

## ECONOMIC GROWTH AND DEBT RELATION IN BALKAN ECONOMIES

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### ABSTRACT

*The effects of foreign debt on the growth have been the subject of many studies because of adverse experiences in the country that occurred after the 2008 crisis. Whereas the majority of studies reveal the existence of the negative impacts of the economic growth of external debt, only a few studies represent a positive contribution to the growth. This study has analyzed external debt, current account deficit and growth relations for Balkan countries between the years 2000-2011 using fixed capital and growth rate and debt ratio variables. The panel data estimation is also analyzed and the findings of the panel estimations unsurprisingly overlap with the theory; in other words, findings support the increase in the external debt ratio has a negative effect on economic growth.*

**Key words:** *Foreign Debt, Current Account Deficit, Economic Growth, Panel*

Data Jel Kod: F14- F19

### 1. INTRODUCTION

Both economic growth and social growth occupy a very important place among the general aims of economies. One of the vital priorities is that domestic production needs to be boosted in order to sustain such growth. To lift up domestic production, it is crucial to transfer capital stock into investments. However, in the context of developing countries, capital is a rare resource and the amount of savings necessary to raise capital is generally insufficient or locally unavailable. Hence, low savings leads to low investments, low investment leads to low income, and low income leads back to low savings. This cycle generates convoluted effects. To break this vicious cycle, an external intervention may be required and thus foreign debt may serve as a solution. Due to the requirement that some investment goods will be exported, the demand for foreign currency may be inevitable. This circumstance of certain economies is called „twin deficits“. In order to increase their countries“ welfare, two major problems encountered by developing countries are „savings deficit“ and „balance of payment deficit“.

Developing countries appeal for a large amount of foreign financial resources for their economic growth due to deficits in the country“s domestic resources. Thus, they attempt to finance these requirements with foreign debt or international financial aid (İnce, 2001: 135). Local people and institutions may apply for foreign debt from foreign creditors, also known as credit supply, for such purposes as to cover resource/savings deficit, foreign trade and balance of payments deficit, and budget deficit; to provide finance for defence expenditures; to finance great investments, reforms and any other factors to provide and protect economic equilibrium; to fund due debts, and eventually to meet unexpected expenses (natural catastrophes, war, etc).

Keynes, who advocates the necessity of government interference to economic development, claims that foreign debt offers great contributions to financial growth and that government intervention is necessary for a higher level of economic development. Harrod-Domar also references this relationship and also states that foreign aid increases investment rates due

to its being a source for higher a savings rate. Higher investment leads to an increase in the rate of growth, finally pushing up the level of income (Kara, 2001:96-97). In addition, foreign debt may yield better results in economies where marginal efficiency of capital is higher.

Foreign debt is generally considered to contribute to economic development. On the other side, impacts of foreign debt on the economy are not quite certain. To turn the effect positive, such factors as efficient utilization of external debt, absorptive capacity of that particular economy, balance of payments, and terms for foreign loans are to be taken into consideration. At this point, Lin and Sosin (2001: 636-637) emphasize that although long term foreign debt diminishes both capital stock and future economic development, during the repayment period of foreign loan, it instigates an increase in both current capital stock and economic development. Kozali (2007: 62) affirms that it has been a common practice that foreign financial aid should be sought as long as it fosters real production according to the scale for absorptive capacity.

On the other hand, higher debt after a certain point may damage economic development, generating an isolation effect on domestic and foreign direct investments. Such a circumstance originates from higher tax expectations by investors (Bhattacharya ve Clements, 2004: 49). The theory of debt overhang explains that a high level of debt stock has a negative impact on economic development. Keeping that in mind, in the case that the debt owed is much higher than the repayment capacity, „expected debt service cost“ naturally hinders local and foreign direct investments. Prospective investors assess this particular circumstance reasoning that if they acquire more profits from the increase in their production, they will have to pay higher taxes which will eventually be used to cover the country's foreign debt (Uysal, et al 2009:164).

Past experiences under the totalitarian regime along with the internal unrest and socialist planning in some of the Balkan states, which is study topic of the paper, made the transition into a free market economy inevitable, forcing these countries to seek more foreign resources with a purpose to construct proper structures. However, despite the fact that debt is an unavoidable factor to reorganize and restructure such economies in the period of transition, debt has been mostly used to finance imports, especially imports of consumer goods, and to meet national

consumption needs, rather than boosting country's dynamics and making fruitful investments. This has been one of the gravest issues in a short time in some of the above mentioned economies (Uzun et al. 2012:151). Reflections of the situation have generated some great deficits in balance of current account. Increasing current account deficits over the years hampers sustainability of capital inflows and utilization of stability programs for transition to free market economy (Wachtel, 1998: 2-3).

## 2. LITERATURE REVIEW

The new phenomenon „globalisation“ which has taken the world by storm makes states seek foreign loan with rising rates. Empirical studies concerning this new trend have taken a central stage in the Economic Literature. Findings of various studies may vary due to different test methods used and periods in which they are administered. The findings of these research studies reveal the negative impacts of external debt on economic growth. Due to a very large number of studies on the field, this study focuses on developing countries and on very recent studies which have been conducted with regard to the topic.

In his paper which studies the impact of foreign loans on economies, by means of both co-integration and error correction models, in the period 1970-

1995, within the context of Kenya, Were (2001) reaches the conclusion that external debt adversely affects economic development. Pattilo et al (2002) concludes that the economic development is influenced negatively by external debt when the external debt-to-GNP ratio is above 35-40%, and the economic growth is affected positively by foreign loan when the ratio is below 35-40%, having retrieved the data available between the years 1969-1998 from 93 countries. Desta (2005) analyses the correlation between external debt and economic development, using the data between the years 1970-2002 for Ethiopia by means of Least Square, Co-integration and Error-Correction methods. Desta finds out that there exists a negative correlation between the variables.

Presbitero (2005), in the study where he examines the relationship between the rate of income per capita and external debt, from data obtained from 152 countries between the periods 1977-2002, reveals that there is an adverse effect between indebtedness and economic development, and that debt service interrupts growth due to isolation effect., Akujuobi

(2007) analyzes the debt-development relationship having used Nigeria's debt and economic growth data between the years 1980-2002. The study, which is conducted with the help of Regression Analysis, shows that internal debt has a positive effect on national outflow; however external debt reflects a negative impact on national outflow. Using the Vector autoregressive model, Abu Bakar (2008) also conducts a study in Malaysia based on data obtained during the period of 1970-2005 and finds out that debt affects the economic development positively, and a total 1% increase in external debt in the long term raises the economic growth by 1.29%.

Safia (2008) studies the relationship between the income per capita and the debt-to-GDP ratio in 24 developing countries between 1976 and 2003. The above mentioned study concludes that there is a negative correlation between foreign debt and income per capita and in case it cannot be met, the correlation will end up with a worse scenario. Hayat and Hayat (2012) find that an increase in external debt leads to a drop in financial growth and that debt servicing generates a negative impact on GDP, in their study conducted between 1972 and 2005 in Pakistan in accordance with ADF testing.

Ogunmuyiwa (2011) administered a time series analysis in his study in Nigeria between the years 1970-2007. Having tested the hypothesis that external debt reinforces economic development, the researcher finds that foreign debt does not boost economic growth, rather it serves as a diminishing force on economic development. In their study conducted in Iran based on VAR modelling, between

1974 and 2007, Safdari and Mehrezi (2011) conclude that both external debt and exporting generate a negative impact on economic growth. The same study also reveals that exporting and foreign debt have a negative impact on private investments.

Uzun et al (2011) examined the relationship between external debt and economic growth, having analysed the statistics in accordance with Granger causality test with panel data in seven Middle Asian and Caucasian countries between the period 1993&2009. The study findings suggest that there exists a causality that runs from economic growth to external debt, and a causality running from current deficit to economic development and external debt. In another study, Uzun et al (2011) examine the correlation between external debt, external openness and growth in the years between 1993 and

2008 for 20 developing economies and additionally investigate the relationship between the mentioned factors by way of causality hypotheses. According to the causality test results deduced from the study, there exists a unilateral causality between growth and debt, but no relationship between debt & growth. Meanwhile, the study shows no causal relationship between economic growth & external openness, and debt & openness. Gul et al (2012) study the relationship between external debt and economic growth in six Turkic countries, including Turkey, in the period between

1994 & 2010. Pederoni Co-integration and causality tests are applied in the study. Test findings reveal that there exists a long-term relationship between foreign debt and financial growth and there is a unilateral causal relationship between external debt servicing and growth.

Karagol (2002) analyses the correlation between external debt burden and economic development with the data between the years 1956-1996 by means of co-integration and Granger causality tests. The results display a negative impact of external debt service on economic growth. Karagol's 2006 study finds out by means of co-integration, cause-effect and VAR disintegration for the period 1960- 2002 that the mentioned variables go hand-in-hand in the long term; however an intervention imposed on the foreign debt has a positive effect on the economy.

Kozali (2007) uses some vital variables i.e. GNP, external debt stocks, and state and private sector investments, strengthening his argument by including real values on Turkish economy between the years 1970-2005. The co-integration test results, where structural breaks are taken into account, point out to the negative impact of both external debt stock and external debt servicing on economic growth. Ipek and Yasar (2008) examine the correlation between external debt and economic growth by means of co-integration and causality analysis, having focussed on the period between October 1989 and September 2007. The results show that there is a co-integral relationship between external debt and economic growth in Turkey and that there exists a reciprocal causal relationship between them both in the long and short terms.

Bilginoglu and Aysu (2008) examine the relationship between foreign debt and economic development with regard to Turkish economy in their study. A regression analysis is conducted in the study, using

the annual records between the periods 1968-2005 by means of least squares method. The analysed results show that foreign debt has a negative impact on Turkish economic growth. Uysal et al (2009) also make a comprehensive analysis on the effect of external debt on Turkey's economic development, based on co-integration analysis between the years 1965-2007. The findings reveal the fact that external debt has a negative impact on the national output both in the long and short terms. Cicek et al (2010) in their study examine in what ways the internal and external debt affect economic growth in Turkey, having used the quarterly data obtained between the period

1990 and 2009. The analysis reveals the fact that an increase in internal debt stock has a positive impact on GDP; on the other hand, an increase in external debt stock does have a negative effect on GDP.

Ceylan and Durkaya (2011) in their study investigate whether the long term relationship between the economic development and debt stock in Turkish economy is symmetrical in the period between April 1987 and March 2007, using quarterly records time series. With that in mind, they use an EG's linear co-integration and TAR & M-TAR co-integration models which enable asymmetrical adaptation. The data obtained concludes that Turkish economy in the mentioned period is above the maximum-debt level. Turkey has been forced into a vicious cycle because the public debt has not been exploited in fruitful investments and thus there have not been enough financial resources to repay the loan. Due to the afore-mentioned reason, the public debt should be allocated to fruitful investments and thus diminish debt stock. In this regard, they suggest that putting a more rigid financial policy into practice, which stops increasing debt stock, will hamper wasteful practices. They eventually conclude that the need for additional capital, required for sustainable growth, would only be met by an increase both in foreign direct investments and national savings rates.

**3. ECONOMETRIC MODEL AND FINDINGS**

This study examines the relationship between the current deficit, external debt, and economic growth, specifically in Baltic countries and the Balkan countries that have just joined the EU. The study attempts to investigate the impact of external debt on economic development, by means of panel data methods using Gross Domestic Product

(GDP) growth ratio, current account deficit to GDP ratio, and fixed asset to GDP ratio. Data sets for the period between 2000 and 2011 were retrieved from the World Bank database. Eviews-6 and Stata-11 econometric software package programs have been used in the study. In panel data analysis, the horizontal position represents 17 countries (Albania, Bosnia, Bulgaria, Czech Republic, Moldova, Poland, Hungary, Romania, Slovakia, Slovenia, Croatia, Macedonia, Estonia, Lithuania, Latvia, Greece and Turkey) and the vertical position represents a time series (between 2000-2011, amounting to 12 years).

A correlation matrix has been generated to determine the relationship between the variables. The correlation matrix displays debt and external deficit have an adverse impact on growth. Capital investments- as the theory suggests- have a positive effect on economic development. Conversely, debt and current account deficit affects fixed capital investments.

**Table 1.** Correlation Matrix

	GDP	EDS	CD	FC
GDP	1			
EDS	-0.23375	1		
CD	-0.37119	-0.13820	1	
FC	0.25999	-0.212843	-0.47541	1

The most common form panel data is expressed as follows:

$$Y_{it} = \alpha_{it} + \beta_{kit} X_{kit} + \dots + \beta_{Kit} X_{Kit} + u_{it} \tag{1}$$

$$i=1, \dots, N; t=1, \dots, T; k=1, \dots, K$$

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In the equation (1)  $i$  indicates the economic units of model. This is related to horizontal part of the panel cross-section.  $t$  in the equation, however, refers to the size of the time series for each unit,  $N$  is the number of units in the model,  $T$  is the number of observations for each unit.  $K$  indicates the number of independent variables and  $uit$  is the error term.

Before estimation step we need to some test in order to make decision model which is the most proper model that can represent the panel data. Initially we Table 2. Model Selection Tests

Tests	Test statistics	Probability Value
LR test (perid effect)	$\text{chibar}2(01) = 101.53$	0.000
LR test (unit effect)	$\text{chibar}2(01) = 0.43$	0.2555
LM test (unit effect)	$\text{chi}2(1) = 0.02$	0.9016
Hausman test	$\text{chi}2 10.044$	0.0182

In order to show period effets of year, Dumy variable fixed effect model is estimated. Estimation result reveals that 2008, 2009, 2010 years effects are significant and negative. Especially GDP of 2009 is affected mostly. Beside the dumy variable regression the intragroup fixed effect model has been estimated. Table 3 displays the results of Regression analysis. F test results of the

tested if the panel has period effect or unit effect or both of them. Test result reveals that panel has only period effect. Panel data methods are carried out by fixed and random effects, as Baltagi (2004) states. Some tests are administered in order to choose between two possible estimation models. The hypothesis, which concludes that there exists no systematic distinction between the coefficient of fixed and random effect models, is rejected for failing the Hausman test, (1979,

1981) which serves to determine what model should be used in a certain study. According to the same test results, it is more convenient to employ fixed effects method.

regression are significant and the  $R^2$  value shows that independent variables account for a 57% change incurred in GDP growth. Foreign debt stock is negatively correlated with economic growth and is statistically significant at 1%. A one unit increase in external debt rates leads to a 0.15 drop in economic growth.

**Table 3.** Results of Fixed Effect Regression (GDP being the dependent variable)

Variables	Parameter	T statistic	P Probability Value
Foreign Debt	-0.1549745	-10.01	0.000
Current Deficient	0.2085841	11.34	0.000
Fixed Capital	0.5158394	12.79	0.000
$R^2$	0.57	$F( 3, 201) = 88.61$	0.000

Current account deficit has a positive effect on economic growth and has a

1% significance level. A 1 unit increase incurred in current deficit increases

i You can find Dummy variable estimation results end of the paper. economic growth by 0.21. Fixed capital investment has a positive impact as the hypothesis proposes and is statistically significant and the coefficient is surprisingly of high importance - an 1 unit increase in capital investments increases economic growth by 0.57.

## DISCUSSION and CONCLUSION

The Economics Literature in general advocates that foreign debt has a negative impact on economic growth. Conversely, some research findings suggest that external debt positively affects growth. These contrary views and findings in the Literature are most likely attributable to the capability to overcome saturation of foreign debt or to use debt in more rewarding areas of finance. If debt is diverted to more productive investments, it contributes to economic growth positively, and if it is not, negative effects will definitely occur in development, due to both potential difficulties and financial leakage in the economy faced whilst paying it back. Large amounts of debt servicing payments affect growth negatively, because of both the transfer of foreign currency, which is required for imports of capital goods, out of country, and inadequate allocation of financial resources to productive investments. For a country to sustain high rates of growth by means of external debt, income of investments made by foreign debt should be higher than the cost of debt. This circumstance will then allow an increase in domestic production capacity and proceeds (Cicek et al., 2010:143).

Such Balkan and Baltic countries (the topic of the study) as Albania, Bosnia, Bulgaria, Czech Republic, Moldova, Poland, Hungary, Romania, Slovakia, Slovenia, Croatia, Macedonia, Estonia, Lithuania, Latvia have realized the transition from totalitarian regime to a free market economy. Those countries have been forced to seek out various capital sources in order to revive investment- production processes in their economies, and to survive the recession period that is experienced due to the failure in production sector in the transitional period. As a result of seeking out financial debt, an increase in external debt follows and a balance deficit in external debt eventually occurs. Some of these countries experienced political and military clashes in the independence period. These countries looked for financial resources to overcome their recession with the results being a breakdown in the production structures during the very first periods of their transition. This turned out to produce a boost in foreign debt and a deficit in external debt balances. The econometric analysis conducted in the afore-mentioned countries during the

given period reveal that current deficit and investment affect growth positively.

The study also points out to the fact that the obtained external debt has efficiently been utilized in the production sector, because the increase incurred in fixed capital rates has provided a high positive contribution to economic growth. Positive effect of current deficit leads to think that these countries have high intermediate and investment of import. It can be though that these countries external dependency in terms of input and finance. In order to eliminate external dependency, to achieve the sustainability in repayments for external debt, and to diminish current account deficits, additional financial resources should be generated by making fruitful investments, and consequently, policies promoting large amounts of savings should be prioritized. The empirical results deduced in this study support the arguments suggested in hypothesis. Especially global crisis has negative effect of these countries growth.

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Table: Dummy Variable Estimation

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i.t      _It_2000-2011    (naturally coded; _It_2000 omitted) Source |
-----+-----
SS      df      MS          Number of obs =   201
-----+-----          F( 14, 186) =  22.29
Model | 2540.81245  14 181.486603      Prob > F   = 0.0000
Residual | 1514.45753  186 8.14224479      R-squared  = 0.6265
-----+-----          Adj R-squared = 0.5984
Total | 4055.26998  200 20.2763499      Root MSE  = 2.853

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	Coef.	Std. Err.	t	P> t	[95% Conf. Interval]	
						gdp
eds	-.0231137	.0070765	-3.27	0.001	-.0370741	-.0091533
	.213517	.0494381	-4.32	0.000	-.3110484	-.1159855
	.0566831	1.33	0.185		-.0364119	.1872368
_It_2001	-1.167896	1.00977	-1.16	0.249	-3.159971	.8241782
_It_2002	-.4053704	.9949244	-0.41	0.684	-2.368157	1.557416
_It_2003	.2225919	.995842	0.22	0.823	-1.742005	2.187189
_It_2004	.7882178	.9980306	0.79	0.431	-1.180697	2.757133
_It_2005	.4472328	1.000347	0.45	0.655	-1.526251	2.420717
_It_2006	.8929683	1.014471	0.88	0.380	-1.10838	2.894316
_It_2007	-.2769172	1.049634	-0.26	0.792	-2.347635	1.793801
_It_2008	-3.000264	1.039986	-2.88	0.004	-5.051948	-
	.9485798					
_It_2009	-10.35167	1.005141	-10.30	0.000	-12.33462	-
	8.368731					
_It_2010	-1.882438	1.005941	-1.87	0.063	-3.866959	.1020836
_It_2011	-1.466151	1.016179	-1.44	0.151	-3.470868	.5385665
_cons	3.229884	1.496909	2.16	0.032	.2767821	6.18298

