EFFECTS OF CHANGES IN FOREIGN DEBT INDICATORS IN BOSNIA AND HERZEGOVINA

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Abstract

Foreign trade indicators change in response to the global financial crisis and ultimately have a major impact on fiscal sustainability. Likewise, the increase in the budget deficit and public debt affects the growth of long-term and short-term interest rates, and the overall fiscal stability. The main objective of this paper is to review the impact of the global financial crisis on the tendency of the public debt in Bosnia and Herzegovina and various Western Balkans countries. Specifically, as the Maastricht criteria established a 60% of GDP debt limit, the paper will analyse the given limit, and the interdependence of imports in Bosnia and Herzegovina and the public debt of the general government sector by a simple regression analysis for the period 2008–2012. Thus, the regression model will be used to assess the dependence of the public debt of the Government of Bosnia and Herzegovina due to the increase of imports and exports of goods, as well as well as conditionality of export of goods and income.

Keywords: Indicators of foreign trade, imports, exports, public debt

1. Introduction

The fiscal policy includes decisions about government spending and taxation. The budget short fall or deficits explain the excess of government expenditures over tax revenues in a given period, usually of one year, while on the other hand, a budget surplus occurs when tax revenues exceed government spending. Any deficit must be financed by government borrowing, while the budget surplus leads to a lower burden of government debt (Mishkin, 2010).

It is generally known that in a crisis, state revenues decrease and expenses of state coffers continue to increase. This situation occurs for several reasons, including: rising unemployment, increasing demands of fiscal measures, rising interest rates, etc. (Sopek, 2009).

In the first trimester of 2013, there was a pronounced increase in imports, largely associated with modest export growth contribution of domestic demand. On the other hand, regular imports recorded a slight nominal decrease of 0.5%, which

compared to the decline in import prices suggests modest real growth in the country's domestic demand, primarily in the area of consumer goods (B&H Directorate for Economic Planning, 2013). The acceptable levels of debt in the EU of 60% of GDP are apparently and considerably exceeding the country's capacities. Bosnia and Herzegovina is facing serious problems of financing the deficit, even though its level of public debt is below 40% of GDP. The very low credit rating has decreased the private lenders' willingness to lend to the Government of Bosnia and Herzegovina.

The paper is structured into three parts. After the introduction, the first chapter describes the basic principles of the Maastricht Treaty's convergence criteria and the impact of the global financial crisis on the movement of the public debt of some EU countries and countries of the Western Balkans. The second part refers to the analysis of public debt and budget deficit in Bosnia and Herzegovina. The third part describes the possibility of the applicative use of the regression model, which will determine the strength and direction of the relationship between variables such as: (1) goods imported and external debt, and (2) export of goods and general revenues of the Government. Finally, concluding remarks are presented.

2. The Institutional Framework of the EMU – Maastricht Criteria

The Treaty on the European Union was adopted in the European Council session in the Dutch town of Maastricht on 9th and 10th December 1991 and was signed on 7th February 1992 in Maastricht. After the ratification by the Parliament of the then 12 member states of the European Union, the Treaty on the European Union came into force on 1st November 1993, whereby the European Community formally became the European Union. Also, criteria for full membership were determined, including:(1) a fully functioning democracy with respect for human rights, (2) acceptance of all authorities that make European laws and implementing the policy of the European Union, (3) evidence of economic and other capacities for the compliance with the EU system, and (4) willingness and capacity to positively contribute to the reinforcement of the European identity. When we talk about the Euro-

pean Union, it is important to recall the statement of the famous American economist Lester Thurow, who pointed out that "the rules of the world trade game will be set by a country taking the largest part in it" (Đonlagić, 2006: 44-45). Based on the Delors Report[1] from June 1989, the European Council decided that the first step in the development of the European Monetary Union should begin on 1st July 1990, when they lifted all restrictions on the movement of capital between the European Union Member States and when the process of co-ordination of national monetary policies began. At the same time, the Committee of Governors of Central Banks of the European Economic Community were given additional responsibilities.

The establishment of the European Monetary Institute based in Frankfurt on 1st January 1994, was the beginning of the second stage. The European Monetary Institute had no responsibility for the implementation of the monetary policy in the European Union. National central banks were still in charge of the implementation of the monetary policy. In December 1995, at the meeting of the heads of governments' summit in Madrid, the agreement on new common currency named the euro was reached. It was introduced at the beginning of the third stage and it was confirmed that the third stage in the creation of the economic and monetary union was to begin in January 1999. On 1st January 1999, the third and final stage in the development of the European Monetary Union began, whereby the European Monetary Union of the Euro-area countries was established with the implementation of a single monetary policy under the auspices of the European Central Bank. The European Monetary Union did not imply a political union because joint decisions in the appropriate unit levels of taxation were not required.

The main objective of the establishment of the European Monetary Union, the European Central Bank and the common currency for Europe was the establishment of a single monetary policy and the maintenance of price stability throughout the European Union. In addition to ensuring price stability, the ECB had the obligation to maintain exchange rate stability and the stability of interest rates, which was aimed at advancing the unification and encouraging investment. Given that in the potential member countries of the monetary union there was a large difference in the level of inflation rate, budget deficit and the volume of state debt, as well as f

Table 1 Convergence Criteria of the Maastricht Treaty in Some EU Member States for the period: 2001 - 2003

Country	Convergence Criteria						
	Inflation Rate (in %)		Interest Rate (in %)	Fiscal Balance (% of GDP)		Public Debt (% of GDP)	
	2001	2002	2003	2001	2002	2001	2002
	<3,5	<3	<7,1	>-3	>-3	<60	<60
Cyprus	2,0	2,8	-	-	-	-	61,1
Czech Republic	4,5	1,4	4,8	-5,2	-9,3	23,7	34,7
Estonia	5,6	3,6	4,4	0,4	-1,0	4,8	3,3
Hungary	9,1	5,2	7,8	-4,7	-6,0	53,1	61,9
Latvia	2,5	2,0	9,3	-1,9	-2,5	16,0	22,0
Lithuania	1,3	0,4	6,4	-1,9	-1,4	23,1	23,0
Malta	2,5	2,0	-	-	-	65,7	70,0
Poland	5,3	1,9	7,7	-6,0	-5,0	38,7	44,8
Slovakia	7,0	3,3	7,4	-3,9	-4,5	44,1	46,4
Slovenia	8,6	7,5	11,1	-1,2	-2,9	27,5	27,3

Source: Đonlagić, Dž. (2006), the European Monetary Union and Bosnia and Herzegovina, School of Economics and Business, University of Sarajevo, p. 48

oreign exchange rates and interest rates, requirements were set for the fulfilment of the convergence criteria before entry into the monetary union in order to reduce the asymmetric shocks to the minimum. For a country to become a member of the European Monetary Union, it must meet the convergence criteria in terms of its macroeconomic policies, where there should not be any major differences. However, there was some flexibility in meeting the set criteria. The basic principles of convergence are as follows (Đonlagic, 2006: 47):

- the inflation rate in the country during the observed year must not exceed 1.5% of average rate of inflation in the three countries of the European Monetary Union with the lowest inflation;

- the long-term interest rate must not be more than 2% in absolute terms than the average interest rate in the three countries of the European Monetary Union with the lowest inflation;

- the state budget deficit, and the budget of region and local budget deficits must not exceed 3% of gross domestic product, other than temporary and exceptional;

- the public debt to GDP must not exceed 60%;

- the member country within the exchange rate mechanism (ERM II) must be without serious devaluation in the past two years before considering joining the monetary union (the allowable fluctuation is ± 15% around the central exchange rate);

- national central banks must have full political independence. This could be one of the reasons why Denmark and the UK are not members of the economic and monetary union so they have the so called "opt-out" clause.

Thus, the United Kingdom would have to ensure full independence of the Bank of England, and Denmark would need to have a referendum on this issue. Sweden decided not to join the monetary union because it refused to join the exchange rate mechanism ERM II of the European Monetary System before the start of the third stage, and thus failed to meet one of the conditions for joining the monetary union.

Convergence criteria sought to show that the member countries of the future monetary union were taking care of the low inflation policy management. For example, many member states had to lower

the inflation rate to the level of Germany, and thus implement the disinflationary process. During the disinflation process, a temporary increase in the unemployment rate was inevitable. This criterion is an additional argument that some countries, such as Italy, were very persistent in keeping up with inflation. When it comes to criteria related to the budget deficit and public debt, i.e. setting limits of 3% of the total volume of expenditure to GDP and 60% of total public debt to GDP, Maastricht was very flexible.

In fact, when it comes to meeting the convergence criteria before joining the monetary union, it should be noted that the problem of the functioning of the economies of less developed countries does not occur at the time of their accession as compared to the countries already in the monetary union. This means that they must set their inflation rate down to the level of the inflation in EU countries, as well as meet other specified convergence criteria. It is of crucial importance for all EU candidate countries that the process of transition to a monetary union does not provide a set of nominal values of key economic parameters and that after a certain lapse of time the criteria simply cannot be sustained. Therefore, it is essential to have realistic fulfilment of the convergence criteria, otherwise the action of the single monetary policy of the European Central Bank (ECB) may have far-reaching negative consequences on the performance of the observed economy (Furtula and Markovic, 2010: 27).

3. Impact of the Debt Crisis on Debt in the Euro Zone

In the management of the overall economic policies of a country, special attention should be paid to public debt. In addition to being used to finance deficits, the public debt is also an instrument of economic policy. It has its own fiscal and monetary function, and as such it has an impact on the economic development of the country. For the public debt to have more positive effects as much as possible, it is necessary to adjust the fiscal and monetary policy, and invest economic resources generated by borrowing in projects that will spur development, because otherwise the policy of public debt is a very complex risk factor that can have negative implications on future economic development (Erić and Đukić, 2012: 382). In the past, crises in financial markets always led to crises of state public debt. Therefore, financial crises always lead to a decrease in government revenues and an increase in budget deficits, bringing countries to the limit of public debt which they were unable to return. The global financial crisis that began in the United States - in the real estate market in 2007, was conveyed to the global financial system (Kešetović et al., 2012: 380).

A few academics, analysts and investors, such as Buffett Warren and former chief economist at the IMF, Raghuram Rajan, warned that mortgage debentures, securities-based assets and other derivatives had spread risk and uncertainty about the value of unused assets and the reductions risk through diversification. After the credit crisis occurred in 2007/2008, this prediction gained credibility. The system of buying property operated well before the introduction of the new subprime mortgage market, which would, as it would turn out later, be the main cause of the crisis in the housing market in the United States. Both markets were apparently operated by the same principle, but there was an important difference that had a decisive role in the generation of the crisis, which is the degree of regulation and the conditions in which mortgage loans were placed with the population. The reason for the occurrence of the subprime market is inconstant growth in real estate prices and desire to exercise more profit. The constant growth of real estate prices was caused by the overheated demand, financed by the mortgage loan. As housing prices kept rising, the number of issued mortgage loans by commercial banks and other smaller deposits of non-bank credit institutions such as banks and Thrifts grew.[2] Therefore, some of the key players who contributed to the escalation of the crisis in the real estate markets were these smaller deposit lending institutions. Their main goal was to provide services at cheaper rates, and make a loan approval process much easier than the procedure applied in commercial banks. Due to the pronounced upward trend in the real estate prices, market participants were able to make large profits in a short time, which increasingly attracted speculators and large institutional investors to the real estate market, including large banks, investment funds, pension funds, insurance companies, hedge funds, etc. When the market value of real estate became significantly lower than the real value, banks were caught in a liquidity trap, and the problem of individual financial institutions transformed into a financial crisis that led to a

Table 2 Basic Monetary and Fiscal Indicators in the Euro Zone and the EU for 2008-2011

Parameters		2008	2009	2010	2011
Euro zone					
GDP	(millions of euro)	9.241.541	8.922.208	9.176.138	9.420.834
Budget Deficit	(millions of euro)	-196.366	-566.498	-569.469	-390.708
	(% GDP)	-2,1	-6,3	-6,2	-4,1
Public Expenditure	(% GDP)	47,1	51,2	51,0	49,5
Public Revenues	(% GDP)	45,0	44,9	44,8	45,4
Public Debt	(millions of euro)	6.489.962	7.135.458	7.833.349	8.227.833
	(% GDP)	70,2	80,0	85,4	87,3
European Union					
GDP	(millions of euro)	12.472.988	11.754.729	12.278.824	12.650.044
Budget Deficit	(millions of euro)	-303.470	-806.992	-800.906	-560.834
	(% GDP)	-2,4	-6,9	-6,5	-4,4
Public Expenditure	(% GDP)	47,1	51,1	50,6	49,1
Public Revenues	(% GDP)	44,7	44,2	44,1	44,7
Public Debt	(millions of euro)	7.763.975	8.764.582	9.826.981	10.433.926
	(% GDP)	62,2	74,6	80,0	82,5

Source: Eric, D., Đukic, M. (2012), Financial markets in times of crisis, the Institute of Economic Sciences, Belgrade Banking Academy – Faculty for Banking, Insurance and Finance, Belgrade, p. 382

domino effect, bringing down other actors of financial markets, and transferred to other parts of the world (Alihodžić and Plakalović, 2013: 465–467). While the recovery from the global financial crisis was anticipated, its second wave, i.e. public debt crisis, was still to follow. Measures taken by the governments of the member states in 2008, 2009 and 2010 were primarily aimed at supporting the financial system and mitigating the effects of the crisis that affected the real sector. The measures meant an increase of insured deposits, issuing guarantees for liabilities of banks and recapitalisation of financial institutions.

As it can be seen, in relation to 2010, the budget deficit of the Euro Zone and the EU in 2011 was reduced, while the public debt recorded an upward trend. In the Euro Zone, the deficit ratio to GDP decreased from 6.2% in 2010 to 4.1% in 2011, while in the EU it dropped from 6.5% to 4.4%. The public debt to GDP in the Euro Zone increased from 85.4% to 87.3% in late 2011, while in the EU it re-

corded growth of the indicator from 80% to 82.5% only one year later. In late 2011, the lowest ratio of the budget deficit to GDP was recorded in Luxembourg (-0.3%), Finland (0.6%) and Germany (0.8%), while Hungary, Estonia and Sweden recorded a surplus of 4.3%, 1.1% and 0.4% of GDP respectively. According to the EUROSTAT data, seventeen member countries had deficit exceeding 3% of GDP, namely Ireland (13.4%), Greece (9.4%), Spain (9.4%), UK (7.8%), Slovenia (6.4%), Cyprus (6.3%), Lithuania (5.5%), Romania (5.5%), France (5.2%), Poland (5.0%), Slovakia (4.9%), Netherlands (4.5%), Portugal (4.4%), Italy (3.9%), Belgium (3.7%), Latvia (3.4%) and the Czech Republic (3.3%). Therefore, compared to 2010, all EU member states in the 2011 reduced the ratio of budget deficit to GDP (Erić and Đukić, 2012: 383).

Five out of eleven founding nations of the EMU met the requirement for the amount of public debt. Ireland, Luxembourg, Portugal and Finland had more space for debt, while France and Germany were at the limit. On the other hand, Spain, the Netherlands and Austria led the way in terms of public debt, while Belgium and Italy proved to have serious problems with the amount of public debt, which amounted to a whopping 117% and 114% of GDP

Table 3 Public Debt of GDP in the European Union for 2011-2012 (in %)

No.	Country	Currency	2011		2012	
			In mil./ currency	% GDP	In mil./ currency	% GDP
1.	Belgium	euro	377.314	98,2	375.389	99,6
2.	Bulgaria	BGN	12.540	16,3	14.390	18,5
3.	Czech Republic	CZK	1.677.207	41,2	1.758.872	45,8
4.	Denmark	DKK	806.886	46,6	832.455	45,8
5.	Germany	euro	2.111.985	81,2	2.166.278	81,9
6.	Estonia	euro	1.069	6,0	1.724	10,1
7.	Ireland	euro	174.252	106,5	192.461	117,6
8.	Greece	euro	280.427	165,3	303.918	156,9
9.	Spain	euro	774.549	68,5	883.873	84,2
10.	France	euro	1.789.393	86,0	1.833.810	90,2
11.	Italy	euro	1.946.212	120,1	1.988.658	127,0
12.	Cyprus	euro	13.228	71,6	15.350	85,8
13.	Latvia	LVL	6.466	42,6	6.309	40,7
14.	Lithuania	LTL	46.081	38,6	46.037	40,7
15.	Luxembourg	euro	8.997	18,2	9.232	20,8
16.	Hungary	HUF	22.398.935	80,8	22.380.937	79,2
17.	Malta	euro	4.831	71,6	4.871	72,1
18.	Netherlands	euro	402.084	65,5	427.515	71,2
19.	Austria	euro	222.562	72,4	227.431	73,4
20.	Poland	PLN	867.413	56,3	886.779	55,6
21.	Portugal	euro	189.979	107,8	204.485	123,6
22.	Romania	RON	211.326	33,3	222.212	37,8
23.	Slovenia	euro	17.030	47,6	19.189	54,1
24.	Slovakia	euro	32.358	43,3	37.245	52,1
25.	Finland	euro	93.320	49,1	103.131	53,0
26.	Sweden	SEK	1.310.490	38,4	1.357.939	38,2
27.	United Kingdom	GBP	1.316.231	85,3	1.387.436	90,0
Average 2011 - 2012				87,3		90,7

Source:http://ec.europa.eu/eurostat/tgm/table.do?t ab=table&init=1&language=en&pcode=teina225& plugin=1 (Accessed on: June 10, 2013)

respectively.[3] The lowest level of public debt was in Luxembourg (7.1% of GDP). Other members of the Euro Zone joined the EMU a few years later, namely Greece in 2001, Slovenia in 2007, Cyprus and Malta in 2008, Slovakia in 2009 and Estonia in 2011. Greece had problems with the amount of debt for almost fifteen years. When it entered the EMU, its debt stood at 103.4% of GDP, while Cyprus and Malta at the time of their accession had a debt close to the limit (Kešetović et al., 2012: 376).

The lowest level of public debt to GDP was recorded in Estonia (6%), Bulgaria (16.3%), Luxembourg (18.2%) and Romania (33.3%), while in 2012 the ratio of public debt to GDP was higher than 60% in fourteen EU member states, including Greece (156.90%), Italy (127%), Portugal (123.6%) and Ireland (117.6%). As it can be observed, in the second quarter of 2012, the Euro Zone recorded additional increase of public debt to GDP ratio to the level of 90%, and at the end of 2012, Denmark, Greece, Latvia, Hungary, Poland and Sweden managed to reduce the observed ratio.[4]

Table 4 Public Debt of Candidate Countries in 2006 and 2011 (% of GDP)

No.	Country	% GDP 2006	% GDP 2011
1.	E - 27	61,6	82,5
2.	Croatia	35,3	46,1
3.	Montenegro	32,6	45,2
4.	Iceland	28,2	102,7
5.	Macedonia	32,0	27,8
6.	Serbia	40,1	46,5
7.	Turkey	46,5	39,8
8.	Albania	56,8	58,9
9.	Bosnia and Herzegovina	21,1	26,1
10.	Kosovo	-	-

Source: Eurostat, Pocketbook on the Enlargement Countries, (2013), No. HP- 30 -12-129-EN-C, p. 5

The level of public debt is certainly alarming. The public debt has exceeded not only the limit defined by law, but also the limit above which the limit of public debt is possible. It requires strong fiscal adjustment, taking into account the level and composition of public debt and the size of the structural deficit. In addition to the public debt, the danger is its currency structure as well.

The currency structure and the fact that non-residents hold a significant part of the public debt, suggests the dominant effect of the exchange rate.[5] On the other hand, rollover risk is low due to the favourable maturity structure of the public debt. Sustainability of external imbalances primarily depends on the expected inflow of capital from abroad. Likewise, fiscal policy plays an important role in monitoring the growth of public investments.

4. Management and Sustainability of Public Debt in Bosnia and Herzegovina

Movement of public indebtedness in Bosnia and Herzegovina is defined by macroeconomic and fiscal factors. Effects of the global financial crisis a few years ago had an impact on the real decline in the gross domestic production in 2009, followed by slow growth in 2010 and 2011. Misguided fiscal policies and the impact of the overall economic situation are reflected in the budget deficit of 3.9% of GDP. In 2009, for the financing of the primary deficit, the state signed a Stand-by Arrangement with the IMF in the amount of 600 million Euros. The new debt, along with the GDP fall, the increase in the average real interest rate on public debt and the domestic currency depreciation value against the dollar led to an increase in public debt in 2009. In 2010, the trend of growth of public debt continued, whereby the ratio of public debt to GDP reached 38.6%.

Table 5 Tendency of External Debt to GDP in B&H for 2008-2012

No.	Indices	2008Q4	2009Q4	2010Q4	2011Q4	2012Q4
1.	External Debt	2.168,05	2.676,1	3.215,4	3.405,4	3.658,4
1.1.	Growth/ Public Debt (in %)	-	23,4	20,15	5,91	7,43
2.	Nominal GDP	12.659	12.297	12.666	13.123	13.242
2.1.	Nominal Growth Rate (in %)	-	-2,86	3,0	3,60	0,91
2.2.	Real Growth Rate (in %)	4,9	-4,2	-0,6	2,0	-0,2
3.	External Debt/Nominal GDP (in %)	17,1	21,8	25,4	25,9	27,6
4.	Export Growth and Service	3.352	3.071	3.701	4.111	4.031
4.1.	Export Growth (in %)	13,0	-8,4	20,5	11,1	-1,9
5.	Servicing of Foreign Debt	78,2	125,7	153,8	173,8	211,3

Source: http://www.cbbh.ba/index.php?id=31&lang=bs, and http://www.dep.gov.ba/dep_publikacije/eko-nomski_trendovi/Archive.aspx?langTag=bs-BA&template_id=140&pageIndex=1, Adjustment by authors (Accessed on: June 9, 2013)

The main factors that in 2011 led to a minor increase of debt of about 0.5 percentage points, compared to the year before, are the deficit of 0.6% of GDP, the negative average real interest rate on public debt and the appreciation value of the EUR against the dollar (B&H Directorate for Economic Planning, 2012).

The external debt of the public sector in Bosnia and Herzegovina, on 31st December 2012, amounted to 3.66 billion Euros. The debt is allocated to users, i.e. two entities, the Brčko District, and the level of state institutions. The largest debt is still to international financial institutions, about 75%, while the highest debt to individual creditors was recorded with the World Bank of about 25%.[6] According to the Central Bank and the Ministry of Finance and Treasury, the public debt by the end of 2012 reached a level of around 3.6 billion Euros, which is approximately 27% of nominal GDP, placing Bosnia and Herzegovina still among the moderately indebted countries in meeting the Maastricht fiscal convergence criterion.

By the currency structure, most of the debt is denominated in Euros, i.e. 47.1%, and in the SDR[7] with a share of 36.9%, in U.S. dollars of 8.2% and in other currencies of 7.8%.

Owing to the debt structure by this method, the volatility of the dollar and other currencies did not have much impact on the change in the level of debt and amount of servicing the external debt. Compared with the same period in the previous year, there was an increase in the external debt of 7.2%, while compared to 2008, the increase in the public debt amounted to 68.74%. Although at first glance it seems that the public debt is sustainable in line with the Maastricht requirements and that it is far from the maximum allowed debt, the fact that the Government was unable to finance the deficit of only 3.9% of GDP from 2009 by itself, but sought help from the IMF, indicates fragility of the financial stability of Bosnia and Herzegovina (B&H Directorate for Economic Planning, 2012).

As the result of analyses performed on 28th March 2012, the Standard & Poor's agency confirmed the sovereign credit rating "B" for Bosnia and Herzegovina, and changed the outlook of "the observation - negative" to "stable outlook." Another agency, the Moody's Investors Service, on 10th July 2012, confirmed the previously reduced credit rating of "B3" and changed the outlook of "the observation of negative" to "stable outlook."

Figure 1 External Debt to GDP and Servicing for 2009-2012
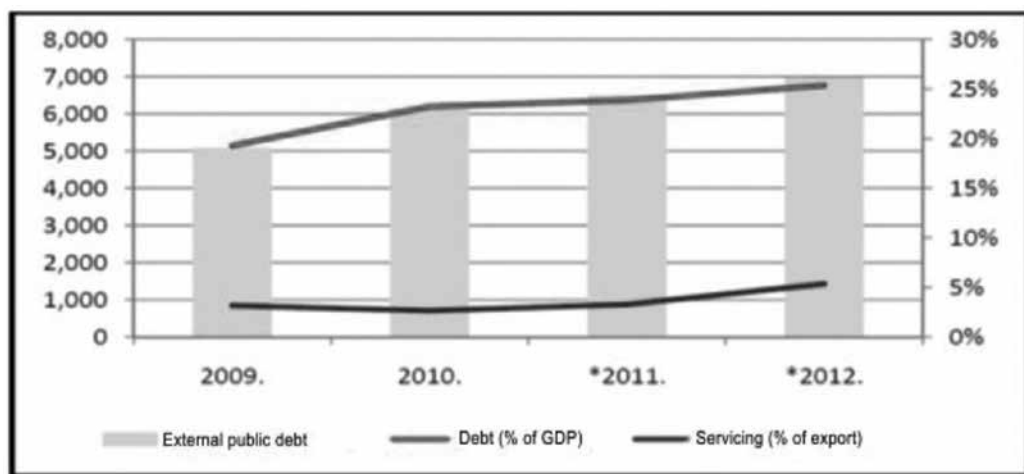
Source: http://www.dep.gov.ba/dep_publikacije/ekonomski_trendovi/Archive.aspx?langTag=bs-BA&template_id=140&pageIndex=1, Annual Report, 2012, Economic Trends, p. 21 (Accessed on: June 9, 2013)

Figure 2 Share in External Debt of B&H Government Sector by Creditors
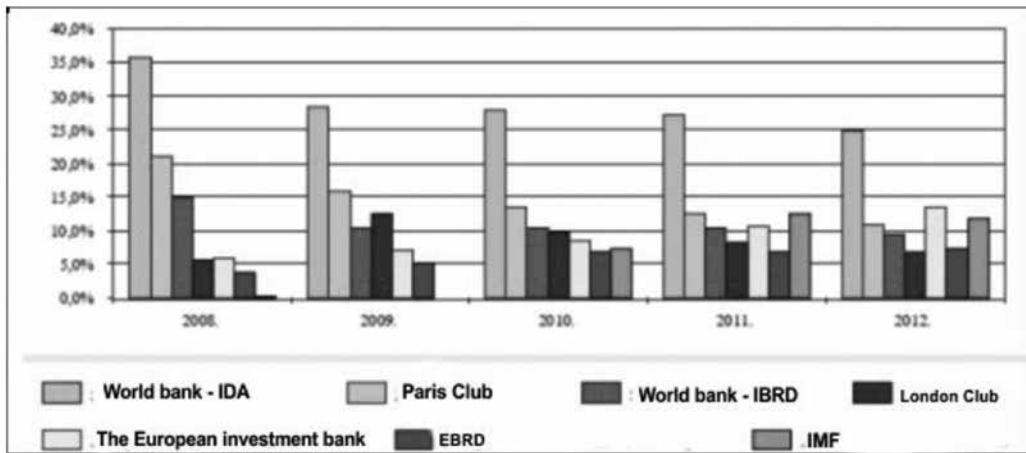
Table 6 Current Credit Rating of Bosnia and Herzegovina for 2012

	Moody's Investor Service	Standard and Poor's
Rating	B3/stable outlook	B3/stable outlook
Date	10.7.2012.	28.3.2012.
Activity	Confirmed rating /Appearance changed	Confirmed rating/ Appearance chan- ged

The credit ratings of "B3" or "B" determined by these agencies, indicates that Bosnia and Herzegovina has a speculative credit rating with high credit risk, in a non- investment level or zone of high credit risk, which can ultimately imply that Bosnia and Herzegovina could have problems with the payment of obligations on time.[8]

4.1 The Interdependence of the Import of Goods and the Public Debt of the Government of Bosnia and Herzegovina

The halt in the growth of expenditures in relation to the decline in revenue was not enough to prevent the escalation of primary deficit to 3.9% of GDP in 2009. Projections of the deficit with the earlier trend of public expenditures were considerably more pessimistic, which caused the initiation of negotiations with the IMF on the Stand-By Arrangement, which would limit the deficit growth. In 2009, the IMF Executive Board approved a Stand-By Arrangement in the amount of SDR 1.01 billion (BAM 1.2 or 600 per cent of quota) for a period of 36 months (July 2009 - July 2012).

The deficit projection made by the governments was much higher than the actual. In 2009, the consolidated budget recorded a deficit of around BAM 1 billion, or EUR 500 million. Measured as a share of GDP, it amounted to 3.8% (expenditure approach), i.e. 4.4% of GDP (production approach). The implementation of specific measures made the highest impact in 2010, when for the first time a decline of social benefits was recorded, followed by the stagnation of compensations for employees. In fact, in addition to the re-growth of revenue, this was one of the most important factors for the deficit decrease in 2010. Moreover, restrictive expenditure policy continued in 2011, despite a significant increase in social benefits by 15%, which is largely due to savings made primarily in the field of material costs and subsidies, where the primary deficit

was reduced to 1.3% of GDP in 2011 by the revenue growth of 4.6%.

Table 7 Current Account Deficit of Candidate Countries for 2006 and 2011 (% of GDP)

No.	Country	% GDP 2006	% GDP 2011
1.	E - 27	-1,5	-4,4
2.	Croatia	-2,9	-5,2
3.	Montenegro	2,9	-5,4
4.	Iceland	6,3	-4,4
5.	Macedonia	-0,5	-2,6
6.	Serbia	-1,6	-5,0
7.	Turkey	0,8	-1,1
8.	Albania	-3,3	-3,5
9.	Bosnia and Herzegovina	2,9	-1,3
10.	Kosovo	1,1	-

Source: Eurostat, Pocketbook on the Enlargement Countries, 2013, No. KS – 30 – 12 – 129 – EN – C, p. 5

**Table 8 Trends in Foreign Trade Indicators for 2008-2012**

In 2012, imports valued at BAM 15.2 billion (i.e. EUR 7.7 billion) were made in Bosnia and Herzegovina, resulting in the decline of imports by about 1.8% compared to the year before, while exports decreased by 4.4% in 2012 and reached the value of BAM 7.8 billion (or EUR 3.9 billion). Also, due to the need for additional financing, in 2011 the authorities decided to start issuing debt securities in the domestic market and thus raise funds to finance the deficit. In 2012, the Government of the Republic of Srpska (an entity within Bosnia and Herzegovina) issued treasury bills in the total value of 49 million Euros. Likewise, the Government of the Federation B&H (an entity within Bosnia and Herzegovina) in 2012 issued treasury bills in five series totalling to around 61 million Euros. In addition to the bills, the Government of the Republic of Srpska issued long-term bonds with a maturity period of seven years in the total value of around 15 million Euros. The Government of the FB&H did the same and issued bonds in the total value of 57 million Euros (Central bank of Bosnia and Herzegovina, 2012). The table below illustrates the tendency of movement of foreign trade indicators for the period 2008-2012.

All the countries of the region, except Croatia, recorded rates of decline in the value of imports, while exports from the standpoint of positive growth rates were recorded only by Croatia and Slovenia. A drop in exports was most prominent in Macedonia and Serbia, at the level of about 10% in comparison with the previous year. The export-import ratio was reduced in all countries except Slovenia, whereby Slovenia has the highest export-import ratio exceeding 95%.

Foreign Trade Indicators	2008	2009	2010	2011	2012
Export of Goods	3.431.633	2.827.637	3.627.874	4.203.899	4.017.712
Changes in Exports	13,1%	-17,6%	28,3%	15,9%	-4,4%
Imports of Goods	8.326.928	6.313.670	6.961.854	7.938.025	7.798.705
Changes in Imports	17,2%	-24,2%	10,3%	14,0%	-1,8%
Trade Balance	-4.895.296	-3.486.033	-3.333.980	-3.734.126	-3.780.993
Changes in Trade Balance	20,3%	-28,8%	-4,4%	12,0%	1,3%
Total Trade	11.758.561	9.141.307	10.589.728	12.141.924	11.816.417
Changes in Total Trade	15,9%	-22,3%	15,8%	14,7%	-2,7%
Coverage of Imports by Exports	**41,2%**	**44,8%**	**52,1%**	**53,0%**	**51,5%**

Source: http://www.dep.gov.ba/Default.aspx?langTag=bs-BA&template_id=139&pageIndex=1, Economic Trends, Annual Report, 2012, p. 41 (Accessed on: June 9, 2013)

Figure 3 Simple Linear Regression Line between Imports and External Debt of Government of Bosnia and Herzegovina for the period 2008-2012
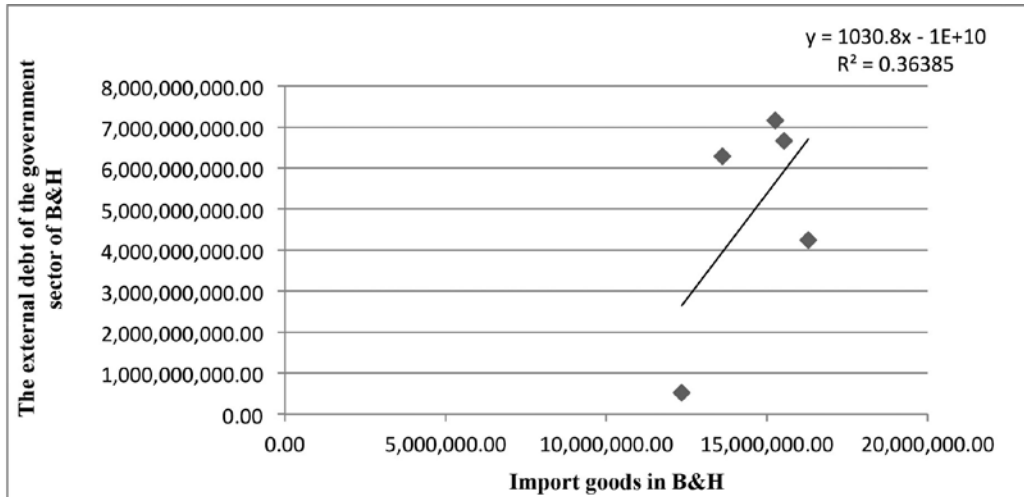
Source: Calculations by authors

In comparison with the countries in the region, Bosnia and Herzegovina recorded the lowest coverage of imports by 51.5%. In countries with lower levels of per capita income, there is a much higher share of trade in GDP.[9]

In the regression model, which will be the subject of the analysis, we shall follow the interconnectivity and interdependence of imports of goods and the external debt of Government of Bosnia and Herzegovina for the period 2008 - 2012. The regression equation is based on empirical data, where based on the solution of the equation we can conclude that the change in the imports has implications on the public debt sectors of the Government in terms of increase or decrease. Based on the scatter diagram, i.e. coefficient of correlation (r = 0.6032), it can be concluded that there is a statistical correlation of positive direction between the variables and that the increase in the value of imports of goods would affect the increase of the public debt.[10] The following chart illustrates the interdependence of imported goods and the public debt of the Government of Bosnia and Herzegovina for the period 2008-2012.

The empirical ratio of F=1.72 (Table 9) certainly shows that the regression model is statistically significant.

The coefficient of determination is $r^2=0.3638$ and the model explained 36.38% of variations. Based on these parameters, as well as indicators of regression analysis, it can be concluded that the applied model from the statistical point of view has quite good characteristics.

Table 9 Pearson Product Moment Correlation between Imports and External Debt of the Government of Bosnia and Herzegovina

Parameters	Variable 1	Variable 2
Mean	14605819,2	4973694343
Variance	2,5407E+12	7,41918E+18
Observations	5	5
Df	4	4
Pearson Correlation	0,603199	
Covariance	2,09508E+15	
Correlation	0,603199086	
Determination	0,363849137	
T – Test	2,776445	

Simple Linear Regression - Ungrouped Data

Parame-ters	Value	S.E.	T – STAT
Beta	12850181,71	1492424,882	8,61027
Elasticity	0,000352985	0,000269473	1,309909

Simple Linear Regression - Analysis of Variance

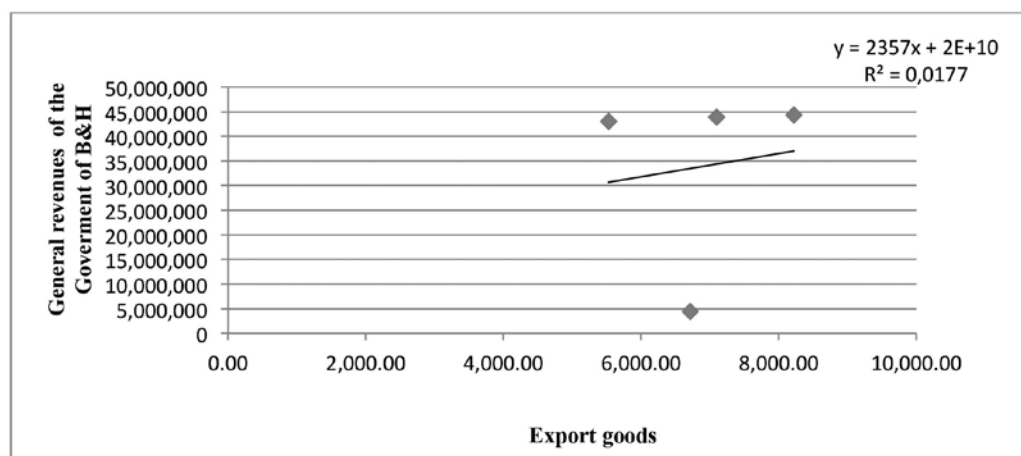| ANOVA	DF	Sum of Squares	Mean Square
Regression	1	3,7E+12	3,7E+12
Residual	3	6,46E+12	2,15E+12
Total	4	1,02E+13	
F – TEST	1,715862		

Source: Calculations by authors

The regression equation is equal to:

$$Y = 1.030,8X - 1E + 10$$
$$R^2 = 0,3638$$

Figure 4 Simple Linear Regression Line between Exports of Goods and Revenues of the Government Sector for the period 2008-2011

According to the above equation, if we increase the variable of import by one million BAM, the variable of external debt will increase linearly by an average of around 1.03 million. The parameter estimation is statistically accurate. Therefore, the analysis of a relationships between the parameters of imports and external debt of the Government of Bosnia and Herzegovina sector, based on the model adopted and the given data, demonstrated that there is a strong statistical linear relationship in a positive direction between these parameters.

The following is a regression model, where we now analyse the interdependence of exports of goods and general government revenues. The goal is to determine the extent to which the export of goods relates to the increase of general government revenues of Bosnia and Herzegovina. Thus, the relationship between the dependent variable of general government revenue (Y) and the independent variable of exports of goods (X) is analysed. The analysis uses a simple regression model, where the following scatter diagram presents the regression direction.

Based on the scatter diagram, i.e. the coefficient of correlation (r=0.1331), it can be concluded that there is a statistical relationship of a positive direction between these variables and that the increase in the value of the goods export will at the same time affect the increase of the revenues of the general government.

Source: Calculations by authors

Table 10 Pearson Product Moment Correlation between Exports of Goods and the Income Sector of General Government

Parameters	Variable 1	Variable 2
Mean	6889921	3,39E+10
Variance	1,23E+12	3,86E+20
Observations	4	4
df	2	2
Pearson Correlation	0,133126	
Covariance	2,17858E+15	
Correlation	0,133126335	
Determination	0,017722621	
T – Test	3,182446	

Simple Linear Regression - Ungrouped Data

Para-meters	Value	S.E.	T – STAT
Beta	-85313203,98	10135995,75	-8,416854747
Elasti-city	0,002111261	0,000231927	9,103107452

Simple Linear Regression - Analysis of Variance

ANOVA	DF	Sum of Squares	Mean Square
Regression	1	3,61E+12	3,61E+12
Residual	1	4,36E+10	4,36E+10
Total	2	3,65E+12	
F – TEST	82,86657		

Source: Calculations by authors

The empirical relationship F=82.87 (table 10) also shows that the regression model is statistically significant. The coefficient of determination is =0.0177, which is related to the 1.77% of deviation. Based on these indicators of regression diagnostics, it can be concluded that, the model applied has statistically relatively good features. The regression equation is:

$Y=2.357X-2\mathbf{E}+10$

$R^2=0,0177$

According to the above equation, if the variable of exports of goods is increased by BAM 1 million, the variable of revenues of the general government will linearly increase by an average of about 2.3 million. Namely, the analysis of relationships between the parameters of exports of goods and income sectors of Government of Bosnia and Herzegovina, based on the model adopted and of the given data, has shown that there is a strong statistical linear relationship in a positive direction between these parameters.

With the sustainability concept, the question is where is the limit of the acceptable level of debt in terms of the percentage of public debt to GDP. Previous experience of many countries shows that these limits are different for various countries. The limitation of the concept of sustainability is reflected in the fact that often too strict criteria regarding the measures to be taken are imposed. The growth in Bosnia and Herzegovina is expected to be driven by the growth in exports that, combined with stable inflows of remittances, would increase the consumption and import. Public investments in infrastructure projects should support economic activities. The fast pace of economic growth should definitely stimulate the implementation of structural reforms (IMF, 2013).

5. Conclusion

The analysis of results achieved in the process of the banking and overall financial transformation has shown that there has been a significant step towards harmonization in terms of the convergence criteria as defined in the Maastricht Treaty. The banking sector was generally the most prominent generator of economic growth in the country, based on domestic deposits. Despite the fact that partial results were achieved in meeting the convergence criteria, nominal convergence criteria achievement is the first and easier stage in the process of joining the EU and the EMU. Certainly, the second phase, which is more difficult, is the real convergence. Thus, the second phase involves the harmonization of the labour market, regulation of foreign direct in-

vestments, fiscal policy and proper transformation and homogenization of real economy.

The analysis of the relationships between the parameters of imports and external debt of the Government of Bosnia and Herzegovina sector, based on the model adopted and the given data, demonstrated that there is a strong statistical linear relationship in a positive direction between these parameters. The analysis of relationships between the parameters of exports of goods and income sectors of the Government of Bosnia and Herzegovina, based on the model adopted and of the given data, has shown that there is a strong statistical linear relationship in a positive direction between these parameters. With the sustainability concept, the question is where is the limit of the acceptable level of debt in terms of the percentage of public debt to GDP.

A deficit higher than the one prescribed by the convergence criteria could lead to the public debt of Bosnia and Herzegovina that cannot be controlled. Therefore, the priority is to reduce the deficit in the coming years. In order to reduce the deficit by the end of the year, some levels of governments have to implement measures designed to reduce the total expenditure, and thereby reduce the deficit. In accordance with all stated above, the challenge of financing the deficit would still remain. In the earlier years, deficit financing was made through borrowing, both domestic and foreign. The entity governments issued bonds for this purpose. The only current deficit funding assumption, which of course is not justified, is a partial increase of the public debt. Countries that have lower participation of public debt to GDP in the long run have a greater possibility to achieve economic growth.

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(Endnotes)

1   This report was named after the President of the European Commission (at that time), Jacques Delors.

2   Thrifts are financial institutions, which are smaller banks, primarily engaged in granting loans to consumers and not engaged in corporate affairs.

3   International Monetary Fund (2013), Available at: http://www.imf.org/external/pubs/ft/scr/2013/cr13196.pdf (Accessed on: June 10, 2013)

4   http://ec.europa.eu/eurostat/tgm/table.do?tab=table&init=1&language=en&pcode=teina225&plugin=1 (Accessed on: June 10, 2013)

5   European Commission – Eurostat (2013). Eurostat, Pocketbook on the Enlargement Countries, 2013, No. KS – 30 – 12 – 129 – EN –C

6   The Central Bank of Bosnia and Herzegovina (2012). Annual report, Available at: http://www.cbbh.ba/index.php?id=31&lang=bs (Accessed on: June 9, 2013)

7   Refers to the Special Drawing Right, with the share of the euro against 37.4%.

8   Securities Commission of the Republic of Srpska (2012), Information on the state of the securities market, the activities and operations of the Securities Commission of the Republic of Srpska in the first half of 2012, Available at: http://www.secrs.gov.ba/Documents/Izvjestaji/9a21a1d1-40b5-47b4-a003-02377623b2e1_sr-Latn-CS.pdf (Accessed on: July 20, 2013)

9   B&H Directorate for Economic Planning (2012). Available at: http://www.dep.gov.ba/Default.aspx?langTag=bsBA&template_id=139&pageIndex=1, Economic Trends, Annual Report (Accessed on: June 9, 2013)

10 The coefficient of correlational ways has a value in the range from -1 to +1. Positive correlation means that the two observed sizes move in the same direction,while a negative correlation indicates that they typically move in opposite directions.The correlation coefficient of zero indicates that the two variables are uncorrelated, while the value of -1 indicates a perfect negative correlation.

Almir Alihodžić
Dženan Đonlagić

Učinci promjena vanjskotrgovinskih pokazatelja na javni dug Bosne i Hercegovine

Sažetak

Vanjskotrgovinski se pokazatelji mijenjaju pod utjecajem globalne financijske krize i u konačnici imaju veliki utjecaj na fiskalnu održivost. Također, povećanje proračunskoga deficita i javnoga duga utječe na rast dugoročnih i kratkoročnih kamatnih stopa, kao i na ukupnu fiskalnu stabilnost. Temeljni cilj u ovome radu jest sagledati utjecaj globalne financijske krize na tendenciju kretanja javnoga duga, kako u Bosni i Hercegovini, tako i pojedinim zemaljama zapadnoga Balkana. Naime, kako je Mastrihtskim kriterijima utvrđena granica javnoga duga od 60% BDP-a, u radu će se analizirati navedeno ograničenje, kao i međuovisnost uvoza roba i javnoga duga općega sektora Vlade putem jednostavne regresijske analize za razdoblje: 2008. – 2012. Regresijskim modelom izvršit će se testiranje ovisnosti javnoga duga sektora Vlade BiH uslijed porasta uvoza roba, kao i uvjetovanost izvoza roba i prihoda.

Ključne riječi: vanjskotrgovinski pokazatelji, uvoz, izvoz, javni dug