of VAT collection in B&H (chart 8) according to Keen's model (Keen, 2013), shows that VAT collection in B&H is affected by two factors, where changes in the collection efficiency were stronger than changes in consumption (base) in all years except in 2011. The outbreak of the crisis (2009) brought about a decline in the base and a

fall in collection efficiency, the fall in efficiency being sharper. In the next two years the efficiency growth (2010), and the cumulative effect of the efficiency and consumption growth (2011) resulted in a strong increase in the share of VAT in GDP. However, the last two years have brought a drop in efficiency (2012) and cumulative decline in efficiency and consumption (2013), which resulted in the reduction of the share of VAT revenues in GDP.

The B&H policy in terms of the rules for VAT taxation in international trade of B&H has been constant since the introduction of VAT and should not affect significantly the VAT collection. However, B&H has not yet harmonized rules of taxation of services in international trade with the new rules that are being introduced in the EU in phases during the period 2010-2015. Failure to harmonize rules of taxation of services in B&H leads to non-taxation of imports of services from the EU in B&H and to double taxation of exports of services from B&H in the EU. This harms the competitive position of service companies from B&H on both the domestic and the EU market. However, budgets of government levels in B&H can also be affected if lost VAT on imported services exceeds VAT collected from domestic companies in exports of services which is, in principle, difficult to assess. Consequently, the VAT policy gap may increase.

Decomposition of the policy gap (table 12) shows the growing importance of refund payments on the basis of international projects on collection efficiency. Bearing in mind that the scope of exemptions for the use of IPA funds was also expanded in the same period, it can be concluded that the impact of the indirect application of a zero VAT rate is still higher compared to the effect of exemptions. The negative impact of narrowing the taxable base is partially offset by the effects of harmonization of excise duties with EU standards. Net negative effects of policies of VAT, customs duties and excise taxes are around 0.2% of GDP (table 13).

TABLE 12

Summary of net effects of country-specific policy issues on VAT collection

	2008	2009	2010	2011	2012	2013
As % of net VAT	-1.5	-1.6	-1.4	-1.5	-1.2	-2.2
As % of GDP	-0.2	-0.2	-0.1	-0.2	-0.1	-0.2

Notes: (a) figures include net effects of exemptions of supplies under IPA funds, zero-rated supplies under international projects and involvement in regional and global integrations; (b) negative sign reflects a direction of influence on VAT and GDP.

Source: Author's calculation; VAT revenues: ITA; GDP: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

7.2.2 Compliance gap

Deterioration of the negative impact, measured by percentage of net VAT, in 2013 was obviously the result of the erosion of VAT revenues due to the deterioration of taxpayers' tax discipline. The extent of the compliance gap in B&H is below the

EU average, which amounts to 17% (CASE, 2013). This may be explained by the fact that the VAT system in B&H is only in the early stages of implementation, compared to the mature VAT system of EU member states, where more extensive and complex VAT frauds occur, transcending national boundaries. Analysis of the VAT base indicates an increase in the part of the theoretical VAT base on which VAT has not been paid. In addition to methodological factors, in terms of the quality of national account statistics, tax compliance may be affected by changes in consumer behavior (for example changes in the amount of consumption or changes in the structure of consumption), as forms of legal tax avoidance, induced by poor tax policy design. An important factor is also the behavior of taxpayers in terms of compliance with tax regulations and timely payments of VAT obligations. In the initial years of implementation of VAT in B&H, debts were insignificant. The growing illiquidity of the economy, as a result of the global economic crisis, first manifested through increased VAT refund requests instead of tax credits and in the coming years in the growing trend of VAT debt (table 13).

TABLE 13*Trends in VAT debt*

	2006	2007	2008	2009	2010	2011	2012	2013
Ratio of aggregate end-year VAT arrears	0.6	0.9	1.3	2.7	4.1	6.1	7.9	9.8
Net VAT debt as % of VAT collection	0.6	0.4	0.4	1.3	1.5	2.3	1.8	1.8
Net VAT debt as % of GDP	0.1	0.0	0.0	0.1	0.2	0.3	0.2	0.2

Source: Author's calculation; VAT revenue and debt: ITA; GDP: Agency for Statistics of B&H (2006-2012)/Directorate for Economic Planning (estimation for 2013).

Dynamic OECD VAT debt ratio in B&H shows a growing trend. Although the presented summary of the ratio of tax debt does not allow a direct comparison of the VAT debt movement in B&H with other countries, given the dominant importance of VAT in the tax structure of B&H it can be concluded that the increase in VAT debt can be much faster in B&H than in most of EU and OECD member states. B&H is an open country. Given that most of B&H gross receipts from VAT (about 60%) are collected at the border there is less likelihood of tax evasion than in countries that are less open than B&H. On the other hand, a significant share of imports in foreign trade in goods increases the possibility of VAT frauds. Given that VAT is a dominant source of revenues in B&H, the expansion of the VAT gap, due either to a debt increase or to frauds, represents a serious cause of reduced VAT efficiency and budgets of all levels of government.

It can be concluded that current net losses on VAT that can be identified amount to 4% of net VAT collection or 0.4% of GDP. Those figures include only the losses in revenues from VAT as a result of tax concessions (derogations), reforms in excise and customs policy and losses due to VAT debt that can be identified and measured.

8 INSTEAD OF CONCLUSION: DIRECTIONS FOR REFORM OF THE VAT SYSTEM IN ORDER TO IMPROVE THE EFFICIENCY

Results of studies and research into the directions of tax system reform in the world indicate that the preferable VAT system should preferably be structured close to the ideal VAT concept. A system with those features would ensure additional revenues needed for fiscal consolidation and accelerated growth after the global economic crisis, with low tax compliance costs. A VAT system similar to the ideal was implemented in B&H in 2006. After the successful implementation of VAT, the outbreak of crisis brought a sharp drop in revenues from this tax. The recovery that followed was temporary. As early as 2012 despite the growth of the economy, revenues from VAT stagnated, and in 2013 a decline of 1.9% was recorded. The period of implementation of VAT coincided with the outbreak of the global economic crisis and the entry of B&H in the global integration processes. B&H has neutralized the negative effects of tariff liberalization on revenues from indirect taxes by increasing excise and road taxes as part of the harmonization of excise taxes with EU standards and EU tax strategy that focuses on the taxation of consumption and green taxes. The process of foreign trade liberalization creates continuous pressure on fiscal authorities to compensate for the losses in customs duties by increasing excise and VAT collection. Negative trends in excise and VAT collection in 2013 suggest that possibilities to compensate for losses of customs revenue by continuing the process of excise harmonization with EU standards are exhausted. In addition, the complex decentralized fiscal architecture of B&H, with tax competences for direct and indirect taxes divided between levels of government, prevents at the outset the fiscal devaluation or fiscal revaluation, necessary for the compensation of revenues lost in the process of trade liberalization. Therefore, the process of further liberalization of foreign trade with EU member states, which B&H expects in the coming stages of the European integration process, largely depends on the efficiency of the tax administration and the control institutions of central and middle levels of government in the fight against frauds in the field of VAT and excise taxes, as the main alternative sources of revenues.

Decomposition of the VAT efficiency ratio in B&H shows considerable scope for reducing the VAT gap in the area of regulation compliance. Although VAT has been in force for only eight years, the growth of VAT gap shows that the VAT system in B&H has evolved from the initial phase, in which sporadic frauds were possible, into a more mature phase. The emergence of more complex and serious VAT frauds requires an increase in the work efficiency of the ITA. It means an application of modern methods and mechanisms to combat frauds at a national level. It is also important to strengthen the data exchange with Entity Tax Administrations and involve B&H in the data exchange platform offered by the EU to third countries. Finally, efficient tax collection requires the strengthening of legal sanctions and reducing the level of corruption in society.

Bearing in mind that B&H applies the standard rate and limited scope of exemptions from VAT in accordance with the EU Directive, it can be concluded that

there is little scope for increasing the VAT efficiency in the sphere of VAT policy in B&H. Analyses of the VAT efficiency presented in the paper, show a growing negative impact of broadening the scope of exemptions on supplies of goods and services financed under the EU aid and VAT refunds on the basis of international projects on the VAT efficiency.

Indirect introduction of the zero VAT rate in the country and expanding the scope of exemptions, the VAT system in B&H has *de facto* been degraded into the VAT model of the “first generation”, which has, according to numerous studies, proved ineffective in the EU and other countries. Further directions of the reform of the VAT system in order to increase the efficiency would entail, in the first step, placing the derogations from the Law under control. Although indirect application of the zero rate came out of the assumed international liabilities due to the broad interpretation of the term relief, it was necessary to specify in bylaws the criteria for categorization of international projects for the purpose of the right to a refund. Also, the future negative impact of exemptions from VAT on VAT frauds and VAT collection efficiency should not be underestimated. In the coming years, we expect a strong growth in financial assistance from the EU for reconstruction and infrastructure investments in B&H, an escalation of VAT frauds in the country while a further decrease in VAT efficiency can be expected as well. One of the options for placing exemptions under control is to redefine the rules of using funds under EU projects in such a way as to bring in a right to a refund instead of an exemption. B&H needs urgently to harmonize VAT rules of services in B&H with the new rules in the EU in order to eliminate double taxation of domestic service providers and double non-taxation of taxpayers from the EU. In addition to the fact that the above interventions in the Law should increase the efficiency of the VAT system in B&H, it would also create the preconditions for B&H to be able to keep pace with the process of the VAT system reforms in the EU. It would require simplification and modernization of the administration VAT, a narrowing of the scope of exemptions of the public sector, financial and postal services. Those policy and administrative measures should result in revenue growth and VAT collection efficiency.

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