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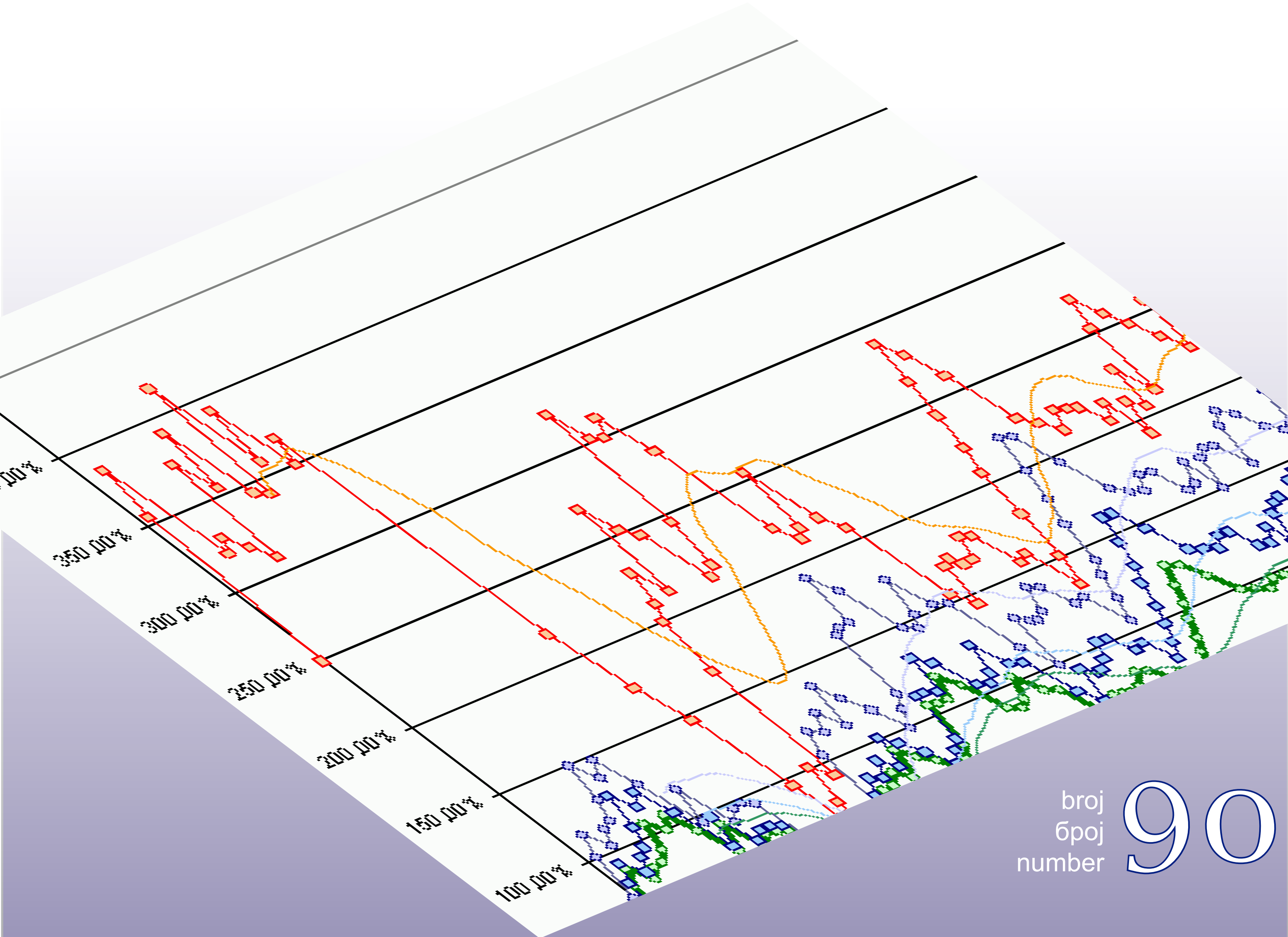
Odjeljenje za makroekonomsku analizu
Upravnog odbora Uprave za indirektno-neizravno oporezivanje

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

Macroeconomic Unit of the Governing Board of the Indirect Tax Authority

Oma Bilten



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With this issue

Despite strong monthly turbulences, the trend of revenue collection from indirect taxes in the period January - November 2012 was positive and by 0,1 pp above the revised annual revenue projections from October 2012. Unexpectedly, given the traditionally high indirect tax collection, the month of December has brought a reversal which not only annulled by then realized positive effects, but brought revenues into the negative zone. According to the preliminary report of the ITA it was collected in December, after deducting refunds, 411,9 million KM of revenue, or 5,8% less than in December 2011. The total revenue collection from indirect taxes in 2012 amounted to 4,988 billion KM and decreased by 0,2% compared to 2011.

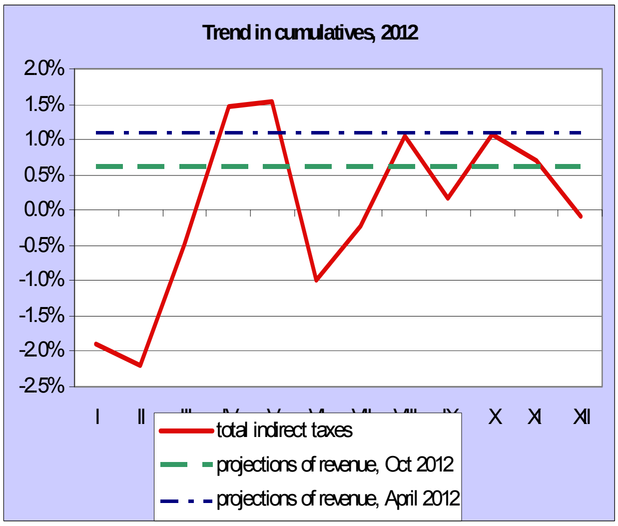

Chart 1

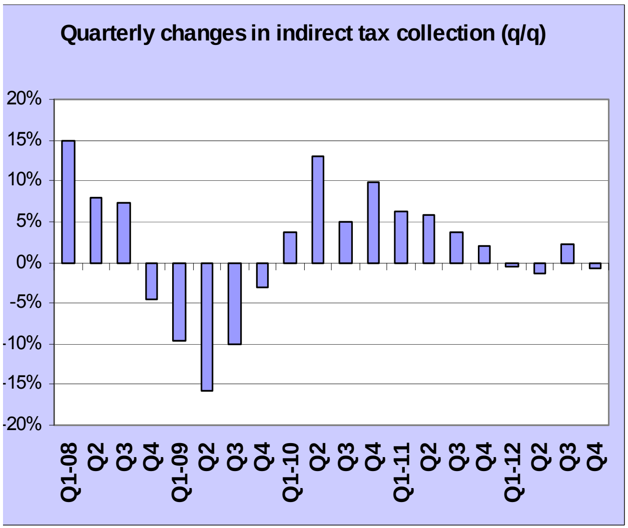

Chart 2

Preliminary data on the collection of revenue by type indicate that the total indirect tax collection in 2012 was strongly influenced by fluctuations in gross VAT collected on imports and excise duties on cigarettes and oil derivates. A more detailed analysis of indirect taxes in 2012 will be published in the next bulletin, when the final data on revenue collection and refunds are available. In this issue, we present an analysis of the fiscal effects of differentiated excise policy in B&H, regarding the initiatives for funding the railways from the earmarked indirect taxes.

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Fiscal effects of the introduction of earmarked taxes to finance the railways in B&H
(By: Dinka Antić, PhD)

INTRODUCTION

In the past few years, initiatives on financing the railways in B&H from the earmarked tax were introduced to the public. Basically, initiatives were related to the introduction of an additional road fee from the price of oil products and at the end of the year 2012, the initiative on the introduction of an additional special excise duty on cigarette to finance the railways and Directorate for roads was outlined to the public. Despite announcements, initiatives have not been formally addressed to the Governing Board of the Indirect Taxation Authority (ITA), which represents the first instance for making decisions in relation to indirect tax policy. Announcements of additional taxation of oil products encountered the opposition of the carriers given that rising input costs would threaten their business. On the other hand, carriers would be put to an unfavorable position related to the railways by introducing the earmarked road fee for railways because they would directly finance their competition from the road fee. Complaints of citizens relate to the chained price hike of goods and services which would be caused as a result of the increase of oil product prices, which would, in the given circumstances of economic crisis, lead to a further contraction of consumption, a fall in employment and economic activity.

In essence, these initiatives for the introduction of the earmarked tax for railways have two sides that need to be considered and put into the context of EU standards and practice. One aspect of analysis is the question of the efficiency of earmarked taxes in terms of fiscal and economic implications, while the other one relates to the question of the purpose of collected taxes. So far we have analyzed twice implications of introducing earmarked taxes, from the perspective of the theory of taxation and indirect taxation system in B&H[1], and the second time in the light of the EU state aid rules for railways[2]. The basis of mentioned initiatives is the view that the excise policy measures from 2009, which include the introduction of road fees for highways and special excise taxes on cigarettes, were effective and that it would be achieved the same yield income by the inclusion of new earmarked taxes. Keeping this in mind the following is necessary:
- to analyze the fiscal effects of excise policy which is in force as of 1 of July 2009 and which refers to the introduction of additional road fee for highways and special excise tax on cigarettes,
- to consider initiatives to finance railways in the context of medium-term revenue projections for the period 2013-2015.

INITIATIVE #1: INTRODUCING THE EARMARKED ROAD FEE ON OIL DERIVATIVES

Initiative to fund railways from the price of oil products means the introduction of additional road fee in the amount of 0,05 KM per liter of oil product. Road tax from the price of oil product exists in the tax system of B&H for ten years, first in tax systems of the Entities and the District, and since 2005 in the indirect taxation system of B&H as well. In that moment, the reform of indirect taxes meant only the transfer of authorities in the administration of road fees from the Entity Tax Administrations to the ITA, given that the same level of taxation in the amount of 0,15 KM per liter of oil product was kept. Revenues from road fees belong to the „*pool*" revenue from indirect taxes (customs duties, sales taxes/VAT, excise taxes), which are collected into the ITA Single Account under common rules and are distributed according to uniform distribution coefficients. After the deduction of indirect tax refunds and the share for funding the B&H budget, indirect taxes are allocated, in accordance to coefficients determined by the ITA Governing Board, to the

[1] More in: Antić D., „Pros and cons financing railways from road taxes", MAU Bulletin No. 60/61, July/August 2010, www.oma.uino.gov.ba.
[2] More in: Antić D., „EU rules on fiscal aid to transport sector ", MAU Bulletin No. 78, January 2012, www.oma.uino.gov.ba.

Entities and the District of Brcko. The allocation of indirect tax transfer is done in accordance with Entity regulations to Entity budgets and Directorate for Roads, then to the lower levels of government (cantons, local communities).

Since 1 of July 2009 an additional road fee for funding highways in the amount of 0,10 KM per liter of oil product has been introduced. Unlike „standard" road fees, new additional road fees are of earmarked character. Binding of certain indirect taxes for the purpose required significant changes in the indirect taxation system in the area of distribution. In technical terms, it was necessary to provide a separate collection of additional road fees in special accounts at commercial banks and their separation from the distribution, in a similar way as it was done with refunds of indirect taxes and funds for financing the B&H budget.

Extracting new road fees from the „pool" of indirect tax revenues requested the adoption of special coefficients for their distribution. Having in mind that the sole purpose of revenue from additional road fees intended to be for the development of the motorway network, the application of the criteria for final consumption, which is the basis for the allocation of indirect taxes in B&H, is not sustainable. Logic of the purpose of additional road fee revenue requires that their distribution between the Entities and the District should be based on a share of the Entities and the District in the total planned motorway network. The ITA Governing Board has, at the end of 2009, adopted a decision on interim coefficients by which additional road fee revenues are distributed as follows:

- 10% of the revenue is kept on the sub-account of the ITA Single Account and is used for the alignment between the Entities and the District in determining the final distribution coefficients;

- 90% of the revenue is shared between the users of distribution in the following way:
    - Federation B&H 59%
    - Republic of Srpska 39%
    - Brcko District 2%.

Although the amount of additional road fee is not so significant in financial terms related to VAT or excise taxes, however, considering the daily extracting of 10% of revenues collected from road fees, amounts accumulated in the reserve accounts are becoming bigger. The ITA Governing Board is in October 2011 made a decision on the allocation of accumulated amount of reserves of 28 million KM to the Entities and the District in accordance with the above mentioned coefficients, thus emptying the reserve account. However, given that since then the final allocation methodology for additional road fee has not been agreed, it has been continued with the accumulation of 10% of road fee revenue on the reserve account.

Fiscal effects of road fees

Road fee revenues can be analytically considered with regard to the origin of oil products. As of starting up Refinery at the end of 2008, road fee revenues have been charged only on imports. From the beginning of 2009, road fee revenues paid by the Refinery on derivatives produced in the country were recorded. As of 1 of July 2009 these two basic types of revenues from road fees are further parsed by purpose of revenue to road fee of 0,15 KM ("standard") and of 0,10 KM (for highways). It is noticeable that the importance of the Refinery for the collection of road fee revenues increased over time due to the increased production of oil products.

Chart 1 Structure of monthly collection of road fee revenues (2006-2012)

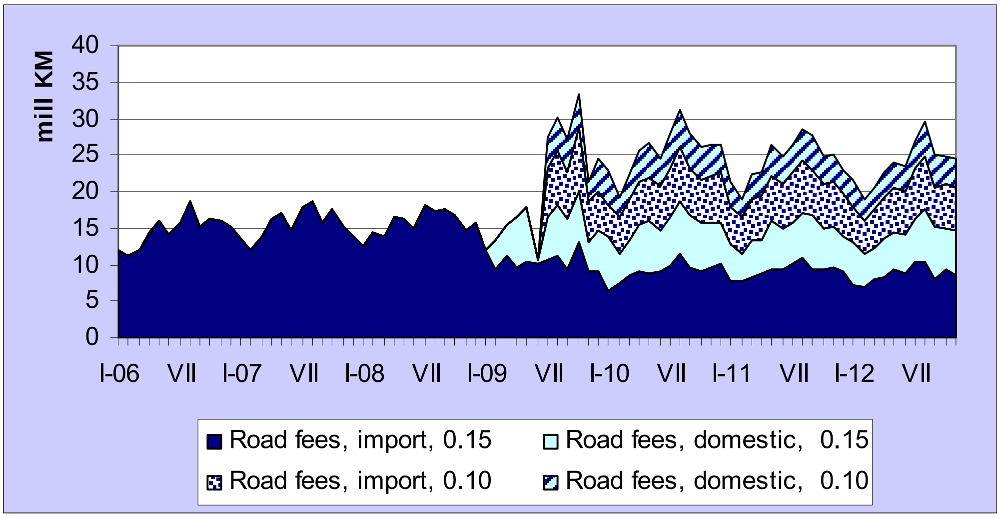
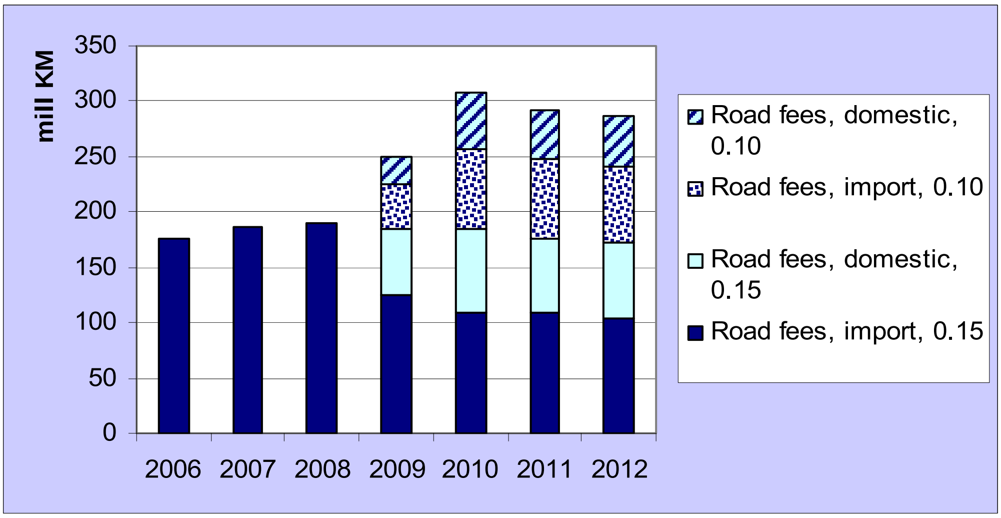
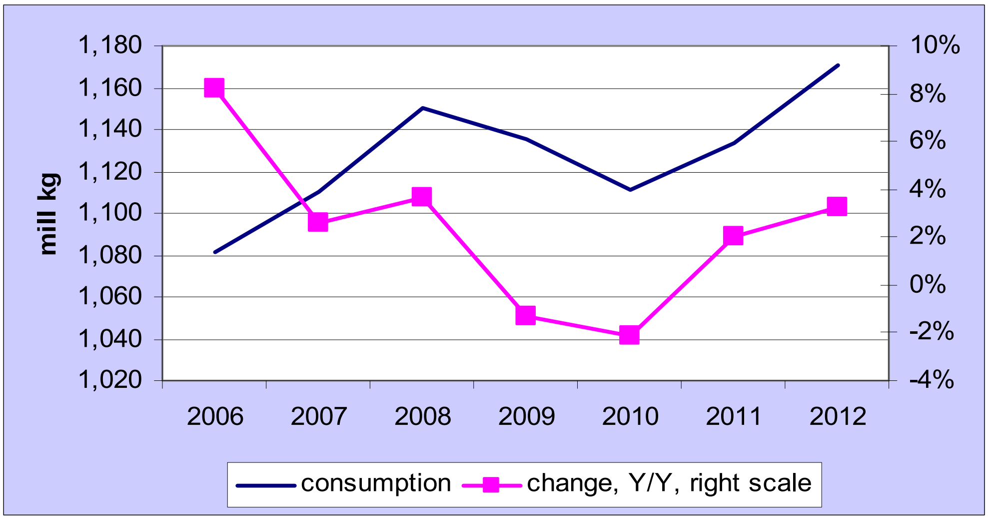


Chart 2 Structure of annual collection of road fee revenues (2006-2012)



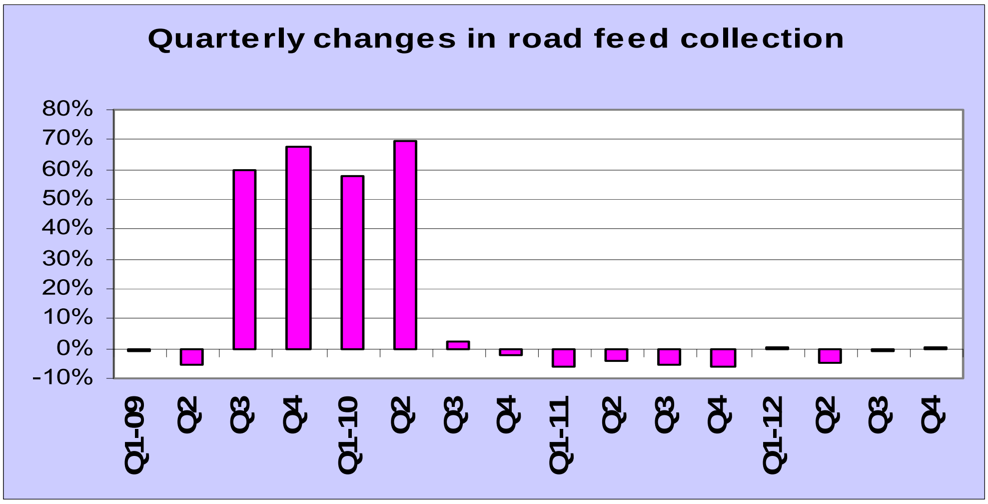
Until the entry into force of the new Law on Excise Duties road fee revenues from the price of oil products were uniformly being increased in line with the economic growth and consumption. The global economic crisis has made modest reduction in consumption of oil products in B&H, ranged from 1 to 2,2% in 2009 and 2010. However, 2011 brought the growth in the amount of consumption of oil products (Chart 3). Spending increase trend continued in 2012 as well.

Chart 3 Derivative consumption, trends (2006-2011)



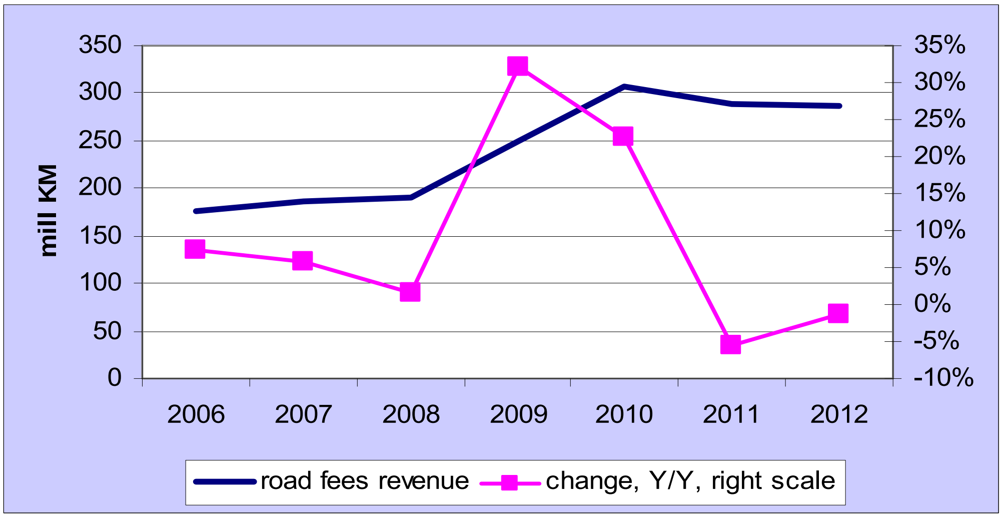
As expected, the introduction of additional road fees for highways has led to significant fiscal impacts. Total road fee revenues in 2009 were increased by 32% compared to 2008, i.e. 22,7% in 2010 compared to 2009. Given that a change in excise policy occurred in mid-2009, effects of introducing road fees are spread in the second half of 2009 and the first half of 2010 (Chart 4).

Chart 4 Road fee revenues, quarterly changes (q/q), 2009-2012



Comparing consumption trends of derivatives and collection trends of road fee revenues it can be noticed that revenues do not follow the consumption of derivatives to the same extent. Although oil product consumption increased in 2011, road fee revenues begin to fall for 5,3% in 2011 and by 1,3% in 2012 (Chart 5). The main cause of this phenomenon is differentiated taxation of derivatives.

Chart 5 Road fee revenue, trends (2006-2012)



Implications of differentiated taxation of oil products

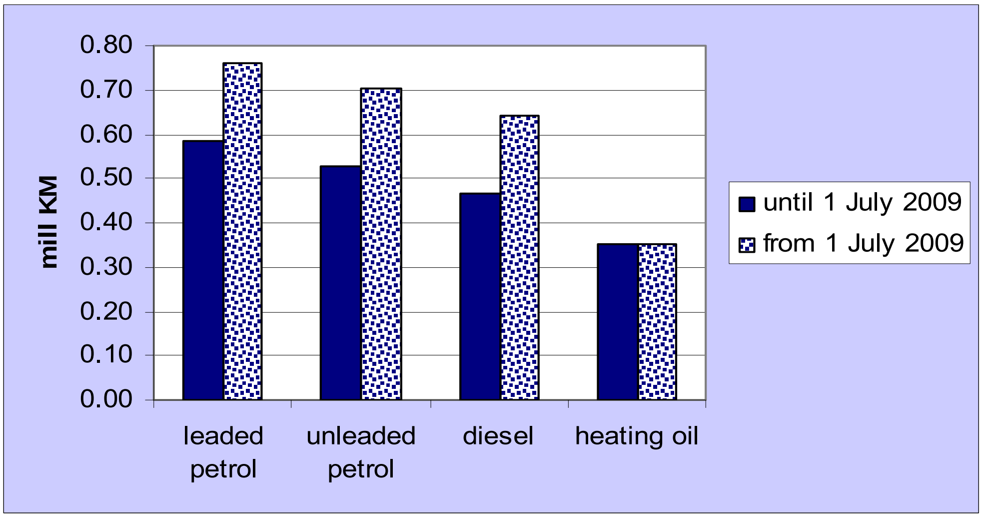
The previous section outlined the divergent trends of derivative consumption, measured by liters of derivatives that are subject to excise duties and road fees, and revenues collected in the past few years as a result of a differentiated tax treatment of derivatives. Until the entry into force of the new Law on Excise Duties differentiated taxation comprised (i) different tax treatment of derivatives in relation to the type of products, while the new Law introduced (ii) additional reliefs for a particular use of derivatives.

Differentiated taxation of derivatives by type of derivatives involves the application of different rates of excise duties and road fees for certain oil products. The rate of excise duty on diesel and heating oil is lower than that of petrol. There are differences with types of petrol as well, so motor petrol is more burdened by the excise duty than unleaded petrol. However, road fee is charged on diesel and petrol while it is not charged on heating oil. From the mentioned it follows that the heating oil is a derivative which is the least burdened with taxes. Tax burden of diesel and unleaded petrol is for 83% and 100%, respectively, higher than that of heating oil.

Listed large differences in the tax burden are always an incentive to consumers to legal and illegal tax evasion. The natural reaction of the subjects who bear the tax burden is to avoid tax burden, reduce it or shift it to other. In the case of derivative taxation consumers can opt for products that are less taxed. This substitution of consumption is legal, but leaves the consequences on income. In the last ten years the share of petrol in the total amount of fuel (diesel + petrol) is constantly decreasing. Changes in the structure of fuel consumption can be explained by the lower taxes on derivatives, but also by growing preference of citizens of B&H to diesel vehicles. With the outbreak of the economic crisis, the trend of reducing the use of petrol in favor of diesel has been enhanced. One of the reasons is certainly the economy of diesel consumption compared to petrol vehicles. Generally, diesel consumption should be less price-elastic in relation to petrol, given that large consumers of diesel are companies, as opposed to petrol which is mainly used by citizens.

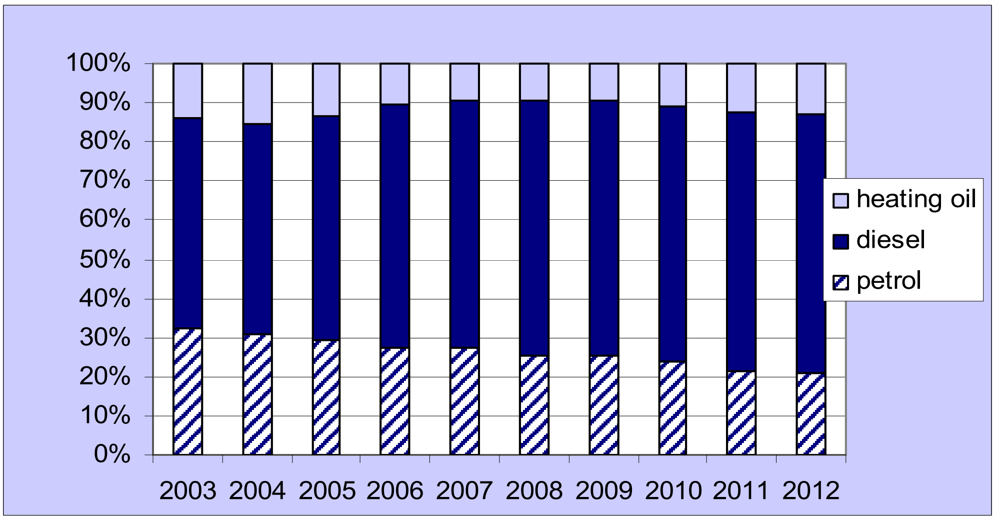
By introducing additional road fees, the difference in tax burden of fuels, on one side, and heating oil, on the other, increases significantly, especially in relation to diesel – heating oil (Chart 6).

Chart 6 Tax burden of derivatives in B&H



Since the adoption of the new Law, the amount of heating oil, being placed on the market, has been increased by 40% compared to 2008. This has, despite the low share of heating oil in the total amount of derivatives, led to a significant shift of the consumption structure in favor of low-taxed heating oil (Chart 7). It can be concluded that the additional road fee has provided a strong incentive for abuse in the use of heating oil for vehicles instead for heating. Misuses of heating oil have led to a loss of revenues from road fees.

Chart 7 Structure of derivative consumption in B&H (2003-2012)



Another factor that has led to a decrease in road fee revenues in relation to expected is differentiated taxation of oil products according to the use. Different tax treatment of derivatives according to the use exists in the Law since 1 of July 2009, and the full effects can be seen as of 2010. Differentiation according to the use has been done in two ways: by exempting power plants and railways from paying road fees on diesel and by refunds of excise taxes on heating oil used to heat the commercial and private premises and facilities for agricultural production (greenhouses).

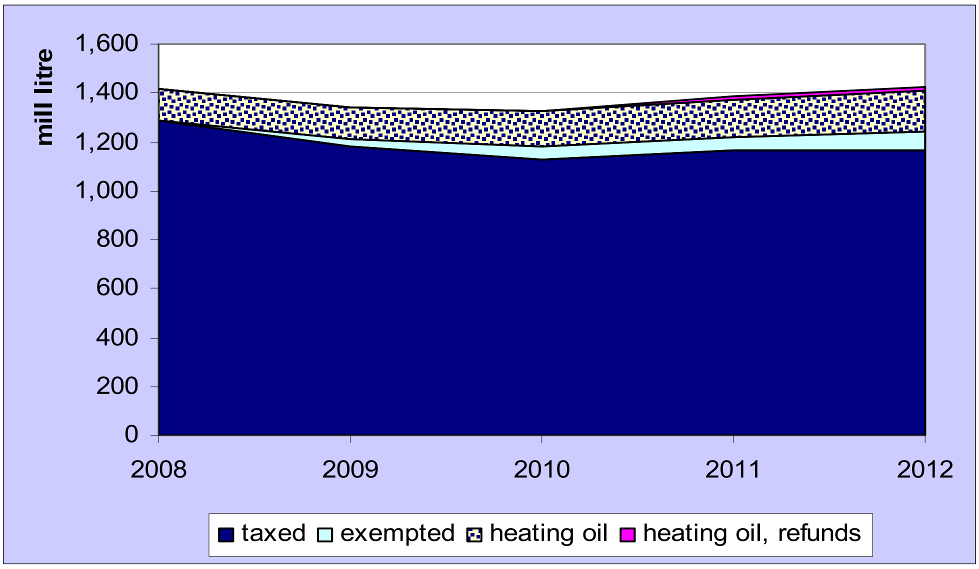
The release of mines, power plants and railways refers to the amount of diesel used by listed enterprises in the production process or provision of services as well as to operate vehicles that do not use classified roads. Amounts of diesel that can be exempted from paying road fee are approved by the ITA Governing Board in accordance with the Law and at the proposal of the Entity Governments i.e. authorized Entity Ministries. There has been an increasing trend in the released amount of diesel every year, so for 2012 the exemption on this basis amounted to 7,6% of diesel being placed into circulation. Loss of revenues from road fees on this basis in 2012 should not exceed 19,3 million KM[3].

Refund of excise duties for the use of heating oil for heating, in addition to reduced revenues from excise duties, is also being stimulated for the greater use of heating oil for heating by citizens, businesses and farmers, but also for the increase in abuses resulting in the loss of revenues from excise taxes and road fees. There has been an increasing trend of refunds of excise duties on heating oil. In 2010, it was 1,5 million KM of refunds, and in 2012, 3,4 million KM, which corresponds to approximately 11,3 million liters of heating oil.

Projections of road fee revenues

It can be concluded that the policy of differentiated taxation of oil products has, in the last three years, led to a reduction in the amount of derivatives taxed by road fee (Chart 8), which caused the erosion of road fee revenues. Unfavorable fact is that reliefs take effect at the time of economic crisis, the fall in consumption and production, so that the loss in revenues from road fees can not be replaced by the increased consumption of taxable oil products.

Chart 8 Structure of oil product consumption in B&H with regard to taxation of road fee

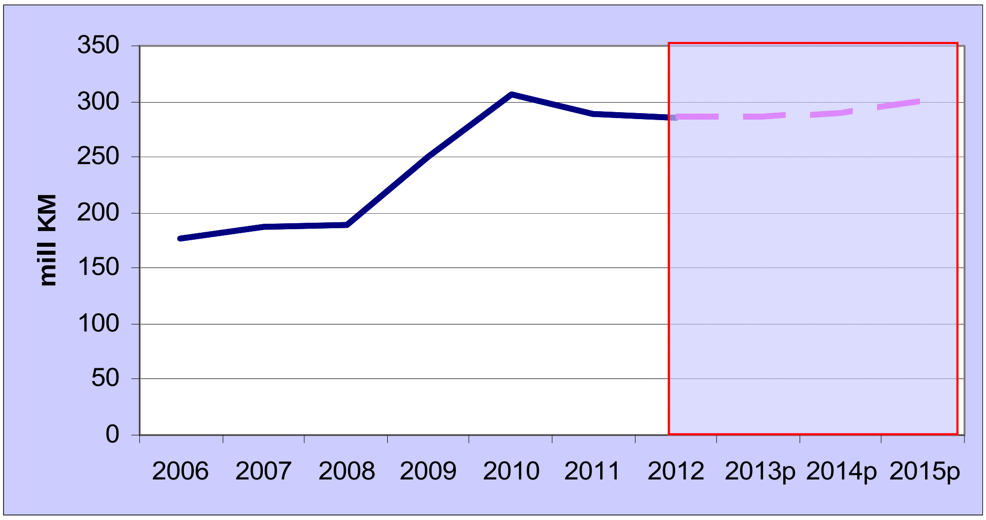


Trends in revenue from road fees over the next three years will depend on economic recovery of B&H. However, according to the latest projections of the Unit[4], even in the case of a favorable macroeconomic scenario, the expected increase in revenues from road fees in 2013, 2014 and 2015 would be insignificant, only 0,3%, 1,7% and 3,1%, respectively, due to the growth in revenue losses arising from the differentiated taxation policy for oil products and the growth of misuses with the use of heating oil.

[3] It can be expected that the amount of losses of road fee revenues can be even lower, given that it was planned quantity. For example, in 2011 it was spent only 80% of quantities approved by the ITA Governing Board, so the losses on the road fee amounted to 16,7 million KM.

[4] MAU Bulltin No. 88/89, Novembar/Decembar 2012., www.oma.uino.gov.ba.

Chart 9 Projection of road fee revenues (2013-2015)



Possible introduction of additional road fee would only amplify current manifested adverse effects and bolster increasing of tax frauds, leading to a less than expected revenue collection.

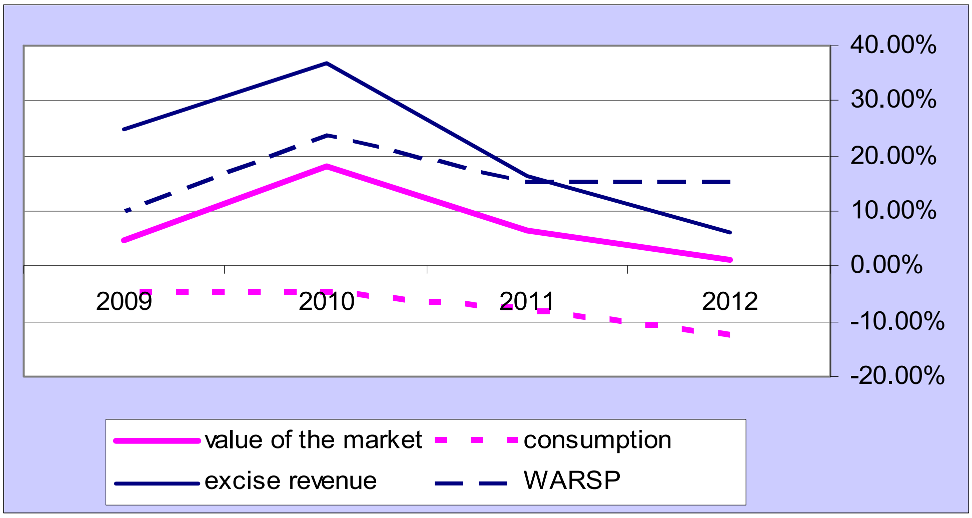
INITIATIVE #2: INTRODUCTION OF EARMARKED SPECIAL EXCISE TAXES ON CIGARETTES

An essential quality of the new Law on Excise Duties is a gradual harmonization of cigarette taxation with EU standards. Given that EU standards in this area are complex, and that are in the meantime changed, the initial phase of harmonization included the introduction of the concept of the most popular price category of cigarettes, minimal and special excise duty, and a continuous increase of special excise duty until the total excise duty on the most popular price category reaches 126KM/1,000 cigarettes. As the most popular price category so far was regularly the cheapest one, it is obvious that the process of increasing the special excise duty will terminate when the prescribed minimum of excise burden reaches the cheapest cigarettes.

There are a number of published analyses in the bulletins of the Unit since 2009 to date on the effects of continuous harmonization of excise duties on cigarettes to revenues from excise duties and cigarette market. For the purpose of the analysis of initiatives for the introduction of earmarked special excise duty to finance the railways, we shall review briefly the fiscal effects in 2012 and expected trends until 2015.

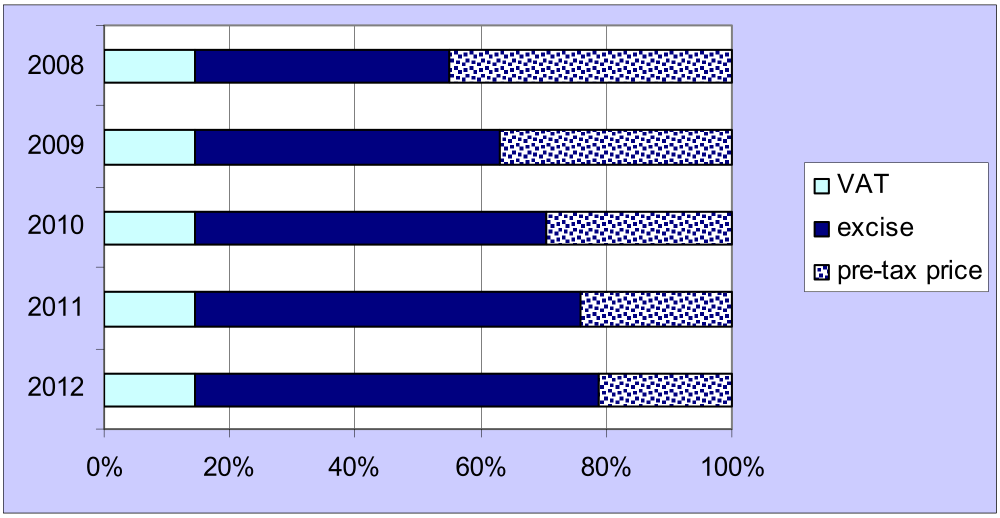
The increase of excise burden in early years brought a strong growth of retail prices of cigarettes and revenues from excise duties, with a moderate decline in cigarette consumption, measured by the number of excise stamps. However, in 2012 there is a greater contraction of cigarette consumption than expected. One of the reasons is deepening the economic crisis, fall of income and the rise of unemployment. One part of population dropped completely or radically reduced the cigarette consumption. Increased price elasticity of the highly inelastic cigarettes may be the result of the black market growth. Specifically, a high tax burden on cigarette provides a big incentive to consumers to avoid paying taxes. Many of them have resorted to the substitution of more expensive cigarettes consumption with less taxed fine cut tobacco. High retail prices of cigarettes are the impetus for the expansion of the unregistered domestic production of cut tobacco and for finding new channels for nontaxable import of tobacco into B&H. In this way legal substitution of cigarettes with cut tobacco received a character of illegal tax evasion.

Chart 10 Trends of cigarette market in B&H and excise revenues, G/G



Negative trends in the cigarette market in 2012 led to a slowdown in the value growth of regular cigarette market to only 1,6% in 2012 compared to 2011 (Chart 10). Since the major part of the market value growth was related to taxes (excise duties and VAT) the slowdown of the growth means also lower fiscal effects in relation to the expected. Although the increase in the average weighted retail price (Chart 10) in 2012 was above the expected, it was not enough to compensate for the decline in cigarette consumption. Reducing the amount of taxable cigarettes due to the increasing use of less taxed cut tobacco or nontaxable tobacco from illegal production and importation has led to the strong erosion of revenues from excise duties on cigarettes, and thus the expected fiscal impacts that could contribute to fiscal consolidation of B&H.

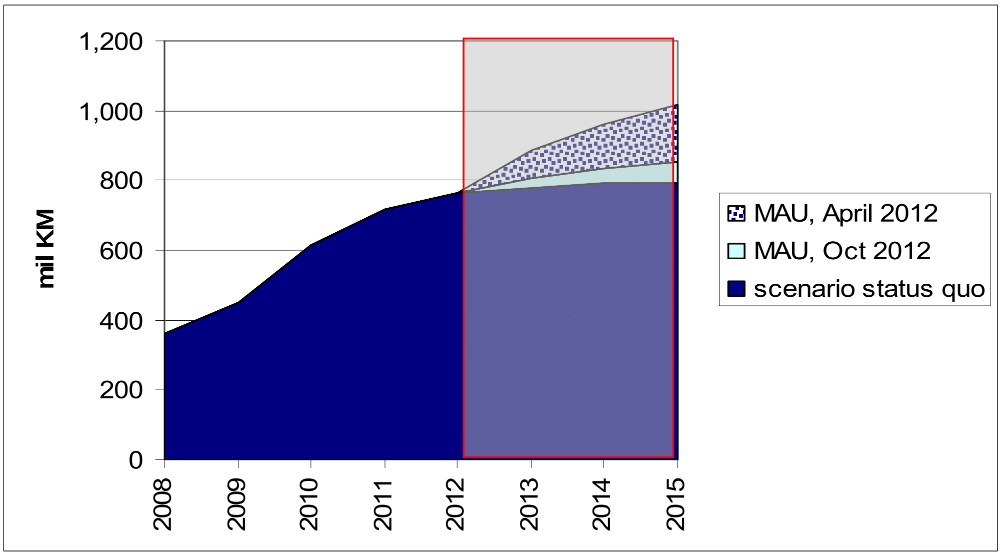
Chart 11 Components of cigarette market value in B&H



Strengthening the black market seriously erodes regular cigarette market and jeopardizes company businesses in the tobacco industries. Compared to 2008, the share of the cigarette market value, from which companies cover their costs and gain the profit, was nominally lower by 37% in 2012. Relative price share before the taxation was in the structure of the market value of cigarettes reduced from 45%, as it was in 2008, to 21% in 2012 (Chart 11).

Unexpected trends in the cigarette market demanded a revision of excise revenue projections (Chart 12). Stagnation of cigarette market value indicates a narrow scope for increasing excise revenues in 2013 and subsequent years, regardless of further increase in special excise duty.

Chart 12 Projection of revenues from excise duties on cigarettes (2013-2015)



Unfavorable fact is that the initial advantage of B&H in the environment regarding the amount of excise is annulled, so now there is a real danger of smuggling of cheaper cigarettes from Serbia and other countries in the east, where the excise burden is bellow the increasing burden in B&H. The only way for the effects of excise policy to be brought back again to the planned route of the growth is the closure of the leakage channels of revenues from excise duties. It would specifically mean harmonizing of fine cut tobacco taxation with EU standards and enhanced inspections of imports and markets.

According to scenario *status quo*, which assumes a weak economic recovery of the country and holding the current taxation policy of cut tobacco, the consumption decline trend is expected to be continued at the same pace as in 2012. According to the scenario, a modest increase in excise revenues was envisaged although the planned increase in excise duties in Serbia should reduce the outflow of revenues due to cigarette smuggling. It is assumed that the gap between the tax burden on cigarettes and fine-cut tobacco would increase every year as a result of the continued increase of special excise duty until 2015 and of retaining the same excise duty on tobacco. It is realistic to expect that this will encourage even more legal and illegal substitution of cigarettes with fine-cut tobacco, which could eventually annul the positive effects of the reduction in cigarette smuggling in the region.

CONCLUSION

Initiative to find additional sources of tax revenues to fund railways starts from static estimate of the amount of additional revenues, without considering negative fiscal and economic implications of excise policy that has been in force since 1 of July 2009, especially in times of economic crisis.

Analysis of the fiscal implications of the excise policy measures in the area of road fees and taxation of cigarettes, which are effective from 1 of July 2009, only confirms the well known theoretical assumption that the increase of tax burden does not bear a proportional increase in tax revenues. In any case, the growth of taxes has a negative effect on consumption, savings, investment and employment. The negative effects of taxes increase if the legislature increases the tax rates only selectively allowing differentiated taxation of products that can be used as a substitute for one another. Introduction of differentiated tax treatment by the use, categories of taxpayers, etc, opens the space for legal tax avoidance, but also for tax frauds.

The introduction of additional road fees to finance railways would provide more incentives to consumers to abuse the use of heating oil as fuel. On the other hand, the introduction of additional excise duty on cigarettes would disturb the current approach of gradual and uniform increase in special excise duty by 0,15 KM per pack per year, which the ITA Governing Board stands for. Rapidly one-time increase in special excise duty of 0,30-0,40 KM per pack would only deepen the existing distortions in the cigarette market and motivate more tobacco growers and consumers in the illegal production, import and consumption of cut tobacco. Moreover, it would neutralize the effects of the announced increase in excise duties in Serbia, re-creating the space for cigarette smuggling in B&H.

From the above analysis it can be concluded that the fiscal effects of initiatives would be questionable (additional special excise duty on cigarettes) or less than expected (additional road fees). In both cases the fiscal effects would not be sufficient to finance the huge bad depth of railways. In light of these facts, utterly unrealistic expectations are that railway infrastructure and sections of corridor Vc can be built from additional revenues.

Debt sustainability: the influence of interest rate and GDP growth rate

(By: Aleksandra Regoje)

Introduction

When can we say that fiscal policy is sustainable? The general opinion is that a sustainable policy is the one that does not lead to the escalation or a constant growth in debt-to-GDP ratios. Therefore, the basic indicator of sustainability is, in fact, the size and growth rate of the debt-to-GDP ratio. Experience in many countries has shown that high debt-to-GDP ratios are expensive and often become unsustainable, in the sense that they require changes in economic policies. High debt ratios put pressure on interest rates, thereby increasing component of repayment, and reducing the space for fiscal maneuver.

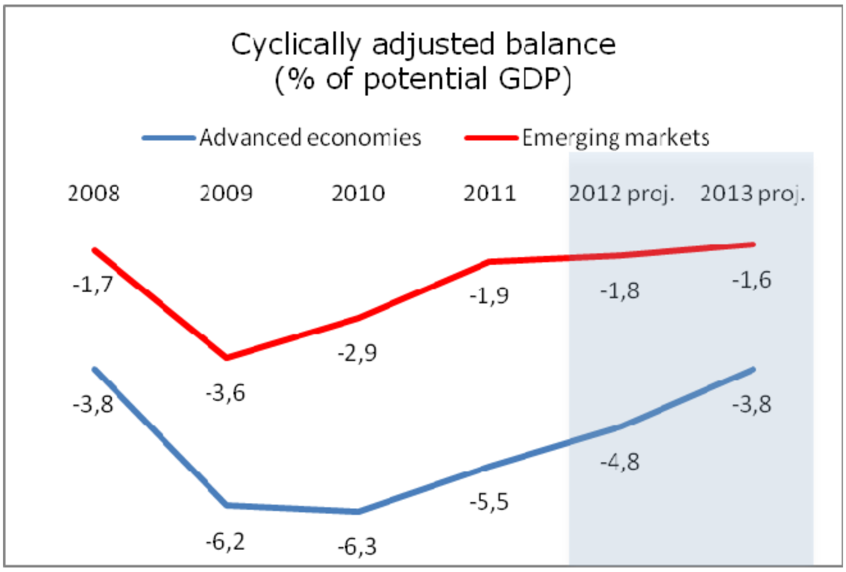
The years that preceded the global financial crisis are specific by a strong growth in private debt in many advanced economies. On the other hand, years after the outbreak of the crisis are characterized by a strong increase in public debt. Therefore, it is not surprising that debt reduction is a topic that is receiving substantial attention in recent time.

Many countries have recorded a strong growth of public debt in the past few years. The growth is partly a result of measures to stimulate the economy in the conditions of economic crisis, but it is to a much greater extent caused by decrease in public revenues. In the case of European Union the general government debt rose by 20 percent of gross domestic product (GDP) in the period from 2008 to 2011. It is projected the continuation of growth trend of public debt in many countries in the following years. How long it will last depends on a number of factors, among others: the final consequences of the crisis, the growth rate of the economy and interest rates, as well as the fiscal policy and public expenditure policies.

Progress in deficit reduction

Advanced countries have made considerable progress in reducing fiscal deficits, after their sharp rise at the beginning of global economic and financial crisis. Cyclically adjusted balances were gradually reduced after their escalation in 2009. It is expected that in 2013 the half of advanced countries will bring these indicators at pre-crisis level.
Cyclically adjusted balance recovery is also expected in about 40% of the emerging market economies. Since the average growth in the deficit in these countries was less expressed than in advanced countries, they needed less adjustment (Chart 1).
In many low income countries fiscal accounts have not much worsened in the period from 2008 to 2010. Cyclically adjusted balances in 2013 are expected to be lower than in 2007 in the third of low income countries.

Chart 1

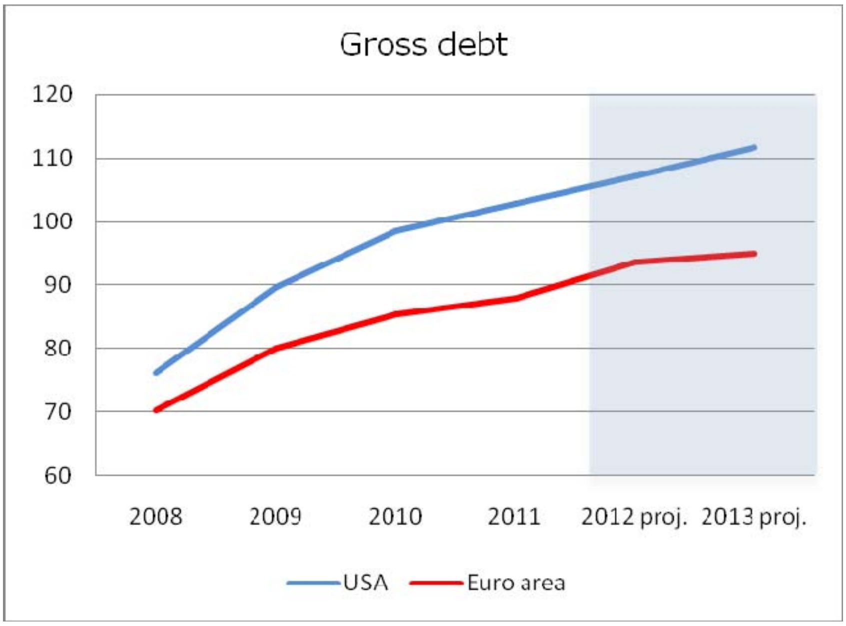


Source: IMF Fiscal Monitor (2012), table 1, p.2

Deficit reduction has not yet led to a stabilization of debt

Efforts to stabilize the public debt must be strong and durable in order to produce results. Stabilization of debt-to-GDP ratios in emerging market economies is not expected before 2014-2015. Slow progress in advanced countries is attributed to the size of the economic shock, and in some cases to the high interest rates which were affected by the uncertainties in the financial sector. In many advanced countries, the consolidation efforts will have to take a number of years to return to the debt ratios on the pre-crisis level.

Chart 2



Source: IMF Fiscal Monitor (2012), table 3, p. 17

The dynamics of debt reduction in advanced economies is significantly slower than in previous recessions. In case of recessions since the 1960s, debt ratios in advanced economies have peaked four years after the initial output decline, which is two years earlier than projected in the current crisis. It indicates the size of the 2008-2009 shock, as well as the sluggishness of the economic recovery thereafter.

Interest rate- growth rate differential as an indicator of debt sustainability

According to the basic debt accumulation equation the annual change in gross debt is equal to the sum of budget deficit and stock-flow adjustment.

$$\frac{Debt - Debt_{t-1}}{NGDP_t} = \frac{Deficit_t}{NGDP_t} + \frac{SF_t}{NGDP_t}$$

By splitting up the overall budget deficit into the interest expenditure and primary deficit, the equation can be rewritten as:

$$\frac{Debt_t}{NGDP_t} - \frac{Debt_{t-1}}{NGDP_{t-1}} = \frac{i_t - g_t}{1 + g_t} * \frac{Debt_{t-1}}{NGDP_{t-1}} + \frac{Primary\ deficit_t}{NGDP_t} + \frac{SF_t}{NGDP_t}$$

Legend: NGDP- nominal GDP, SF- stock-flow adjustment, i- effective interest rate, *g-* growth rate of nominal GDP

NGDP denotes nominal GDP. The first fraction on the right hand side of equation, (i-g)/(1+g), is also known as the interest rate - growth rate differential (IRGD). Except when otherwise indicated, the IRGD is computed as the differential between the effective interest rate (actual interest payments divided by the debt stock at the end of the previous year) and the growth rate of nominal GDP, divided by the latter plus one. Higher values of interest rate affect the increase of debt, while on the other hand, higher rates of economic growth influence reduction of debt-to-GDP ratio, because of the growth of denominator.

The difference between the average interest rate on government debt and the rate of economic growth is an important parameter for assessing the sustainability of government debt. The higher the IRGD is, the stronger fiscal effort to stabilize the debt-to-GDP ratio is required. IRGD is, in fact, the rate at which debt-to-GDP ratio grows in the conditions of zero primary balances and when debt is financed by new borrowing. For highly indebted countries slight change in this indicator can significantly affect the sustainability of debt.

Negative values of IRGD contribute to fiscal sustainability, by stabilizing or decreasing the debt ratios, even in conditions of negative primary balances. In the case of positive IRGD, stabilizing the debt ratios will require a positive primary balances. The required level of surplus depends on the values of IRGD and the debt-to-GDP ratio.

A wide gap between interest rate and GDP growth rate, as now exists in some advanced economies makes debt reduction more difficult. *The difference* in the value of this indicator among advanced countries is mainly attributed to the conditions in the financial markets. Recent trends in debt growth put pressure on interest rates, and it should also be borne in mind that the current crisis has a negative impact on the growth rate of the economy. Especially high IRGD indicators affect the growth of debts in Greece, Italy, and Portugal. On the other hand, some advanced countries have negative IRGD, which helps them in stabilizing the debt. Among them are the USA and Japan, which have high primary deficits and debt-to-GDP ratios. Negative values IRGD help them in the prevention of even stronger growth in the debt.

Negative values of IRGD are more common in non-advanced economies, and they contribute to stabilization or reduction of debt-to-GDP ratios. In the period from 1999 to 2008 the value of IRGD averaged below -7 p.p. in non-advanced economies.[5] It is questionable, however, how much those countries can rely on negative values of IRGD over a long period of time. Negative rates usually occur because of the high rate of GDP growth due to the so-called catch-up process. Therefore, they will persist until GDP per capita reaches a certain level. According to recent researches (Escolano at al., 2011) a greater downward effect of negative IRGD on debt dynamics stems from the real interest rates on government debt, which are much lower than in advanced economies. A low or negative real interest rates result from the regulation of financial markets, financial repression and low level of development of the financial sector. Financial repression involves regulation of interest rates and international capital flows and, in general, a close connection between government and banks.[6] Therefore, the low income countries could face a rise in IRGD considerably before the growth of GDP per capita, as a result of the process of financial integration. Positive IRGD in the near future may bring adverse effects on debt dynamics. Thus countries that aim to develop the financial sector must simultaneously take care of sustainable fiscal policy, due to the increasing costs of government debt.

Public debt in B&H

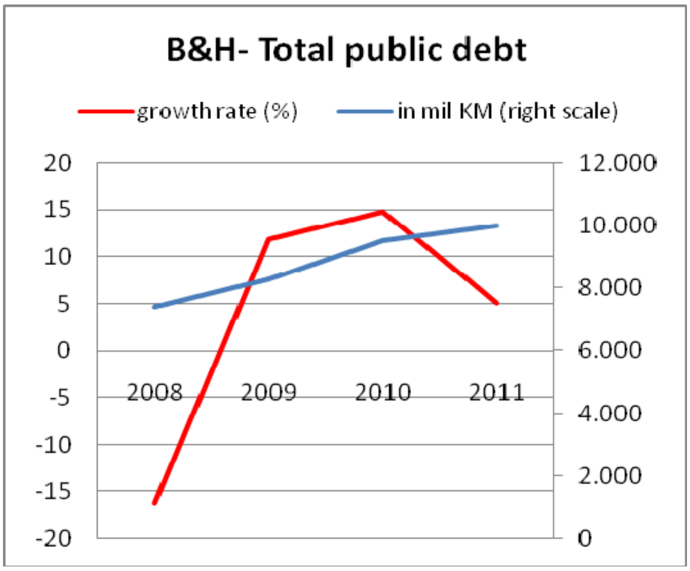
At the end of 2011 public indebtedness of Bosnia and Herzegovina amounted 9975 mil KM (MF&T B&H, May 2012). The external debt makes over two thirds of the total amount of debt. The biggest part of the external debt is consisted of obligations to the World Bank (37,46%) and the IMF (17,78%). On the other hand, the most of internal debt[7] refers to the obligations under old foreign currency savings.

After a period of stagnation of external debt in 2002-2008, trend of its strong growth begins in 2009. The external debt growth rates of over 20% were recorded in 2009 and 2010. If we look at the dynamics of internal debt (Chart 5), we can see that after its sharp decline in 2008, the period

[5] Escolano at al., 2011
[6] Reinhard and Sbrancia, March 2011
[7] MF&T data do not include liabilities arising from restitution

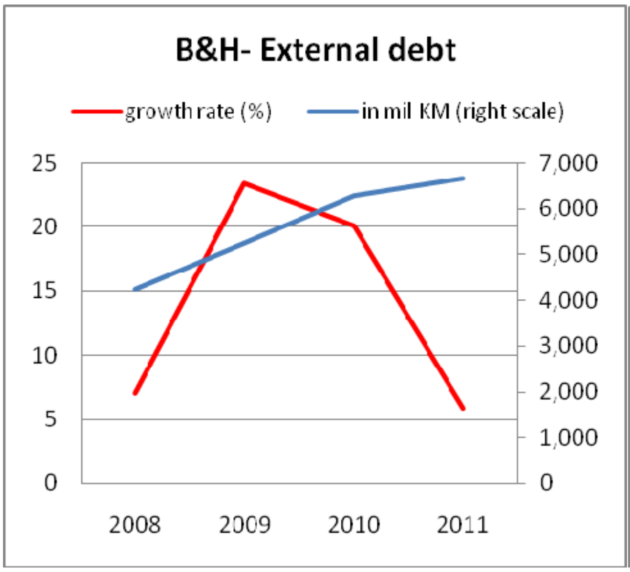
in which there were no significant changes is followed. Keeping the above in mind, it is not surprising that the share of foreign debt has increased significantly in recent years (over 21 p.p. in the period 2007-2011).

Chart 3



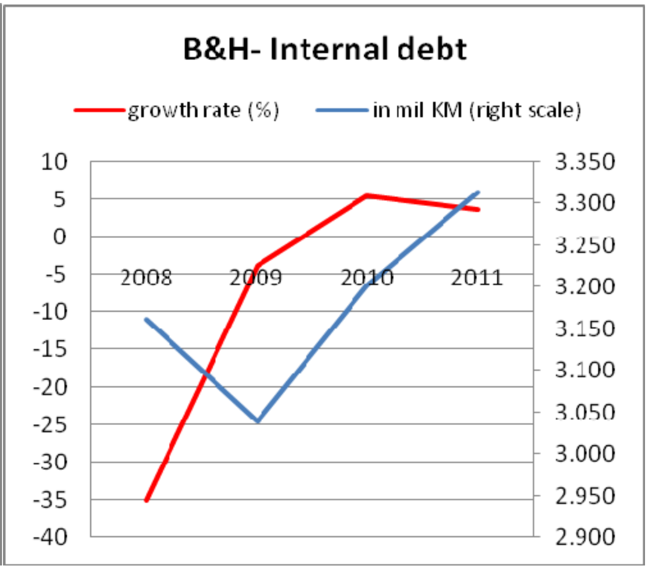
Source: MF&T B&H

Chart 4



Source: MF&T B&H

Chart 5



Source: MF&T B&H

The debt-to-GDP ratio of B&H is around 34,8% (approach of calculating GDP) and about 38,8% (production approach)[8]. If we look at the dynamics of the debt-to-GDP ratios over the period 2008-2011[9], we will see that after a sharp fall in 2008, the growth of ratios have been recorded over the next two years.

[8] Data for GDP- Agency for Statistics B&H and DEP projection
[9] Expenditure approach of calculating GDP

Decline in the debt-to-GDP ratio in 2008 occurred due to a sharp fall in domestic debt (about 35%) for which reason, despite growing external components (7%), total debt has dropped by over 16%. If we add to this the huge growth of GDP in that year (15%), it is not surprising that the debt-to-GDP ratio declined by tremendous 9,8 percentage points.

In contrast, there was a fall in gross domestic product and growth of indebtedness in 2009, which resulted in the growth of debt ratio by 3,3 percentage points in comparison with the previous year. The stagnation of GDP begins in 2010, but the growth of debt, primarily external debt (over 20% compared to the previous year) led to a renewed increase in the debt-to-GDP ratio of 4,3 p.p. There were no significant changes in the debt-to-GDP ratio in 2011.

If we look again at the basic debt accumulation equation from the beginning of this paper, we conclude that many factors influenced the dynamics of the debt-to-GDP ratio in recent years. Those have certainly been the level of public revenue and expenditure (primary deficit), which affected the dynamics of new borrowing, but also the growth rates of gross domestic product and interest rates. We saw how the strong growth of GDP "pulled" down the public debt in 2008. According to analysis of the Directorate for Economic Planning[10], the contribution from interest rate - growth rate differential was positive in 2009 (affected the growth of the debt), but negative in 2010 and 2011. We should not forget the third component which influences the change in debt: the stock-flow adjustments.

Regardless of the fact that the projected values of real interest rates and GDP growth are such that will contribute to the reduction of the public debt ratios in the future, given the increasing cost of servicing the public debt, the authorities of B&H will have to make an effort to ensure primary surpluses to maintain fiscal stability.

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Consolidated reports

(Author: Aleksandra Regoje)

Table 1 (Consolidated report: B&H institutions, entities, SA)

The preliminary consolidated report includes

- revenues from indirect taxes collected by the Indirect Tax Authority on the Single Account,
- transfers from the ITA Single Account,
- revenues and expenditures of the institutions of Bosnia and Herzegovina,
- revenues and expenditures of the budget of the Federation of Bosnia and Herzegovina,
- revenues and expenditures of the budget of the Republika Srpska.*

Report doesn't include unadjusted revenues collected on ITA SA.

**Includes: (A) Budget of the Republic and extra-budgetary funds 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)*

Consolidated report: SA, B&H Institutions, entities, 2012

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	I-XI
Revenue	418,2	402,4	532,5	503,0	501,9	541,0	519,9	572,2	526,4	554,4	516,0	5587,9
Taxes	382,4	357,6	455,6	440,0	460,7	441,2	484,6	508,9	457,5	496,8	451,5	4936,8
Direct taxes	23,4	27,8	58,3	40,5	34,4	28,9	29,0	29,0	26,1	30,7	28,5	356,7
Taxes on income, profits and capital gains	22,8	27,1	57,3	39,6	33,4	27,9	27,9	27,9	25,3	29,7	27,6	346,5
Taxes on property	0,6	0,7	1,0	0,9	1,0	1,0	1,1	1,1	0,9	1,0	0,9	10,2
Indirect taxes (net)	358,8	329,8	397,1	399,5	426,2	412,0	455,3	479,9	431,0	465,0	421,6	4576,2
VAT	217,9	210,1	264,0	252,3	267,4	260,0	282,4	300,0	284,6	306,2	259,8	2904,8
Excises	105,9	85,2	91,1	102,9	114,4	109,1	124,5	129,3	100,8	110,8	116,8	1190,8
Road fee	21,2	19,0	20,6	22,7	23,9	23,5	27,0	29,6	25,1	24,8	24,6	262,0
Customs	12,6	14,5	20,1	20,1	19,1	18,0	19,7	19,6	19,2	21,5	19,1	203,5
Other indirect taxes	1,2	1,0	1,3	1,5	1,4	1,4	1,6	1,4	1,3	1,7	1,3	15,1
Other taxes	0,2	0,1	0,1	0,0	0,1	0,3	0,3	0,0	0,3	1,0	1,4	3,9
Social security contributions	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Foreign grants	1,8	1,1	0,6	1,1	0,4	7,1	0,4	1,3	2,0	1,0	2,4	19,3
Other (non-tax) revenue	33,8	43,2	77,0	61,9	40,8	91,8	34,8	62,0	66,9	56,6	62,0	630,6
Transfers from other general government units	0,2	0,5	-0,7	0,1	0,0	0,9	0,0	0,0	0,0	0,0	0,0	1,2

	I	II	III	IV	V	VI	VII	VIII	IX	X	XI	I-XI
Expenditure	421,0	386,8	457,0	480,2	456,3	484,7	504,2	534,5	513,9	537,4	505,4	5281,5
Expense	416,5	382,3	453,2	475,3	450,4	468,8	490,1	523,9	504,9	525,5	492,8	5183,7
Compensation of employees	130,3	131,5	133,0	133,6	129,2	129,2	134,0	126,2	129,6	130,5	133,0	1440,2
Use of goods and services	13,3	17,2	26,2	29,4	27,6	31,8	24,0	26,5	36,6	26,7	29,4	288,7
Social benefits	51,5	52,7	65,1	55,1	45,3	57,9	58,8	57,5	57,9	59,7	62,0	623,5
Interest	5,0	5,8	19,2	8,5	14,3	27,6	5,0	9,5	17,3	12,3	15,0	139,6
Interest payments to non-residents	4,2	4,4	9,7	7,3	9,8	20,7	3,0	6,4	9,8	8,2	8,3	91,8
Interest payments to residents	0,8	1,4	9,6	1,2	4,5	6,9	2,0	3,2	7,5	4,1	6,7	47,8
Subsidies	2,2	2,4	4,0	13,8	6,1	8,4	17,8	15,7	43,7	19,0	32,2	165,4
Grants (to non-residents)	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0	0,0
Transfers to other general government units	40,9	39,9	39,9	51,1	47,6	51,5	46,3	69,4	44,3	53,7	45,8	530,4
Transf.from SA (BD, cantons, mun, funds, road f.)	162,9	128,7	169,4	172,2	173,1	152,7	196,1	211,1	158,2	195,3	166,6	1886,3
Other expense	10,2	4,0	-3,6	11,7	7,2	9,7	8,0	7,9	17,3	28,5	8,7	109,5
Net acquisition of nonfinancial assets	4,6	4,5	3,8	5,0	5,9	15,9	14,1	10,6	9,0	11,8	12,6	97,8
Acquisition of nonfinancial assets	4,7	4,9	4,3	5,3	6,2	17,7	14,6	11,3	9,3	15,2	13,0	106,4
Disposal of nonfinancial assets	0,1	0,4	0,5	0,3	0,3	1,8	0,4	0,7	0,3	3,3	0,4	8,6
Gross/Net operating balance (revenue minus expense)	1,8	20,1	79,3	27,8	51,5	72,2	29,8	48,3	21,5	28,8	23,1	404,3
Net lending /borrowing (revenue minus expenditures)	-2,8	15,6	75,5	22,8	45,6	56,3	15,7	37,7	12,5	17,0	10,5	306,5
Net financing = (Minus) Net lending /borrowing	2,8	-15,6	-75,5	-22,8	-45,6	-56,3	-15,7	-37,7	-12,5	-17,0	-10,5	-306,5

Table 1.