

Albanian Fiscal Deficit during the Global Financial Crisis: Structural or Cyclic?

Anxhela Kasapi

Institute of European Studies, University of Tirana, Tiranë, Albania

Abstract

This work is one of the first attempts to empirically investigate the impact of the global financial crisis in Albanian public finance indicators. Fiscal deficits have widened abruptly over the last years, starting from and following the course of the global financial crisis. Evaluating the extent to which structural or cyclical factors may have contributed to this trend is important for assessing the future developments, as well as to establish appropriate fiscal policies.

An empirical investigation of the impact of global financial crisis on public finance in Albania was carried out in this paper by employing a multiple linear regression, using quarterly time series data for the period between 2007 and 2014. General government data utilized in this research have been compiled according to international standards, enabling international comparability of statistics and analysis results.

The findings reveal the existence of both structural and cyclical factors in the determination of Albanian general government deficit. The analysis results show that government capital investments and GDP growth have significant impact on fiscal deficit in Albania. Furthermore, the rise in the deficit level can be related in large part to structural factors including large inappropriately financed public investments and spending in general, energy sector issues and social security financing gap. Meanwhile, part of the rise in fiscal deficits appears to be related to various cyclical factors including changes in output growth and may be expected to reverse alongside the economic recovery.

The results suggest a reduction in the deficit after recovering from global financial crisis, but still registering high values due to structural factors of the Albanian economy. Thus, fiscal policy should aim the consolidation of public finances and the reduction of fiscal risks to the sustainability of the budget. As a result, priority should be given to the resolution of structural issues, coupled with policies that aim at economic growth and development.

Keywords: Fiscal deficit, GDP growth, fiscal policy, Global financial crisis

1. Introduction

Fiscal deficits have attracted great attention in recent decades, especially for the fact that they relate to the biggest challenges that must be faced in developing countries, such as, high rates of inflation, high levels of borrowing, loss of national sovereignty etc. During the course of global financial crisis many countries over the world have experienced deterioration in their public finance demonstrated by high level of fiscal deficits and outstanding debt.

Fiscal deficit consists of the difference between government revenues and expenditures. Government has two choices to cover financial needs; First taxation system. Higher taxes may affect consumption and consequently reduce economic growth. Meanwhile, deficit can be financed through debt. The latter will cause an increase of liabilities for future generations and mine their ability to maintain economic and financial stability. Furthermore, debt is affordable if used to generate economic growth, otherwise the public finances will face serious issues. Thus, the government must maintain the balance between fiscal policy and debt financing, in order to maintain economic and financial stability in the long run (Ball and Mankiw (1995)).

Several empirical studies over time have analyzed structural and cyclical factors affecting the level of a country's fiscal deficit. Easterly and Schmidt-Hibbel (1993) in an empirical study of 10 developing countries, have found that a lower and stable deficit is generally associated with economic growth, while higher deficit levels are associated with higher interest rates. Thus, an increase in real interest rates deteriorates fiscal deficit by increasing the cost of debt repayment. While, Mayr (2010) notes, that international aid constitutes an important feature of the budgets in many countries with low incomes. He doubts that financing in the form of foreign aid can increase the moral risk and push the governments to take even more debt. Also, Brownbridge and Tumusiime-Mutebile (2007) studying the effect of deficit in the sustainability of public finance in Uganda, believe that foreign aid encourage deficits growth. Darrat (1988) examines the relationship between deficit and trade deficits and the factors that cause deficits in the US, using the data on a quarterly basis for the period 1960-

1980. He discovers there is a strong inverse relation between the budget deficit and trade, using the test of Granger's cause. Also studying other macroeconomic variables that cause budget deficit, he finds that interest rates short-term, personnel costs, monetary base, trade deficit, real output, income in foreign currency, inflation, exchange rate and long term interest rates are the causes for Granger causality.

Egeli (1999) studied the budget deficits in a mix of 23 countries using the multiple regression, and notes that the increase in public investments positively affects the deficit level.

Bayar and Smeets (2009) identify the major factors which can have an impact on the changes of budget deficit for EU 15. The study considers a few independent variables: change of GDP growth rate, change of unemployment rate, change of real debt-cost service, political and institutional variables, but a greater attention is on the political and institutional factors.

While, Castro (2007) have analyzed the excessive budget deficits determinants by using a binary choice model with a dependent dummy variable the deficit level of 3% of GDP, for EU 15 since 1970 until 2006. The paper results show that a weak fiscal stance, low economic growth, the timing of parliamentary elections and majority left-wing governments are the main causes of excessive deficits in the EU countries. Tujula and Wolswijk (2004) perform an empirical investigation for identifying the determinants of budget balance for OECD and EU countries, considering changes in government debt, real GDP growth, interest rate, election year and inflation. Their findings reveal that higher interest rates affect budget deficits negatively and election years are also clearly reflected in larger budget deficits.

Finally, according to a study of International Monetary Fund (2013) in sub-Saharan Africa, fiscal deficits remain high mainly due to the global financial and economic crisis and rising prices of raw materials, food and fuel. However, in some of these countries, fiscal consolidation measures are having a positive effect on economic activity recovering.

A country's deficit may be cyclical or structural, or a combination of both. A cyclical deficit is the deficit associated with the business or economic cycle. This cycle can last from several months to several years, and may not follow a predictable pattern. A cyclical deficit occurs in presence of low levels of business activity and high levels of unemployment. Usually the decline in economic activity causes the reduction of government revenue from taxes and higher government spending. Cyclical component of the deficit is largely dependent on national and international economic conditions, which are often beyond the control of the government. Overall, fiscal deficits are cyclical. They tend to decrease during growth periods, while tax revenues are lower and social costs are higher. While fiscal deficit tend to increase during the period of economic downturn, driven by a combination of falling tax revenues and rising social welfare spending. Thus, a normal cyclical deficit will improve with economic growth.

On the other side, structural fiscal imbalances are caused by fundamental changes in the economy. In this case, economic growth will not necessarily improve the deficit (Giorno, C., et al. (1995)). A structural deficit is an excess of public spending over revenues which would persist if the economy were to grow steadily at its highest sustainable rate. The identification of deficit's structural and cyclical components is a complicated process. Tax revenues and expenditures hold elements of both components, even though they may be mainly of one kind or another. For example, tax revenues happen to be largely cyclical, depending on changes in the national income. However, a structural change in the economy can change the sources of income. Considering that deficits are mainly financed by debt, a structural deficit is a problem for the government during periods of economic growth (Adam and Bevan (2005)). The government may need to borrow continuously increasing the debt stock. This will lead to the ongoing deterioration of the debt to GDP ratio, an important indicator of the performance of the economy and the country's ability to pay its obligations. Structural deficit issues can be resolved through effective government fiscal policy aimed at reducing government spending or increase tax revenues. Structural deficits can be planned or may be realized due to economic mismanagement or lack of economic capacity in a country. In a planned structural deficit, the government can commit to spend money for the country's future in order to improve the productive potential of the economy. For example, investing in infrastructure, education, or transportation, will provide long term benefits. If these investments will be effective as planned, returns from investments will improve the structural deficit in the long run. However, if further costs will exceed revenues, the structural deficit will worsen. Furthermore persistent planned structural deficits are an indicator of poor economic management and may eventually lead to a crisis of investor confidence in the country's ability to pay its obligations.

Coricelli and Ercolani (2002) have attempted to compute cyclical and structural deficits for a set of countries candidate to accession to the EU. They concluded that high deficits observed in candidate countries in recent

years have a structural nature while the fiscal stance has been pro-cyclical.

The assessment of deficit's cyclical or structural factors is relevant for policy decision. If fiscal imbalances reflect normal and temporary changes in the economy, then policy should be taken to alleviate the deficit and ensuring sustainable growth. In contrast, if fiscal imbalances reflect permanent structural changes in the economy, fiscal policies will aim structural changes of taxes and spending (Taylor (2000).

The real challenge lies in identifying the nature of the problem of the in order to take the appropriate policies. A structural deficit exists independently of the business cycle. Thus, even in the highest point of the business cycle when earnings are high, the country's economy may still be in deficit. Structural component of fiscal deficit is a good indicator of the government's financial management, as it shows the balance between income and expenditure in the long run the government, without the influence of factors that are mainly attributed to business cycle.

Albanian deficit has increased significantly since 2008, recording values that exceed the limit of 3% of GDP.

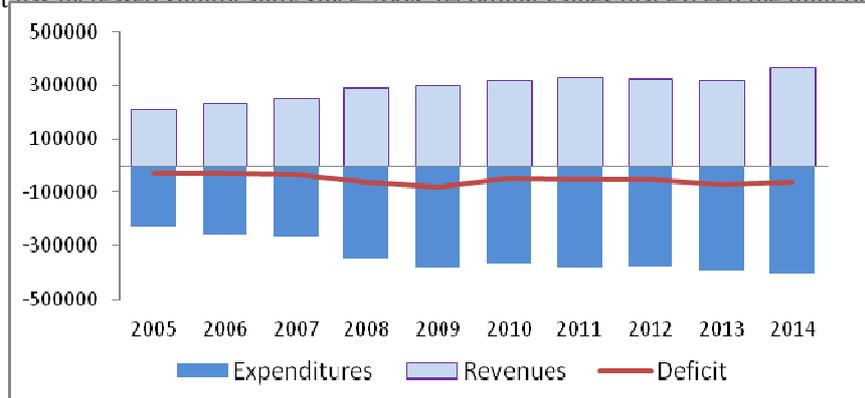


Figure 1. Revenues, Expenditures and Deficit (2005-2014)

Figure 1 depicts the revenue, expenditure and deficit of general government between 2005 and 2014.

An important step for carrying out an empirical research is constituted by hypotheses formulation. In this paper, hypotheses have been built on the basis of quantitative analysis carried out in Section 2 on the main factors that may affect fiscal deficit in the aftermath of the global economic financial crisis. The study hypotheses are as follow:

Hypothesis 1: The level of the Albanian fiscal deficit was negatively affected by reduced economic growth rates that occurred as a result of the global economic financial crisis.

Hypothesis 2: The fiscal deficit was caused largely by structural factors.

The paper is organized as follows; in Section 2 a quantitative analysis on factors that impact deficit is performed. Section 3 explains data, methodology and model specification. Section 4 investigates on model adequacy. Section 5 carries empirical analysis of the model and econometric results. Finally, Section 6 presents conclusions and recommendations.

2. Factors that impact the deficit

To investigate the impact of the global financial and economic crisis on fiscal deficit is important to distinguish between the influence of cyclical and structural factors. Thus, we analyze the performance of several key factors that may have impacted deficit based on economic theory and previous empirical studies. Analysis is performed for pre crisis and crisis period. The purpose of the following quantitative analysis is the definition of variables to be included in the empirical model that will serve to show their impact on the deficit. Another result of the empirical analysis will be to determine the nature of the deficit, if it had a more cyclical or structural nature.

2.1. Tax revenues

Tax revenues represent the largest source of total government revenue. They may change due to cyclical factors or as a result of government expansive or austerity policies. Tax revenues have a positive effect on reducing the country's deficit. In Albania tax revenues have declined since 2008, in accordance with the onset of the global financial crisis. Of course, in addition to cyclical factors also government policies have affected the performance of these revenues. Before the crisis, fiscal policy has been contractionary, as it has been more inclined to revenue

collection rather than spending. Economic growth and improvements of administration and functioning of the tax system have been two major factors that have contributed on the positive performance of tax revenues. The new fiscal policy from 2007 as well as reforms toward improvements of the tax system administration, have contributed positively to tax revenues collection. One of the main elements of the new fiscal policy was the introduction of flat tax on personal income, aiming at eliminating the progressive taxation, in order to achieve a more uniform distribution of the fiscal burden.

In 2009 revenues recorded a growth of 2.7 percent, the lowest rate in the last decade. From 2009 to 2013 budget revenues have experienced a slower growth, as a result of the combined action of several factors simultaneously: the country's economic performance, tax policy in force as well as the structure of income. The contraction in revenues is attributed to a large extent cyclical situation of national economy.

In 2014, the upward trajectory followed by budget revenues was a result of changes in tax legislation; formalization of economy and improved efficiency in the collection of tax revenues.

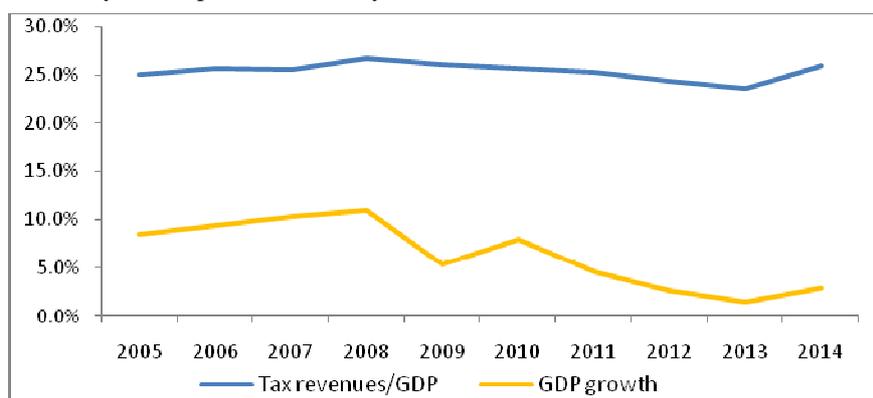


Figure 2. Tax revenue to GDP ratio and GDP nominal growth (2005-2014)

Figure 2 shows a comparison between tax revenues to GDP ratio versus GDP growth rate trend. Tax revenues and GDP growth rate have a similar trend, though revenues trend appears more moderate. However the peaks and low point of the two indicators coincide. Year 2013 marked the lowest rate of growth of GDP and also lower rate of tax revenue to GDP ratio. Also the mutual improvement of these two indicators in 2014 is depicted in the trend lines. Thus, it's clear that tax revenues have been impacted from the reduction of economic growth.

2.2. Foreign aid

Foreign aid by foreign governments or international institutions represents a significant portion of income in many developing countries. Often these funds have increased the moral hazard and encourage governments to increase the level of debt. Meanwhile, these funds should be used to finance part of the costs, which stimulate growth in important sectors such as education, health etc. Various studies carried out in some countries (Brownbridge and Tumusiime-Mutebile (2007)) have investigated the link between foreign aid and budget deficits and the results have often been contradictory. In some countries it was found that higher levels of foreign aid have caused higher deficit, while in other countries their growth has contributed to reducing the deficit. Of course the connection between these two indicators is closely related to how foreign funds are used by the government. According to the IMF (2013) the global economic crisis has affected developing economies that have been consistently funded through grants and budget support from developed economies. For this reason during the crisis there has been a decrease in the level of foreign aid from developed countries to developing ones. In Albania foreign aid revenues represent only a small portion of the total revenues, about 1-2% of GDP. Thus, their impact on the budget deficit is relatively low.

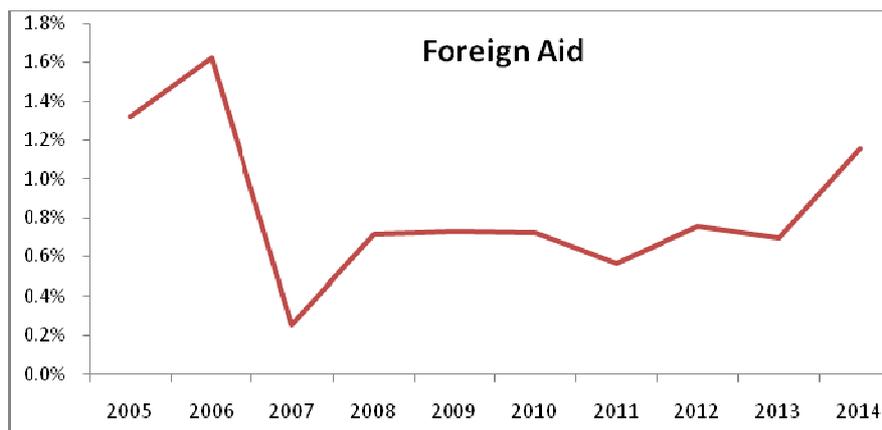


Figure 3. Foreign Aid to GDP ratio (2005-2014)

Figure 3 shows the trend followed by these funds as a ratio to GDP in the period 2005-2014.

The analysis of data shows that the level of income from foreign grants has decreased in 2007, while during the subsequent years that coincide with the global financial crisis their level is characterized by stability, with no significant fluctuations. Their level has increased consistently in 2014. On the light of this fact we believe that foreign aid have no relevant impact on government deficit.

2.3. Interest expenses

Interest expenses constitute an important factor that may have a key role in increasing the deficit level. In the aftermath of global financial crisis which has increased the level of public debt in many countries, interest expenses have increased significantly. Analyse of interest expense data reveals a downward trend during 2006-2007, while between 2007 and 2010 they have increased constantly. Interest expenses increased particularly due to higher interest payments on foreign debt. The rise of foreign debt as well as the depreciation of the local currency against major foreign currencies, have led to increased costs for external debt interests. After 2010, interest expenses have decreased continuously.

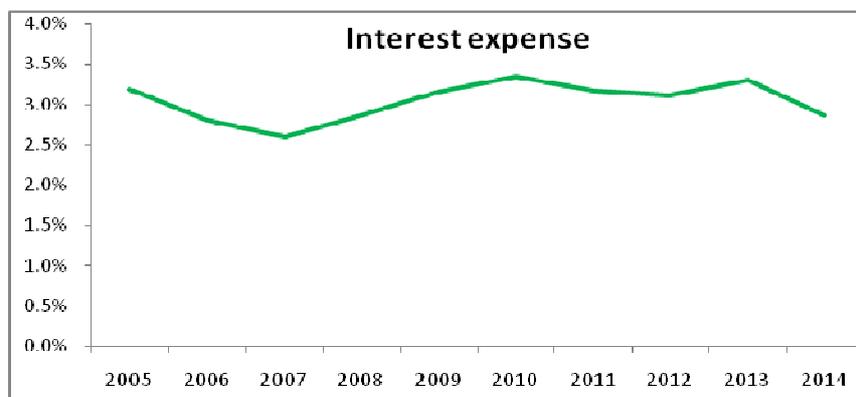


Figure 4. Interest expense to GDP ratio (2005-2014)

Figure 4 shows the trend of interest expense as a ratio to GDP in the period between 2005 and 2014.

2.4. Capital investments

Public spending can be used as a simulator of the economy in periods of low or negative growth. In particular, capital investments affect the level of aggregate demand, and may offset the negative effects of other factors. Also it can be used as a complement to monetary policy or in cases where monetary policy has proved ineffective. Capital expenditures have been widely used as a stimulus to the economy after the global financial crisis and the recession that followed. Spending on infrastructure, health, and education provide benefits to the economy that can have long-term effects. In Albania reforms in the pre-crisis (2005-2007) aimed to increase the efficiency of budgetary expenditure in view of the propensity for higher public investments. The 2008 and 2009 were characterized by a relatively high level of capital investments compared to previous years, a significant part of which were represented by expenditures for roads construction. Improved management of capital expenditure, through a redistribution of funds to larger projects, has represented one of the priorities of fiscal policy. Capital expenditures are estimated to have reached 8.7% of GDP, against 5.8% in 2007. The consolidation of public finances followed after 2010 has caused the declining of public investment but they remained still higher than

before 2008.

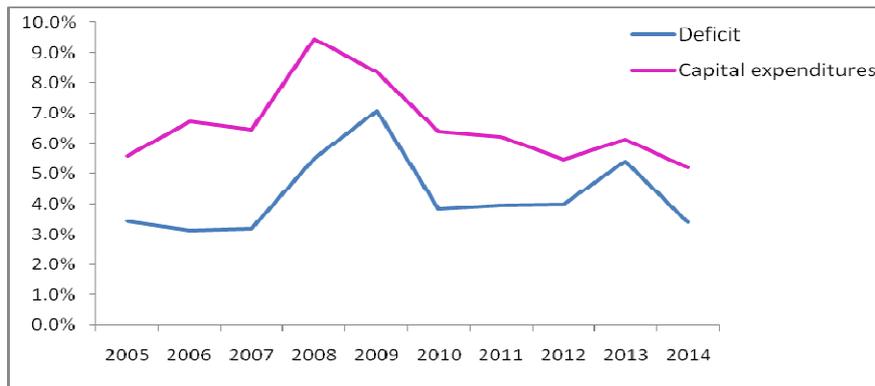


Figure 5. Capital expenditure to GDP ratio (2005-2014)

Figure 5 shows a comparison between capital investments to GDP ratio versus deficit to GDP ratio. Public expenditures have caused the increase in the budget deficit, while public revenues have increased modestly.

2.5. Economic growth

Economic growth is a factor that can indirectly have a significant impact on the deficit. There are two main ways by which economic growth may influence the deficit, through its effect on income and expenses. Economic growth positively affects the level of income, while the opposite effect will be achieved if the economic would have the opposite direction. It is known that many countries affected by the recession have experienced drastic decline in the level of income. On the other hand the decrease in economic growth could force the government to increase current expenditure mainly of social nature to support layer of the population in need. Furthermore, the government may undertake capital spending to boost growth.

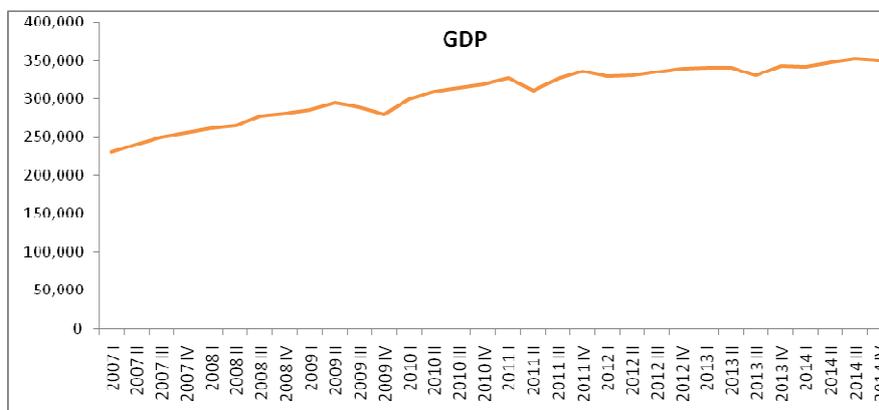


Figure 6. Quarterly GDP (2007-2014)

The figure 6 depicts the quarterly GDP between 2007 and 2014. From 2008 the GDP level appears lower.

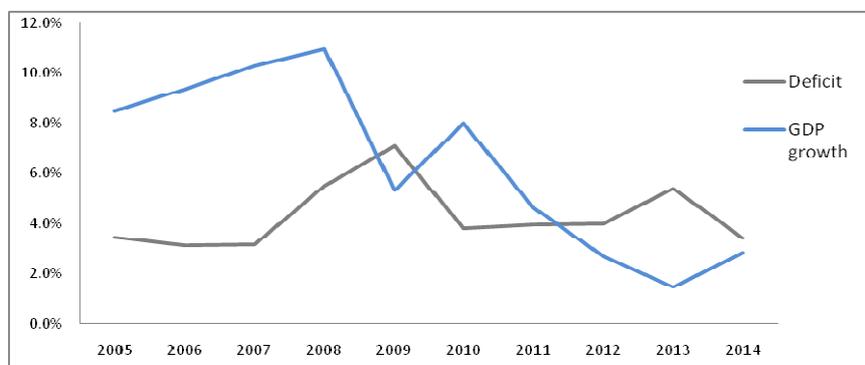


Figure 7. Deficit to GDP ratio and nominal GDP growth rate (2005-2014)

Figure 7 depicts a clear relationship between the trend of deficit and economic growth rate. The peaks of economic growth coincide with high level deficit and vice versa. This is a demonstration of the correlation that

exists between these two indicators and proves the existence of the cyclical component of the deficit.

3. Data and methodology

Considering the short term period, this study will utilize data on quarterly basis. Data used in this research have been compiled based on IMF's (2014) Manual on Government Finance Statistics (GFSM 2014). Row data have been obtained from Ministry of Finance official website for the period 2007-2014. The translation of national data in the GFS format is performed through the use of bridge and derivation tables which serve to establish the linkages between national codification and the GFS international codification (Kasapi and Stafa (2016)). Data on GDP have been obtained from Albanian Institute of Statistics (INSTAT).

The deficit figure used in this study refers to net lending/net borrowing (as defined in GFSM 2014) that measures the change in financial net worth of Government. It derives by getting the difference between the sum of all General Government revenues and the sum of General Government expenditures (i.e. current and capital). A negative figure shows that expenditure exceeded revenues whilst a positive figure indicates that revenues exceeded expenditure in the reference period.

The net capital investment figure refers to net acquisition of non-financial assets (as defined in GFSM 2014) that measures the change in the government's stock of non-financial assets due to transactions. As such, it measures the net effect of purchases, sales and consumption of non-financial assets during an accounting period.

Based on previous similar empirical studies, a linear multiple regression results the best choice for such analysis. Our model is built starting from a linear multiple regression model that will include a dependent variable and all the independent variables considered important from the quantitative analysis presented in Section 2. Variables resulted insignificant from our analysis will not be considered. If the linear model will not result efficient more complicated models will be explored. The model coefficients will be estimated through Ordinary Least Square method.

The model of Multiple linear regression:

$$DEF = \beta_0 + \beta_1 INV_t + \beta_2 g_t + \epsilon_t \quad (1)$$

Where,

β_0 = constant

β_1, β_2 = Coefficient of regression

ϵ_t = error term

Dependent variable

Y = DEF represents Deficit to GDP ratio

Independent variable

X₁ = g represents GDP growth rate as a measure of cyclical factors.

X₂ = INV represents general government net capital investment to GDP ratio as a measure of structural factors

Table 1. Summary statistics

| Variables | <i>Average</i> | <i>Median</i> | <i>Minimum</i> | <i>Maximum</i> |
|------------|---------------------|---------------|-----------------|---------------------|
| DEF | 0.0464864 | 0.0448691 | -0.0404377 | 0.175544 |
| INV | 0.0625147 | 0.0556454 | 0.0189346 | 0.171880 |
| g | 0.0144289 | 0.0147865 | -0.0505511 | 0.0681567 |
| Variables | Standard dev | C.V. | Skewness | Ex. kurtosis |
| DEF | 0.0456783 | 0.982617 | 0.879046 | 1.46669 |
| INV | 0.0319501 | 0.511082 | 1.58909 | 3.19160 |
| g | 0.0257499 | 1.78461 | -0.435441 | 0.185861 |

4. Model adequacy

Model validation is the most important step in the model building process. Use of a model that does not fit the data well cannot provide good answers to the underlying scientific questions under investigation. Often the validation of a model seems to consist of nothing more than quoting the R² statistic from the fit. Unfortunately, a

high R^2 value does not guarantee that the model fits the data well. Considering that, there are four principal assumptions (Linearity, Statistical independence of the errors, Homoscedasticity of the errors, Normality of errors), which justify the use of linear regression models for purposes of inference or prediction the first step is to investigate on their satisfaction.

The violation of these assumptions can have very serious implications in time series regression models. If they are not satisfied means that there is room for improvement in the model and it's often a symptom of a badly mis-specified model. Thus, model inefficiency is compromised. To investigate on model effectiveness various numerical tests and graphs are used.

Table 2. Summary of numerical tests for model adequacy

| | Tests | Null hypothesis | Test Statistic | p-value |
|-------------------------|---|--------------------------------|----------------------------|--|
| Linearity | Non-linearity test | relationship is linear | LM = 1.79406 | $P(\text{Chi-square}(2) > 1.79406) = 0.407779$ |
| Independence | Durbin Watson test | no autocorrelation | Watson statistic = 1.61451 | 0.135366 |
| Homoscedasticity | White's test | heteroskedasticity not present | LM = 2.62839 | $P(\text{Chi-square}(5) > 2.62839) = 0.757047$ |
| | Breusch-Pagan test | heteroskedasticity not present | LM = 1.65778 | LM = 1.65778 |
| Normality | Doornik-Hansen test | error is normally distributed | 1.46951 | 0.479623 |
| | Shapiro-Wilk test | error is normally distributed | W = 0.965121 | 0.376644 |
| | Lilliefors test | error is normally distributed | 0.0797666 | 0.87 |
| | Jarque-Bera test | error is normally distributed | 1.05919 | 0.588843 |
| Specification | RESET test for specification | specification is adequate | $F(2, 27) = 0.550518$ | $F(2, 27) = 0.550518$ |
| Autocorrelation | LM test for autocorrelation up to order 4 | no autocorrelation | LMF = 0.776067 | $P(F(4,25) > 0.776067) = 0.551188$ |

Table 2 summarizes numerical tests performed to evaluate model efficiency and adequacy.

Tests results show that the main assumptions of linear models are satisfied. Our model is linear and errors are statistically independent, homoscedastic and normally distributed. The value of Durbin Watson (DW) statistic is 1.614506 for the model. This implies that there is absence of serial auto-correction among the explanatory

variables in the model. Thus, there is no evidence of positive first order serial correlation. Reset tests show that our model is specified in the adequate manner.

Often graphs can be a better indicator of model adequacy. Graphical analysis is a very effective way to investigate the adequacy of the fit of a regression model and to check the underlying assumption. Graphical methods have an advantage over numerical methods for model validation because they readily illustrate a broad range of complex aspects of the relationship between the model and the data. Thus, besides numerical tests we use graphical residuals analysis.

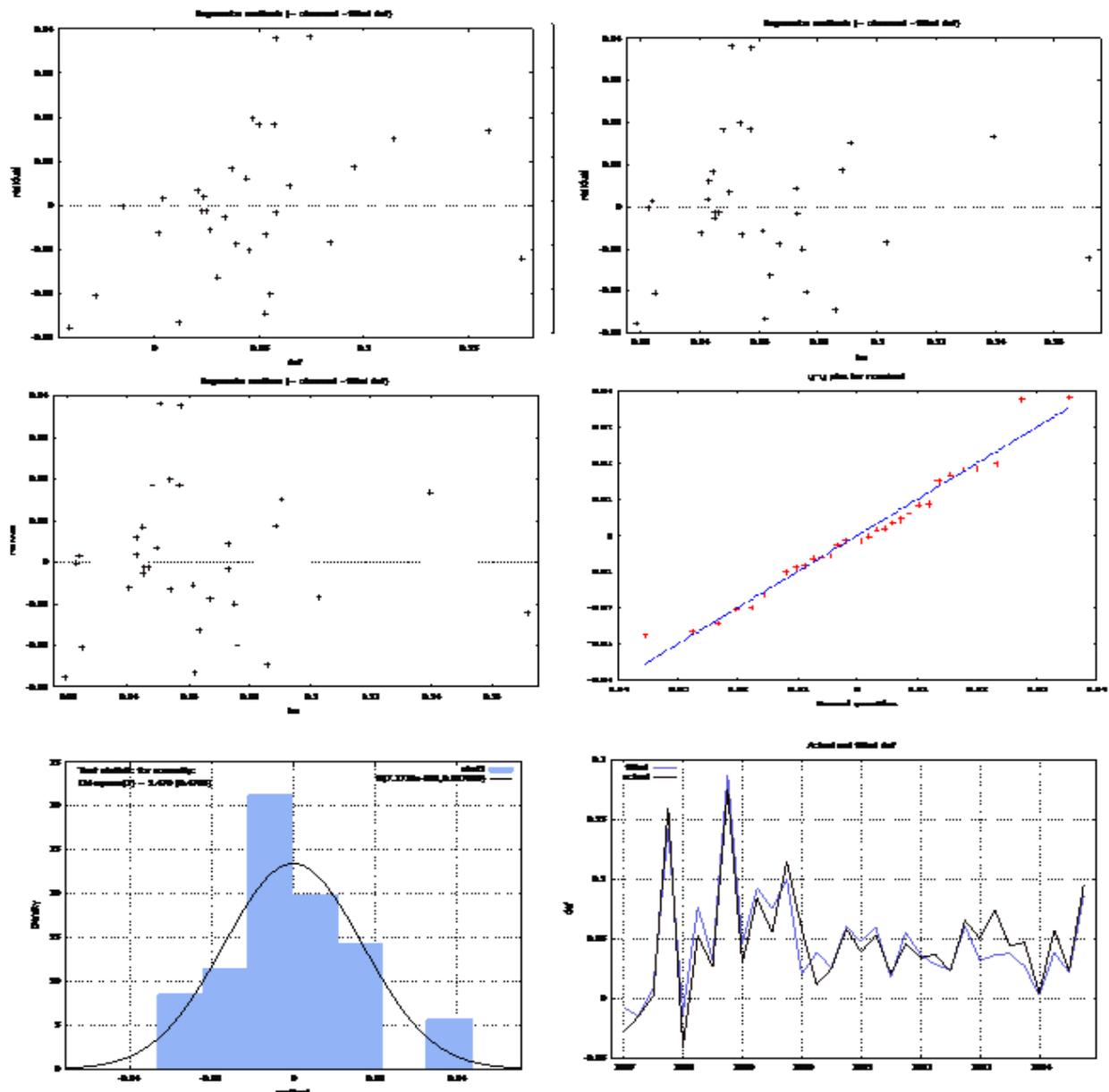


Figure 8: Graphs for testing model adequacy

Plots of the residuals versus individual independent variables, plot of observed versus predicted values, normal quantile plot for residuals, and normal probability plot are shown in the figure 8. Graphical analysis confirms the results of numerical tests. Model assumptions are satisfied and model appears to be a good fit of data.

5. Main findings and results

This section presents the main findings and results of the empirical Model. (Table 3)

$$\text{Def}_t = -0.0281 + 1.28 \cdot \text{inv}_t - 0.367 \cdot \text{g}_t \quad (2)$$

(0.00704) (0.0959) (0.119)

Table 3: Regression results

Model: OLS, using observations 2007:1-2014:4 (T = 32)

Dependent variable: DEF

| | <i>Coefficient</i> | <i>Standard error</i> | <i>t-ratio</i> | <i>p-value</i> |
|--------------------|--------------------|-----------------------|----------------|----------------|
| Constant | -0.0280724 | 0.00703831 | -3.9885 | 0.00041 *** |
| INV | 1.27744 | 0.0958904 | 13.3218 | <0.00001 *** |
| g | -0.367303 | 0.11898 | -3.0871 | 0.00442 *** |
| Mean dependent var | 0.046486 | S.D. dependent var | 0.045678 | |
| Sum squared resid | 0.008386 | S.E. of regression | 0.017005 | |
| R-squared | 0.870348 | Adjusted R-squared | 0.861407 | |
| F(2, 29) | 97.33821 | P-value(F) | 1.37e-13 | |
| Log-likelihood | 86.54463 | Akaike criterion | -167.0893 | |
| Schwarz criterion | -162.6920 | Hannan-Quinn | -165.6317 | |
| Rho | 0.164748 | Durbin-Watson | 1.614506 | |

Looking at the table3 relevant results may be derived as follow:

R^2 = the coefficient of multiple determination is 0.870348. This result shows that the model has a very good fit. The overall goodness of the model as shown by the adjusted coefficient of determination is 0.861407, showing that about 86 percent of the variation in general government deficit of Albania for the considered period may be explained by the independent variables included in our model. The F-statistic which measures the joint statistical influence of the explanatory variable in explaining the dependent variables was found to be statistically significant at less than 1 percent significance level. Thus, explanatory variables are found to be important determinants of Albanian general government deficit.

β_1 = the estimated coefficient of general government net capital investments was found to be 1.27744. Thus, a direct positive relationship with total government deficit was established and significant at less than 1% significance level. This is consistent with the a-priori expectation. This implies that one percent increase in net investments to GDP ratio will lead to 1.28 percent increase in government deficit to GDP ratio. These findings also reveal that net capital investments during the considered lead to increase of Deficit.

β_2 = the estimated coefficient of GDP growth rate was found to be -0.367303. It could be observed that the GDP growth has negative and significant effect on general government deficit. This is also line with the a-priori expectation and shows that an increase of 1 percent in GDP growth rate will lead to 0.37 percent decline in general government deficit of Albania. The coefficient of GDP growth rate is also significant at less than 1% significance level. The implication of this result is that the economic downturn has impacted general government deficit level.

Results of the study are relevant and confirm the raised hypotheses. General government deficit was mainly influenced by the level of public investments undertaken by the government in the period taken into consideration by this study. The major government public investments in this period have been channelled mainly in the transport sector but also in the energy sector. These investments were partly used by the government as a stimulus for economic activity in a depressed growth period. Meanwhile, the results show that economic growth is an important component in determining country's deficit in the considered period. Furthermore, considering that the reduction of economic growth was a direct result of factors influenced by the global financial and economic crisis, we can confirm that the crisis has affected the level of deficit. Finally, we noticed that after 2008, the level of deficit in Albania has raised significantly with peaks in 2009 and 2013. The latter tells the story of political influence in the country's deficit, since 2009 and 2013 coincide with election years. However analysis of this factor in the impact on the deficit goes beyond the scope of this study.

6. Conclusions and recommendations

This study empirically investigates the determinants of fiscal deficit between 2007 and 2014, in concomitance with the global financial crisis. The study was conducted to identify whether deficits run during this period were cyclical or structural. In order to achieve the aims of the study, an econometric model was formulated. General government deficit was regressed on Gross Domestic Product growth rate and net investments to GDP ratio. These variables were included in our econometric model based on review of past studies and on quantitative analysis of Albanian fiscal indicators.

Albanian deficit in this period was found to be determined by a combination of cyclical and structural factors. Certainly the global crisis and especially European crisis have affected the deterioration of the country's financial performance and position and increased deficit and public debt. But structural factors remain very important. This translates in the fact that even after the waning of crisis effects and the return of European and world economic activity to previous rates, Albania will run a considerable deficit. The energy sector represents one of the main structural factors affecting the deficit. Despite the measures that have been taken and are being undertaken to improve the situation, this sector presents numerous issues. Certainly sector reform and problems resolution will require a relatively long time. Another crucial problem is presented by social security system. Although many reforms were implemented in the system, by recommendation of International Monetary Fund, government expenditures and liabilities remain high. In addition, other sectors will require higher investment funds by the government. Health and education sectors should have the priority on these investments.

On the light of this work we recommend that government policy should focus mainly on addressing structural issues.

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