

THE IMPACT OF EUROPEAN INTEGRATION PROCESSES ON THE PUBLIC FINANCES AND BUDGETARY MANAGEMENT IN BOSNIA AND HERZEGOVINA ¹

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Summary

The main objective of this paper is to determine the impact of the processes of European integration on public finances and budgetary management pursuant to the good experience and practice of the countries of Central and Eastern Europe that have passed through the demanding process of adjustment and implementation of reforms, and particularly on the basis of experience gained in the Republic of Croatia, which has gone through all the phases, from that of potential to actual candidate and then new EU member. In particular, there will be an analysis of the influence of the pre-accession phases on the management of the budget, the costs of reform and institutional adjustment, revenue and expenditures of the budget; and the net financial effect of joining on the budgetary deficit and public debt of Bosnia and Herzegovina is evaluated. All the analyses and estimates in the presentation are done according to the assumption that in 2013 Bosnia and Herzegovina will attain the status of candidate for EU accession. The paper is a summary of the main findings and recommendations of a scientific project with the same title done for the Macroeconomic Analyses Department of Bosnia and Herzegovina.

Key words: European integration, public finance, management, budget, sustainability.

1. Introduction

The objective of the paper is to define the impact of the processes of European integration on the public finances and management of the budget in Bosnia and Herzegovina on the basis of the good experiences and practices of countries that have gone through the demanding process of adjustment and the implementation of reform, particularly on the basis of the experience of the Republic of Croatia, which has gone through the phases from being potential candidate to candidate status and of EU membership. All the analyses and estimates have been made assuming that in 2013 Bosnia and Herzegovina will acquire the status of candidate for EU accession. After the introduction, in the second part there will be an analysis of the net financial effect of the pre-accession process of adjustment on the budgets of selected countries. The analysis is based on the costs of the pre-accession process and of joining the EU and a comparison with the funds allotted from the Pre-accession and Structural funds and other sources of joint-financing of countries in the process of EU integration. On the basis of a comparison of costs and benefits an analysis is made of the possible net financial effect of reforms on the budget of selected countries. The third part of the work analyses the net flow and impact of Croatian joining of the EU on the amount and structure of costs and expenditures during the accession process and also estimates the net financial effect of accession. The fourth part estimates the net financial impact of the pre-accession and the accession phase in the process in which Bosnia and Herzegovina joins the

¹ The paper is a summary of the research project *Impact of the Process of European Integration on Public Finances and Management of the Budget in BH* done for the BH Department for Macroeconomic Analyses. The project lasted four months and was completed in January 2011. The project participants were: Bajo Anto, Katarina Ott, Marko Primorac, Ivana Meletić and Petar Sopek.

EU. A special analysis is given of the impact of the accession process on the budgetary revenues of Bosnia and Herzegovina and the costs of accession and their impact on the Bosnia and Herzegovina budget. At the end, the net financial effect of the pre-accession phase in Bosnia and Herzegovina is given, and results of an analysis of fiscal sustainability (implementation of the Stability and Growth Pact) are given. Part five gives the paper's conclusions and recommendations. Sources of data for analysis are secondary publications of selected countries of CEE, primary sources of information of the Ministry of Finance of the Republic of Croatia, the Croatian Bureau of Statistics, and EU directives. For Bosnia and Herzegovina, primary sources of information from the Directorate for Economic Planning of Bosnia and Herzegovina are used, as well as secondary information from the Macroeconomic Department of Bosnia and Herzegovina, the Bosnia and Herzegovina Ministry of Finance and reports of the European Commission relating to Bosnia and Herzegovina.

2. Review of the impact of the EU accession process on public finances.

The process of joining the EU poses many challenges for candidate, primarily manifested in the need for the development of institutions and the building of administrative capacities so as to enable the drawing of as much funding as possible from the pre-accession funds before accession, and from the Structural and Cohesion Funds after entering the EU. All the changes have a considerable effect not only on government finances, but also on the budgetary process itself. Real data about all the costs of joining the EU are not publicly available, and the references do not give concrete answers; however, all agree that the process of accession does lead to a negative net fiscal effect depending on the degree of harmonisation, and can amount to as much as 3% of GDP in the first year of membership (Antczak, 2003).

In the analysed new member countries the estimated average net financial effects in the pre-accession phase came to -0.1% of GDP annually. The impact on public finances however is estimated at -1.5% of GDP annually. The reasons for this are the negative effects of the co-financing of projects by central and by local and regional government (-1.6% of GDP) and the positive effects of harmonising the taxation and customs systems with EU standards in the pre-accession phase (0.1% of GDP) (see table 1).

Table 1 Estimate of fiscal costs before EU accession and sources of financing, annual average 2000-03 (in % of GDP)

	Total	General government	Central government budget	LGU budget	EU funding	Other funding
Czech R	3.1	2.3	1.1	1.2	0.3	0.5
Hungary	2.1	1.2	1.2	0.0	0.5	0.4
Latvia	3.3	1.6	1.4	0.2	1.1	0.6
Lithuania	1.6	1.0	0.6	0.4	0.4	0.2
Poland	1.0	0.4	0.2	0.2	0.6	0.0
Slovakia	3.6	1.3	1.3	0.0	0.9	1.4
Slovenia	2.6	2.2	2.2	0.0	0.4	0.0
Bulgaria*	7.6	3.6	3.3	0.3	2.2	1.9
Romania**	3.8	1.2	1.2	0.0	0.9	1.6
Mean	3.2	1.6	1.4	0.3	0.8	0.7

Source: Antczak, Dabrowski and Gorzelak (2004); Hallet (2004).

* Estimate for Bulgaria is based on the annual average mean for the period 2000-2006.

** Estimate for Romania is based on the annual average mean for the period 2001-2004.

The possible negative net effect on the central government budget is the result of high costs in the pre-accession process, which is a necessary precondition and preparation for the use of the Cohesion and Structural funds after entry. The amount of costs depends on the existing institutional capacities of countries for implementation of structural reforms and their ability to employ existing budgetary resources, which is also reflected in the ability to manage EU assistance funds independently. We should mention that resource from the EU funds are not a substitute for government budget resources, but a component part of budgets of candidate countries and members. EU funds are just one of the sources for the financing of the central government budget.

Even after accession to the EU, the new member countries have major fiscal costs for the development of infrastructure and the reform of the administration. The average share in these expenditures is estimated to have ranged from 2 to 3% of GDP for the eight countries that became full members of the EU on May 1, 2004. The EU accession process has a negative effect on the budgets of new member countries, in an average annual amount of between 1 and 1.5% of GDP, the greatest pressures on the budget arising in the first years after accession. After the development of infrastructure and administrative capacities, the ability to absorb resources from the Cohesion Fund and from the Structural and Agricultural funds also rises, the net negative financial effects thus also decreasing.

Antczak, Markiewicz and Siwinska (2006) estimate the average annual amount of expenditures arising as a result of EU accession in the 2004-06 period. The expenditures of eight new member countries (all the countries from table 1 in appendix, except Bulgaria and Romania) constitute about 2.7% of GDP, which is the consequence of high amounts of infrastructure expenditure and expenditure for the reform of public administration (on average 2.8% of GDP). Overall harmonisation of the tax and customs system has a slight positive effect, equivalent to 0.1% of GDP (see table 2). From the estimate of Antczak, Markiewicz and Siwinska (2006) and the realisation of income and expenditure from the EU budget (graph 1) we can conclude that the process of joining the EU has a negative net financial effect on the budget of member countries amounting annually on average to between 1 and 1.5% of GDP. *The greatest pressures on the budget are to be expected in the first years subsequent to joining* because of the change in the structures of revenue and expenditure, the development of infrastructural and administrative capacities and the lower capacity for absorption of resources from the Cohesion, Structural and Agricultural funds. In the mid-term, the net fiscal effects of joining are considered neutral or even slightly positive, the main insecurity lying in the importance of some individual effects, above all in the needs for future public investment (Hallet, 2004).

3. Net financial effect of Croatia's association with the European Union

In order to fulfil the demands and expectations placed before member countries, Croatia while still in the accession phase launched reforms of public finance administration. Reforms primarily relate to defining and introducing: a several-year fiscal framework, strategic and programme planning, a policy for managing capital projects, special mechanism of monitoring the implementation of programmes and control of and reporting on the objectives achieved. According to the system of criteria that the EU puts before a candidate country a comprehensive framework is created that enables the implementation of reforms and their sustainability. In this process, Croatia had to satisfy not only the statutory criteria, but others as well – political, economic and above all administrative. To meet the administrative criteria

means to ensure the stability of institutions and the capacity necessary for the fulfilment of obligations deriving from the fact that the country is a member state of the EU. Along with projects financed from the pre-accession aid programmes, Croatia carried out a number of other projects directly related to reforms in the accession process that are financed from the government budget. Great changes occurred and positive advances in development occurred in the management of the budget: from planning according to expenditure items and an orientation to inputs to strategic thinking, programme- and several-year planning as well as the orientation to results and the achievement of objectives.

Total costs of accession consist of the costs of institutions in the implementation of the pre-accession assistance and preparation programmes, costs for the joint financing of projects from the central government budget and costs of implantation reforms and adjustments. Costs of reforms and adjustment of institutions exceeded revenue from assistance from the pre-accession programmes of the EU. But indirectly, there was a considerable rise in all the main revenues of the budget, primarily from VAT and excises, while because of harmonisation, revenue from customs duty fell. Through the pre-accession assistance programmes the EU financially assisted the implementation of the reforms necessary in the accession progress. However, this assistance is limited and aimed at precisely designated projects. In the accession process, Croatia recorded a negative financial effect of on average 0.27% of GDP. The net financial effect is negative, which means that the costs of adjustment and the implementation of reforms exceeded the revenues obtained from the pre-accession funds.

Table 3 Estimate of the net effect of adjustments – total cost (of institutions, reforms and adjustments) and revenue from assistance (in % of GDP)

	2008	2009	plan 2010	total
Cost of institutions	0.02	0.03	0.08	0.04
Joint financing of projects from the central	0.02	0.05	0.09	0.05
Cost of reforms and adjustments	0.32	0.30	0.47	0.36
1. Total costs	0.36	0.37	0.65	0.46
2. Revenue from pre-accession assistance	0.12	0.17	0.27	0.19
3. Difference – deficit/surplus	-0.24	-0.20	-0.38	-0.27
GDP – current prices	342.159	333.063	331.498	1.006.720

Source: Ministry of Finance, Republic of Croatia, 2010

In the whole of the observed period the total costs make up on average about 0.46% and total revenue from EU assistance about 0.19% of GDP. Pursuant to analysis of the effects of the pre-accession process on the budgets of candidate countries, and particularly to the experiences of Croatia, it is estimated that the net financial effect of the pre-accession and accession phases of Bosnia and Herzegovina's association with the EU will be negative.

4. Net fiscal effect of the pre-accession and accession phases of Bosnia and Herzegovina joining the European Union

The net financial effects in the pre-accession period are somewhat simpler than the effects after joining the EU in the sense of the scope of changes in the structure of the budget, and they include the adjustment of the structure of revenue from indirect taxes (VAT, excise and customs duty) in accordance with EU standards, costs for the strengthening of institutions,

costs for joint financing of projects and costs of reforms and adjustments. On the other hand, it is very hard to estimate the effects since there are no publicly available figures concerning all the costs per country that has gone through this process, and the effects are very much dependent on the absorptive capacities of the pre-accession country.

For the part related to project joint financing we shall use data about IPA projects with the assumption of future contracting and increasing the use of IPA resources as a result of the development of administrative capacities. For the purposes of this part, we shall assume that in 2013 Bosnia and Herzegovina will gain the formal status of candidate country. Assuming that Bosnia and Herzegovina will become a full member of the EU in about 2020, it follows that Bosnia and Herzegovina will be able to use resources from the pre-accession funds in the new 2014-2010 perspective, and will have access to all five components of IPA funding.

From 2007 to 2010 the average rate of the joint financing of IPA projects at the level of general government is 13.78%, local government accounting for 12.2% and central government 1.58% of contracted amounts (see table 2 in the appendix). On average 32.81% of the contracted amount of the budget of projects is financed from IPA resources, which means that the average ratio of joint financing of projects from the national exchequer and IPA resources is about 42%. Since allocated IPA resources as a proportion of GDP is about 0.18%, we can assume an increase in the expenditure of general government in the amount of 0.34% of GDP by 2013, and a gradual enlargement to 0.5% of GDP in the new financial perspective 2014-2020, because of the access gained to an additional three components of IPA funding. Since the contracting of projects takes on average about a year, we expect for 2014 0.4% of GDP, in 2015 0.45% of GDP and in the following period, 2016-2020, 0.5% of GDP expenditure for the joint financing of projects.

For the part related to the costs of developing institutions and the costs of reforms and adjustments, we shall use the Croatian figures (see table 3). We should recall that the total cost (institutions, reforms and adjustments) and revenue from assistance, the average cost of institutions in Croatia in the 2008-2010 period came to 0.04% of GDP with a slight upward trend, while the average costs of reforms and adjustments came to 0.36% of GDP. In our projections for Bosnia and Herzegovina we assume an average cost for institutions of 0.1% of GDP, which is in line with the increased needs of Bosnia and Herzegovina for institution development and an average cost of reforms and adjustments of 0.3% of GDP in the whole of the period, similar to that in Croatia in 2008 and 2009.

On the revenue side, the projections of the Department for Macroeconomic Analysis (OMA Bilten 64/65) up to 2013 already include changes in the structure of revenue because of harmonisation with EU standards. Hence in the basic scenarios these projections for indirect taxes (VAT, excises and customs duties) will be used. According to these projections the share of revenue from indirect taxes in GDP will fall from 16.8% in 2008 to 15.3% in 2013. These changes derive primarily from the fall in customs duty revenue, while revenues from VAT and excise record a growth. Assuming a fall in revenues from customs duty in 2014 of only 5% from the previous year, and a steady rise in revenues from excises and customs duties, as in 2013, the share of revenues from indirect taxes will fall to 14.7% of GDP. In other words, we can expect a reduction of revenue from indirect taxes in a total amount of as much as 2% of GDP in the 2008-2014 period. After 2014 revenues should rise by about the same rate as GDP and we do not expect any additional reduction of its share in the future.

Table 5 Total effects of the pre-accession phase on the Bosnia and Herzegovina budget and the net financial effect (in % of GDP)

		2011	2012	2013	2014	2015	2016-2020	Total
1	Adjustment of structure of revenue from indirect taxation	0.12	-0.08	-0.31	-0.68	0.00	0.00	-0.96
2	Institution building costs	0.10	0.10	0.10	0.10	0.10	0.10	1.00
3	Joint financing of projects costs	0.34	0.34	0.34	0.40	0.45	0.50	4.37
4	Reforms and adjustments costs	0.30	0.30	0.30	0.30	0.30	0.30	3.00
5	Total impact on the budget (1-2-3-4)	-0.62	-0.82	-1.05	-1.48	-0.85	-0.90	-9.33
6	Resources from EU funds	0.80	0.80	0.80	0.90	1.00	1.00	9.30
7	Net effect (5+6)	0.18	-0.02	-0.25	-0.58	0.15	0.10	-0.03

Source: Author's computation

The total impact on the budget of general government in the whole of the observed period is negative, tending to rise from 2011 to 2014, after which it will stabilise at 0.9% of GDP. Nevertheless, the total net effect in the whole of the observed period is approximately equal to zero. These results fit relatively well into the theoretical framework from chapter 2; however, it should be mentioned that the projections given are more indicative in nature, since it is impossible to forecast the course of the development of institution building and of absorptive and administrative capacities. Also, the projections are made assuming the maintenance of EU standards at current levels, while any change in this respect might mean additional changes in the structure of revenue and expenditure.

Fiscal sustainability (implementation of the Stability and Growth Pact)

Getting the bottom line of the budget of general consolidated government close to equilibrium or achieving a slight surplus is the main objective of every member state. Balancing the budget relates to its structural balance, while the cyclical component of the budget can be adjusted depending on the state of the economic cycle, which enables the action of automatic stabilisers. If the structural budget is balanced, the greatest budgetary deficit of general consolidated government is restricted to 3% of GDP. But in extraordinary circumstances, which are defined as a reduction of GDP by more than two percentage points, the implementation of the sanctions prescribed by the Stability and Growth Pact is automatically halted.

The restrictions and conditions of adhering to the Stability and Growth Pact are prescribed for new member states, but in the accession phase it is also important that they be respected so that the country should not enter the EU with serious fiscal difficulties. The limitations of the SGP are placed precisely so as to allow the action of the automatic stabilisers in normal cyclical fluctuations. In the definition of restrictions, care was taken of the potential rate of growth of these economies, the oscillations of growth and the sensitive of the budgetary balance to cyclical trends (Cuculic, Faulend and Sosic, 2004). The fiscal restriction of the SGP also allows the stabilisation of the level of public debt. Thus the average budgetary deficit at the level of 3% of GDP, with an expected rate of growth of nominal GDP of 5%, is in harmony with the maintenance of public debt at the level of 60% of GDP. This level of public indebtedness is also prescribed by the SGP as the highest permissible level of public

borrowing to which all members with a higher public debt ought to aspire. Since the SGP nevertheless enjoins the balancing of public finances, as long as this is respected in the medium term a reduction in the level of public indebtedness can be expected (Mathieu and Sterdyniak, 2003). The first assignment is to estimate the trends in the deficit of general government up to 2015 according to the projections in the previous part. The expected scenario presumes a correction of revenue and expenditure for the effects of the pre-accession phase and adjustment in the sense of gradual simultaneous enlargement of revenue by 0.2% points per year and a reduction of expenditure to the same extent. In the pessimistic scenario revenue and expenditure are corrected by the effects the pre-accession phase but without any adjustment of the structure of revenue and expenditure (see table 6).

Table 6 Projections of revenue and expenditure of the consolidated BH budget for the period 2008-2015 (in % of GDP)

Expected scenario	2008	2009	2010*	p. 2011	p. 2012	p. 2013	p. 2014	p. 2015
Revenue	38.80	38.60	36.90	37.22	37.33	37.22	36.74	36.94
Expenditure	37.60	38.90	36.20	36.74	37.28	37.82	38.42	39.07
Balance	1.20	-0.30	0.70	0.48	0.05	-0.60	-1.68	-2.13
Pessimistic scenario	2008.	2009.	2010.*	p. 2011.	p. 2012.	p. 2013.	p. 2014.	p. 2015.
Revenue	38.80	38.60	36.90	37.02	36.93	36.62	35.94	35.94
Expenditure	37.60	38.90	36.20	36.94	37.68	38.42	39.22	40.07
Balance	1.20	-0.30	0.70	0.08	-0.75	-1.80	-3.28	-4.13

**Preliminary figures. Source: author's computation*

In the pessimistic scenario that forecasts a growth of the budgetary balance without any reaction from fiscal policy in 2014 and 2015 a deficit greater than 3% occurs, i.e. the conditions of the Stability and Growth Pact are breached. In the expected scenario the deficit of consolidated budget of general government trends in the framework prescribed by the SGP (see table 7).

Table 7 Deficit of the consolidated budget of Bosnia and Herzegovina in 2008-2015 in the expected and in the pessimistic scenario (in % of GDP)

Expected scenario enarij	2008	2009	2010*	p 2011	p 2012	p 2013	p 2014	p 2015
Revenue	38,80	38,60	36,90	37,22	37,33	37,22	36,74	36,94
Expenditure	37,60	38,90	36,20	36,74	37,28	37,82	38,42	39,07
Balance	1,20	-0,30	0,70	0,48	0,05	-0,60	-1,68	-2,13
Pessimistic scenario	2008.	2009.	2010.*	p. 2011.	p. 2012.	p. 2013.	p. 2014.	p. 2015.
Revenue	38,80	38,60	36,90	37,02	36,93	36,62	35,94	35,94
Expenditure	37,60	38,90	36,20	36,94	37,68	38,42	39,22	40,07
Balance	1,20	-0,30	0,70	0,08	-0,75	-1,80	-3,28	-4,13

**Preliminary data*

Source: Author's computation

After estimate of the deficit that we shall use in the estimates of the sustainability of the public debt, we will take as our base point the dynamic estimation of the sustainability of the public debt in the medium term according to the financial sector assessment programme (FSAP) methodology, developed by the IMF and the World Bank, which is used and publicised by the IMF in its papers. The methodology is based on stress tests, that is, various shocks of key variables that lead to deviations in the trends of the public debt from the expected projection.

Key variables to be used in the model are public debt, public debt subject to exchange rate risk, primary deficit (revenues and primary expenditure), nominal GDP and real growth of GDP, rate of inflation measured by the GDP deflator, nominal interest rate on the public debt and nominal change of the exchange rate (change in the value of the convertible mark to the dollar).

The total indebtedness of the country relates to the sum of parts of external debt and parts of internal indebtedness. The amount of the external indebtedness of Bosnia and Herzegovina includes the loans which Bosnia and Herzegovina is liable for and the loans that have been directly contracted by entities that are directly liable for them. According to IMF data the share of foreign debt in GDP in 2009 came to 21.7%. According to the Ministry of Finance and Treasury of Bosnia and Herzegovina 45% of this amount is denominated in euros, 34% in SDRs², and the rest is denominated in dollars, yen, Swiss francs, Swedish krona, Kuwaiti dinars and Saudi rials. Accordingly, we can conclude that about 43% of the foreign debt of Bosnia and Herzegovina is exposed to currency risk, which above all depends on the trends in the euro as against all other world currencies, because since 1997 in Bosnia and Herzegovina the exchange rate has been tied (first to the mark, and then to the euro).

The internal indebtedness of Bosnia and Herzegovina still presents a complex issue since some of the obligations of the internal debt are still subject to verification (old foreign currency savings, war claims, general obligations) and part of the debt is still not legally regulated (restitution), so that management of the internal debt is partially based on assumptions of the amount of the debt. The major part of the internal public debt consists of old foreign currency savings (58% in 2009) and the manner of paying obligations of this category and other categories of the debt (general liabilities, war claims) is regulated by entities' regulations and one part is paid in cash, while for another part bonds in the domestic currency (convertible mark) have been issued.

According to information from the end of 2009, most of the "new" loans granted to Bosnia and Herzegovina are still characterised by credit arrangements with a grace period and periods of repayment and a relatively low rate of interest. This is the case with all the new loans from the World Bank and IFAD, the government of Belgium and the government of Japan. Contracts concluded with the EBRD and the EIB have the standard conditions that these institutions apply. It is important to note that the grace period for all loans on the basis of old debt has expired and they are in the repayment phase. The average interest rate for all the loans taken out that related to foreign debt came, as of December 31, 2009, to 1.53%, with the average interest rate on the basis of the old debt being 1.83% and on the basis of the new debt 1.32%.

Data about public borrowing in 2010 are not available; however, IMF estimates how that the share of public debt in GDP grew by 3.7 percentage points and came on December 31, 2010, to 39.1%. We shall use this estimate in projections concerning sustainability over the

² SDR is an accounting unit used by the IMF and several other international financial institutions, and consists of a basket of currencies: the dollar, 44%; the euro, 34%; the yen and the pound sterling 11% each.

medium term up to 2015. Also, in the projections we assume that about 25% of the total amount of the public debt is exposed to the currency risk.

The methodology for estimating sustainability requires that all the variables be expressed in percentages of GDP, and the annual change in the public debt is in this part decomposed to three basic flows that led to these changes, and these are: primary deficit, automatic debt dynamics and other flows (residual).

The projections stated earlier of the revenues and expenditure in the expected scenario will be used in the basic medium-term scenario for the sustainability for the public debt. However, for a calculation of projections of primary deficit we need projections of the share of outgoings for interest in GDP, for which we need assumptions of the trends of nominal interest rates on the public debt. A formula for the share of expenses for interest in GDP is easily produced, and can be presented with the following expression:

$$k_t = \frac{d_{t-1} \cdot i_t}{1 + g_t^n} = \frac{d_{t-1} \cdot i_t}{(1 + g_t)(1 + \pi_t)} \quad (1)$$

In the expected projections we assume a linear growth of average interest rates from 1.7% in 2009 to 2% in 2015 because of the needs to finance the public debt and at the same time because of reduced abilities to get loans with privileged conditions.

Unlike primary deficit, in the case of automatic debt dynamics changes of public debt in GDP occur because of changes that happen outside the fiscal sphere, that is, changes in the real interest rate, real rate of growth of GDP and depreciation of the exchange rate. The total automatic debt dynamics in year t can be described with the following expression:

$$\begin{aligned} A_t &= \frac{r_t - \pi_t(1 + g_t) - g_t + (1 + r_t)\alpha_{t-1}\varepsilon_t}{(1 + g_t)(1 + \pi_t)} \cdot d_{t-1} \\ &= \frac{r_t - \pi_t(1 + g_t)}{(1 + g_t)(1 + \pi_t)} \cdot d_{t-1} + \frac{-g_t}{(1 + g_t)(1 + \pi_t)} \cdot d_{t-1} + \frac{(1 + r_t)}{(1 + g_t)(1 + \pi_t)} \cdot \alpha_{t-1} \cdot \varepsilon_t \cdot d_{t-1} \end{aligned} \quad (2)$$

where α is the part of the debt exposed to the currency risk, ε is the depreciation of the nominal exchange rate, r is the real interest rate on the public debt, π is the rate of inflation, g is the rate of real growth of GDP and d is the state of the debt at moment t . The first summand in the formula signifies the contribution of the real interest rate, the second summand the contribution of the real growth of GDP and the last the contribution of depreciation of the exchange rate to the increase in the debt.

Other flows in general cover for example privatisation revenue, acknowledged implicit and explicit conditional liabilities or are about flows of the creation of debt that can be considered statistical errors or some mistake in the records of the debt and the flows of the creation of the debt. In future projections we assume that the change of the debt is described in totality with the aid of a change in the primary defect and the automatic debt dynamics, i.e. that the other flows will be 0.

Table 8 Change in the debt of the public sector 2008-2014 in the expected scenario and according to flows (in % of GDP)

	2008	2009	2010*	p 2011	p 2012	p 2013	p 2014	p 2015
1) Public debt (expected scenario) contributed to	30,8	35,4	39,1	35,7	32,2	29,2	30,3	28,1
2) Promjena u dugu javnog sektora (3+6)	-2,1	4,6	3,7	-3,4	-3,5	-2,9	-1,9	-1,1
Primary deficit	1,6	0,2	1,2	1,1	0,7	0,0	-1,2	-1,6
Real interest rates	-3,9	0,3	-0,6	-1,1	-1,0	-1,4	-1,4	-1,1
Growth of real GDP-a	-1,7	0,9	-0,2	-1,2	-1,8	-1,6	-1,7	-1,6
Depreciation of the exchange rate	0,3	-0,1	0,7	0,0	0,0	0,0	0,0	0,0
Other flows (residual)	4,8	3,7	4,9	0,0	0,0	0,0	0,0	0,0
Real GDP growth (in %)	6,0	-2,8	0,5	3,2	5,5	5,4	5,7	6,0
Inflation (change of GDP deflator)	7,4	0,4	1,7	2,3	2,4	3,2	3,3	3,0
Average nominal interest rates on public debt	1,4	1,7	1,8	1,8	1,9	1,9	2,0	2,0
Average real interest rate on public debt	-5,5	1,3	0,0	-0,5	-0,6	-1,3	-1,3	-1,0
Nominal exchange rate (KM/USD)	4,2	-1,7	8,0	0,0	0,0	0,0	0,0	0,0

**Preliminary data*

Source: Author's computation

The expected scenario for public debt sustainability shows a gradual reduction of the share of public debt in GDP to 28.1%, which satisfies the criteria of the SGP. This occurs primarily because of the assumption of a constant growth in GDP and negative real interest rates on the public debt. In the optimistic scenario in which we keep all the projections the same as in the expected scenario, with a constant share of revenue and expenditure in GDP in the 2011-2015 period, the share of public debt in GDP will reduce to as little as 23.5% in 2015.

Nevertheless, the main issue is how public debt trends will act in stress conditions. For this purpose, we shall make what is called a pessimistic scenario, which will cover a combination of fiscal and macroeconomic shocks. Fiscal shock assumes a pessimistic scenario in revenue and expenditure trends in the 2011-2015 period, while a macroeconomic shock assumes shocks in the growth of real GDP, a shock in the nominal interest rate and exchange rate depreciation shock. A real GDP growth shock assumes that in 2012 the expected real growth of GDP will be diminished by one and half standard deviation of the 2006-2010 period, after which it will gradually return to the expected levels in 2015. Nominal interest rate shock assumes a rise in the nominal interest rates of three standard deviations of the 2006-2010 in 2011, after which the interest rate in the period of up to 2015 will be increased by one standard deviation a year. The exchange rate depreciation shock assumes a nominal depreciation of the convertible mark in relation to the dollar by one standard deviation of the 2006-2010 period in the whole of the 2011-2015 period (see table 9).

Table 9 Sustainability of the public debt of Bosnia and Herzegovina in the pessimistic scenario (% of GDP)

	Outturn			Projections				
	2008	2009	2010*	2011	2012	2013	2014	2015
Public debt (pessimistic scenario), contributed to by:	30.80	35.40	39.10	36.89	37.76	37.97	38.35	38.57
primary deficit	1.64	0.15	1.20	1.38	0.79	-0.07	-1.39	-2.06
real interest rates	-3.86	0.27	-0.59	-0.45	-0.27	-0.66	-0.50	-0.13
growth of real GDP	-1.74	0.89	-0.18	-1.20	1.14	0.02	-1.06	-2.09
depreciation of the exchange rate	0.35	-0.15	0.73	0.82	0.79	0.77	0.76	0.75
Rise of real GDP (in percentages)	6.0	-2.8	0.5	3.2	-3.1	-0.1	3.0	6.0
Inflation (change of GDP deflators)	7.4	0.4	1.7	2.3	2.4	3.2	3.3	3.0
Average nominal interest rate on public debt	1.4	1.7	1.8	3.5	4.1	4.7	5.3	5.9
Average real interest rate on public debt	-5.5	1.3	0.0	1.2	1.6	1.4	2.0	2.8
Nominal change in the exchange rate (KM/USD)	4.2	-1.7	8.0	8.4	8.4	8.4	8.4	8.4

**Preliminary data*

Source: Author's computation

The sustainability of the public debt of Bosnia and Herzegovina in the pessimistic scenario shows the growth of public debt in the observed medium term period, but the share of the public debt will remain far below the 60% of GDP limit. According to everything stated, the SGP criteria are not in danger of being breached in any case.

5. Impact of joining the EU on the management of the budget in Bosnia and Herzegovina

Along the way from potential to actual candidate country, further adjustments of the system of the budget and the budgetary process in Bosnia and Herzegovina are necessary for the sake of providing a better capacity to absorb resources from the pre-accession programme, IPA, and after membership, from the Cohesion and Structural funds of the EU. On this road Bosnia and Herzegovina should adjust the process of budgetary management and the structure of the budget. For the purpose of long-term planning and implementation of the necessary adjustments, Bosnia and Herzegovina should:

- define development strategies for three and more years;
- introduce strategic planning and adopt development strategies at all levels of government and according to sector (transport, environment, power supply, culture, nature conservation, education, science, health care (hospital system), justice, administration and so on);
- introduce programme and multi-year planning of the budget linking programmes to the objectives defined in the strategies;

- draw up a pre-accession economic programme (PEP) as candidate country, and a national reform when the country becomes a member;
- change the system of financial management according to the results that have to be achieved with greater flexibility in the budget execution process;
- provide in the execution of the budget the ability to carry projects over from one year to the other (particularly for capital projects);
- introduce a system of classifications of the budget that will enable monitoring and obtaining information about revenue, expenditure, assets and liabilities according to every project/activity or programme;
- bring in a system of budget classification according to sources of funding because of the new source of funding – EU assistance;
- perform budgetary bookkeeping on the accrual principle,
- bring in on-site controls (checking the lawful, proper purpose, effective and efficient use of EU funds in end users) and ex-post controls (when the project has been concluded).

6. Conclusion

It is crucial that the process in which Bosnia and Herzegovina joins the EU should not be seen only through the debit/credit prism, that there should be no expectation of a positive or zero effect on the budget. The process of joining does cost, and the expense cannot be totally financed from pre-accession assistance programmes. However, this process does in the long run bring a candidate country greater benefits, which are reflected in the stability of the economy and fiscal system and higher rates of economic growth.

According to the expected scenario, the net impact of joining the EU on the Bosnia and Herzegovina budget is a positive 0.41% of GDP. In the optimistic scenario this positive effect is as much as 2.1% of GDP, and in the pessimistic scenario it is negative, coming to -1.07% of GDP. In the expected scenario the sustainability of the public debt the debt is expected to decrease gradually to 8.1% of GDP in 2015. This meets the SGP criteria. This is achieved primarily because of the assumption of a constant rise of GDP and negative real interest rates on the public debt. The optimistic scenario shows a reduction of the public debt as proportion of GDP to as little as 23.5% in 2015. A pessimistic scenario, including a combination of fiscal and macroeconomic shocks, shows a rise of the public debt in the observed mid-term period to 39% of GDP. But according to all the projections, the criteria of the Stability and Growth Pact are not put in jeopardy. The further research should be directed towards:

- introduction of a multi-year fiscal framework;
- strategic and programme based budgeting and planning;
- country economic development strategy (by level of government and sectors) development for three years and upwards;
- a policy for capital projects management;
- mechanisms for monitoring the implementation of programmes; and
- supervision and reporting on the programmes objectives attained.

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Appendix I

Table 1 Harmonisation of taxes and customs duties on joining the EU, 2004-2006 (in % of GDP), annual average

	Harmonisation		Total resulting from harmonisation
	customs duties	taxes	
Czech R	-0.5	0.0	-0.5
Estonia	0.3	0.5	0.8
Hungary	-0.5	0.0	-0.5
Poland	-0.5	0.3	-0.2
Slovenia	-0.5	0.3	-0.2
Lithuania	0.3	0.5	0.8
Latvia	0.3	0.5	0.8
Slovakia	-0.3	0.0	-0.3
Average	-0.2	0.3	0.1

Source: Antczak, Markiewicz and Siwinska, 2006.

Table 2 Review of financing of IPA projects in Bosnia and Herzegovina in 2007-2010 (in million euros)

Year	Total IPA	Joint financing			International financial institutions	Private/other contributions	Total budget of projects
		Total	Central	Regional/local			
2007	50	0	0	0	0	0	50
2008	69	45	13	1	13	19	114
2009	81	267	1	13	181	72	347
2010	98	297	1	97	198	2	395
Total	297	609	14	111	392	93	906
% of total budget of projects							
2007	99.80	0.20	0.00	0.00	0.00	0.20	100
2008	60.45	39.55	11.08	0.64	11.56	16.27	100
2009	23.19	76.81	0.30	3.67	52.04	20.80	100
2010	24.86	75.14	0.17	24.56	49.98	0.43	100
Total	32.81	67.19	1.58	12.20	43.20	10.21	100

Source: Ministry of Foreign Affairs, Bosnia and Herzegovina