WORKING PAPER

CYCLICALLY-ADJUSTED BUDGET BALANCE: AN ALTERNATIVE APPROACH IN ESTIMATING THE FISCAL POSITION FOR ALBANIA

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CONTENTS

ABSTRACT

This paper aims at serving as a starting point for an alternative approach to analyse and monitor the fiscal position in Albania. The approach used up to date to assess the fiscal position in Albania refers to budget indicators expressed in nominal terms. Nominal budgetary figures also hold effects caused by temporary factors in the economy that go beyond the scope of fiscal policy. In order to evaluate the fiscal position of Albania, we propose an alternative approach that helps estimate the cyclically-adjusted budget balance with a view to capture only the effects of discretionary fiscal policy on the budget balance, by dampening or eliminating the effect of cyclical factors on budget indicators. The obtained results reveal a pro-cyclical feature of fiscal policy in Albania. At the same time, despite of a moderate size, the prevalence of automatic stabilizers was evidenced.

Key words:
Cyclically-adjusted budget balance, budgetary sensitivity, fiscal position, automatic stabilizers, fiscal policy.

JEL Classification: E60, E62, H62, H69.

1. INTRODUCTION

Monitoring a country's fiscal framework has regained a great importance in the light of the latest developments in several countries. The global crisis, which has affected both advanced and developing economies, has necessitated a more detailed analysis of the underlying factors behind the deterioration of fiscal positions. After the global crisis of 2008, budget deficits and consequent public debts increased rapidly, reflecting not only the impact of several fiscal stimulus packages[1], but also the automatic stabilizers effect.[2] Identification of temporary factors and assessment of their impact on fiscal position are crucial for policy makers since they worsen the fiscal position temporarily and do not require fiscal or monetary authority intervention to "offset" their effect. As suggested by economic literature, temporary factors do not have major implications on public debt dynamics and interest rate expectations. Thus, the understanding that economic fluctuations are at least partly temporary has an important impact on the assessment of fiscal developments by central banks, and therefore, in the realm of monetary policy conduct.

Budget figures expressed in nominal terms are also affected by external factors which are temporary and beyond the fiscal policy scope, providing thus inaccurate signals on a country's fiscal position. One of the most optimal approaches to evaluate fiscal policy and its possible implications to the fiscal position is the estimation of the cyclically-adjusted budget balance (CAB). This indicator captures only the effects of discretionary fiscal policy, by dampening or eliminating the impact of cyclical fluctuations on fiscal variables.[3] In other words, CAB offers an estimation of the resultant budget balance while the economy follows its normal growth path.[4]

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[1] Fiscal stimulus packages undertaken by different countries aimed at recovering the financial system, boosting the aggregate demand and restoring confidence in financial markets.

[2] Automatic stabilisers are policies, which stimulate or depress the economy when necessary, without any deliberate policy change (Macroeconomics, 5th edition, page 382 (Mankiw, G.).

[3] Business cycles are defined as temporary fluctuations in the level of output and unemployment rate (Macroeconomics, 5th edition, p 238 (Mankiw, G.).

[4] According to Bouthevillain et al, (2001), economy is considered to follow its normal growth path if the GDP records constant growth in a medium-term period.

CAB plays a key role in the European Monetary Union (EMU) fiscal surveillance. Prior to 2005, CAB served as an analytical tool to assess a country's fiscal position. With the revision of the Stability and Growth Pact (SGP) in 2005, CAB turned into a core element in the EMU's fiscal surveillance framework.

CAB was first introduced by Blanchard (1990), who proposed this indicator to distinguish the contribution of discretionary fiscal policy to a given change in the overall budget deficit from the effect of economic activity. In practice, the range of existing methodologies for computing CAB compresses down to two alternative approaches, which are correspondingly followed by the OECD and the ECB. In our case, we have used a simplified version of OECD's methodology, which is further elaborated in the following sections.

However, it should be emphasised that during certain economic or political episodes, CAB encounters several drawbacks with regard to its estimation and interpretation process. The measurement of this indicator is highly dependent on accurate estimates of output gap and budgetary elasticity parameters; therefore, the results of CAB may be questionable and subject of revision. The pitfalls revealed in the estimation process may give rise to misleading interpretation of this indicator, giving thus distorted signals about the fiscal position and fiscal sustainability of a country. However, as Larch and Turrini (2009) stress out, rather than abandoning this indicator for a number of encountered caveats, several efforts should be made in order to fix it. They argue to "live with compromises" to better understand the reasons for the practical shortcomings, and to look for ways to improve the accuracy of the instrument.

The purpose of this paper is to show a simple estimation of CAB, whereas this process in itself leaves room for analytical judgements, due to the limited available data at the time of preparing this material. The paper is divided in three main sections: review of the economic literature on CAB, stressing out the advantages and drawbacks of this indicator; the approach used to estimate CAB for Albania and the results attained from this approach in assessing the fiscal position; an analysis of fiscal position and fiscal policy stance. Lastly, in the conclusions section, the focus of the future work is addressed, with the purpose of improving estimation accuracy of CAB.

2. LITERATURE REVIEW – AVANTAGES AND DRAWBACKS

Inspired by Keynes' insights, a large body of literature has emerged trying to better understand and measure the temporary aspect of economic fluctuations. CAB is one of the indicators used to gauge only discretionary fiscal policy effects on the government budgetary position by isolating changes in policy arising from the impact of temporary changes in economic circumstances. Blanchard was the first to introduce CAB in early 1990s, to assess a country's fiscal sustainability in the long run. The succeeding literature advocates the other prominences of this indicator, which will be identified in the following section.

2.1. IMPORTANCE OF CAB ESTIMATES

The performance of fiscal figures is closely linked to domestic economic activity. During a business cycle, where economic activity performs below its potential, budget deficit may increase regardless an unchanged fiscal policy. Budget deficit may increase due to a combination of lower revenues and higher public expenditures (each of these factors may, on its own, cause the increase in budget deficit), as a result of automatic stabilizers operating in the economy. To better illustrate the point, during these periods, personal income decreases (a part of the labour force may lose their jobs), or business profit falls (sales may deteriorate). Consequently, government revenues related to these types of taxes go down despite the tax legislation remaining unchanged. In addition, during these episodes, government expenditures increase, compared to periods when the economy performs at its potential, due to higher unemployment benefit payments. Understanding and accurately measuring the economic fluctuations with temporary effects is crucial for analysing and assessing fiscal developments.

Fiscal figures expressed in nominal values do not always provide an accurate view of the underlying fiscal position as long as they represent the temporary and permanent factors. In other words,

budget balances expressed in nominal values are affected at the same time by cyclical factors and discretionary fiscal policy, which may also include structural measures. Hence, it is difficult to accurately perceive the orientation of fiscal policy or a country's fiscal position. Similarly, the public sector's structural imbalances cannot be identified. The prominence of CAB in the fiscal surveillance rather than nominal budget balance will be identified in the following section, highlighting the advantages (and the main pitfalls) of this indicator pronounced by the economic literature.

2.2. MAIN ADVANTAGES AND DRAWBACKS OF CAB

A broad range of economic literature on CAB computing highlights five possible uses of this concept: i) an indicator to monitor the fiscal position; (ii) a fiscal sustainability index; (iii) a fiscal rule index; (iv) an indicator used to identify the fiscal policy effect on aggregate demand or savings; (v) a policy tool in the decision-making process. On the other hand, the drawbacks of this indicator are also broadly addressed by the economic literature. Reis et al. (2007) provide a detailed analysis of its shortcomings, both in terms of computation and interpretation.

2.2.1. CAB AS AN INDEX OF FISCAL POSITION

One of the advantages provided by CAB, as argued by Blanchard (1990), is that it identifies changes on the fiscal position resulting from different measures imposed by the fiscal authority (such as the change in taxes, increase or decrease in transfers and expenditure). Estimating the CAB dampens or eliminates the business cycles' effect on a country's fiscal position. In this way, only the changes arising from the discretionary fiscal policy are identified.

However, based on the arguments provided by Larch and Turrini (2009), it should be noted that changes in the CAB measure the effect of discretionary fiscal policy under two main assumptions: the accurate estimation of output gap; and the flexibility of budget expenditure (such as the adjustment of the non-cyclical expenditure

plan in line with economic growth). Meanwhile, Reis et al. (2007) argue that CAB can be used to capture the structural component of the budget balance only under the assumption that stochastic trend shocks are absent. The presence of stochastic trend shocks and structural breaks render CAB an improper indicator to estimate a country's fiscal position.

Experience has shown that there have been divergences in the way CAB has been interpreted as an indicator of discretionary fiscal policy. The monitoring of fiscal adjustment in the early 2000s in the EU countries represents a specific case. As addressed by Larch and Turrini (2009)[5], during this process there were divergences in the interpretation of results related to the fiscal adjustment measure between the EU Member States exceeding the limit laid out in the Stability Growth Pact (SGP) on fiscal indicators and the European Commission (EC). EU Member States argued that their fiscal policies complied with the annual budget plans and were in line with the stability and convergence programmes. The EC, conversely, argued that these countries had maintained an expansionary fiscal stance and blamed excessive budget deficits on the discretionary fiscal policy of these countries. The dissimilar interpretations of the fiscal adjustment stemmed from the different output gap estimates provided by each party. For EU Member States, the real economic growth in the medium run tended to be over-estimated. Thus, CAB's role in the correct monitoring of fiscal position dampened, although budget expenditure was implemented in line with the budget plans formulated by the governments of respective countries.

Another very important moment in estimating a country's fiscal position is measuring one-off measures effects. According to EU's Code of Conduct, they are defined as measures having a transitory budgetary effect that does not lead to a sustained change in the intertemporal budgetary position.[6] Theoretically, they are divided into deficit-increasing or deficit-reducing measures. Experience has shown that these measures have mostly aimed at improving the fiscal indicators (EU, 2006). The continuous application of these measures and the impossibility to accurately capture their

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[5] For more details refer to Larch and Turrini (2009) pp 9-17.
[6] Public finances in EMU, 2006, pp 112-113.

magnitude has often hampered the observance of SGP rules. The period 2000-2004 represents a specific case, when fiscal positions deteriorated due to the economic slowdown in EU countries. Assuming that their economies would resume a rising trajectory (as in end-1990s), a number of countries took temporary measures that led to a further increase in the budget deficit, which, in many cases, exceeded the 3% of GDP limit. Along with the increased one-off measures, fiscal surveillance became difficult, as it was difficult to identify their impact on budget indicators.

2.2.2. CAB AS AN INDEX OF FISCAL SUSTAINABILITY

Economic literature provides no single definition for fiscal sustainability, although this term refers only to the fiscal policy implemented by a given country. According to Croce (2002), public finances are considered sustainable if the discounted value of future primary fiscal surplus equals the value of the existing stock of public debt. Another concept on fiscal sustainability relates to a country's solvency. According to this definition, a country enjoys fiscal sustainability if the government is able to continue servicing its debt, without undertaking unrealistic adjustments on budgetary income and expenditure. An alternative concept of fiscal sustainability refers to the future implications of the actual fiscal policy, and more specifically, whether the government may continue to pursue the actual budgetary policies without affecting the country's solvency (IMF, 2002). Akyüz (2005) suggests that for sustainable public finances, we should not be dealing with a Ponzi game in budget deficit financing.[7] To summarise, a country's public finances will be considered sustainable if the implementation of an unchanged fiscal policy does not require future fiscal adjustments (rise in taxes or cut in expenditure), notwithstanding the unchanged external conditions; debt monetisation (printing of money by the central bank at the amount of debt held by the government); or debt restructuring.

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[7] Ponzi game may be defined as a process, where the interest on public debt stock is paid through new borrowing, which, in turn, may trigger a debt bubble burst. Croce, et al (2002) provides another alternative definition, arguing that the absence of a Ponzi game occurs when the primary surplus is sufficient to pay interest on public debt.

The different methods for measuring a country's fiscal sustainability mostly refer to the overall deficit or the primary balance.[8] Referring to the CAB as a fiscal policy anchor vis-à-vis the nominal budget balance, would mostly serve to the final objective of the fiscal authority - fiscal sustainability. In this context, by eliminating the effect of temporary shocks on the budget balance, one can evaluate whether a considerable part of the budget deficit will "disappear" in time, or whether the country needs considerable fiscal adjustment with a view to achieving sustainable public finances.

However, there are a few drawbacks of CAB as an index of fiscal sustainability. Blanchard (1990) identifies two disadvantages of the CAB in estimating a country's fiscal sustainability. The first relates to the presence of other factors that go beyond the direct scope of fiscal policy affecting a country's public debt level, such as changes in the inflation rate and the real interest rate. In addition, there are other factors, such as population aging, a phenomenon widely analysed recently among the EU countries, and the composition of the population (active labour force or not active labour force), which affect future budget expenditure, being a key factor impacting a country's fiscal sustainability. The second disadvantage is noted with regard to estimating the future of debt sustainability, particularly when the presence of uncertainties in the economic environment has large implications for the budget indicators during a given period of time.

2.2.3. CAB AS A FISCAL RULE

Cyclically-adjusted budget balance may serve as a fiscal rule implemented with a view to enhancing credibility and fiscal discipline. Kopits and Symansky (1998) define fiscal rule as a permanent constraint on fiscal policy through numerical limits on budgetary aggregates. Fiscal rules may be expressed in terms of the budget deficit, fiscal revenues, spending or public debt (or in any other alternative forms thereof, such as primary balance or capital spending). The main goal of fiscal rule is to ensure public debt stock is lowered, and create, at the same time, the necessary

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[8] Primary balance is the overall fiscal deficit adjusted for interest payments.

room to implement a countercyclical fiscal policy.[9] Based on the definition of fiscal sustainability, the CAB is the closest indicator that meets the efficiency criteria of a fiscal rule with regard to sustainable public finances. Global experience shows that there is a rising trend of fiscal rules defined in terms of the CAB.[10]

The assessment of a country's fiscal position, inter alia, addresses two questions: (i) how big is the risk in a given year to breach the limit on overall deficit, under normal cyclical fluctuations in the economy; and (ii) how distant is the budget balance from the medium-term objective that ensures sustainable public finances in the long run. In both cases, CAB's computation plays a pivotal role. In the first case, we establish the minimum level for the CAB, which, under normal cyclical fluctuations, ensures that the operation of automatic stabilizers allows the budget deficit to remain within the limits[11]. As regards the second key question, the CAB explicitly shows that the medium-term budget objective is defined in structural terms, implying that the target's estimation does not take into account the cyclical and temporary factors. However, the optimality of this fiscal surveillance form would depend on CAB's monitoring and application degree. In certain circumstances, as argued by Reis et al. (2007), in addition to eventually being an inefficient fiscal rule, the CAB could even be harmful to the economy.

2.2.4. CAB AS AN INDEX OF FISCAL POLICY IMPACT ON AGGREGATE DEMAND OR SAVINGS

According to Blanchard (1990), the annual change of the CAB reflects the impact of discretionary fiscal policy on aggregate demand. Theoretically, fiscal policy can affect aggregate demand through two channels. First, fiscal policy determines public spending and investment, having a direct effect on aggregate demand. Second, taxes and debt affect aggregate demand

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[9] According to the definition provided by Alesina and Tabellini (2005), countries pursue countercyclical fiscal policies when the economy grows above its potential (in booms), budget surplus increases, and vice versa.

[10] For more details, see IMF (2009), "Fiscal Rules—Anchoring Expectations for Sustainable Public Finances".

[11] For EU countries the threshold is 3% of GDP. In the case of Albania, there is no upper limit on budget deficit.

through consumption. By excluding the automatic stabilizers effect, the influence of discretionary fiscal policy on aggregate demand becomes clearer.

However, as argued by Blanchard (1990), the CAB may directly identify fiscal policy effect on aggregate demand, or aggregate savings, under two assumptions: (i) marginal propensity to consume should be equal to 1, such as tax changes will be reflected to the aggregate demand; (ii) actual consumption depends only on current income, assuming expectations and asset prices have no impact on actual consumption. However, in real world, it is very hard to accurately capture fiscal policy effects on aggregate demand as the marginal propensity for consumption is less than 1 (since a part of current income is saved for future consumption), causing an disproportional change of taxes to the aggregate demand. On the other hand, to fulfil the second assumption, consumers should not adopt a Ricardian approach[12], which is hardly encountered in a real world, where expectations play a key role in economic development and transmission of policymakers' decisions to the economy.

2.2.5. CAB IN TERMS OF DECISION-MAKING

Measuring and estimating economic effects arising from temporary fluctuations in the level of output and employment[13], is crucial to decision making. The decision-making process takes into account permanent factors in the economy, leaving the temporary effects arising from different shocks on the economy out of focus. Since fiscal policy-related decisions extend their effects on public finances over a number of years, a change in the CAB may be used as a warning instrument for fiscal adjustment needs and future fiscal policy changes. CAB calculation provides available information for the monetary policy implementation, as assessment of discretionary fiscal policy is one of the main pillars central banks' decisions are based on.

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[12]   In a world where Ricardian Equivalence holds, the consumers base their expenditures not only on current revenues, but also on the expected level of revenues (Macroeconomics, 5th edition, page 415 (Mankiw, G.).

[13]   However, fluctuations are more evident at output level, since the labour market is "rigid" in the short run.

In practice, the CAB has not always provided accurate signals of a country's fiscal position, hence making fiscal authorities taking wrong decisions. This typical case was encountered in the late 1990s, right after the formal inception of the SGP. During these years, the EU Member States enjoyed favourable fiscal positions, thanks to fiscal adjustments they implemented during the adoption of a single currency, coupled with relatively high economic growth and tax returns. Against this backdrop, there was no risks vis-à-vis the requirements of the SGP. In particular, CAB figures for the EU Member States signalled healthy fiscal positions. Assuming that economic growth would persist for at least in the medium-term period, and that tax collection would remain similar to the late 1990s, some countries initiated tax cuts. However, as addressed also by Larch and Turrini (2009), very soon the decision to cut taxes turned out to be improper as the fiscal perspective and assumptions for economic growth were wrong. It was later proven that, for many countries, the fiscal situation was not as optimistic as assumed and that their budget deficits were higher than in 2000.

Despite the drawbacks, rather than abandoning the CAB, efforts should be made to enhance its efficiency. In EU's case, Larch and Turrini (2009) propose some concrete measures to better understand and correct the weakness of this indicator. These weaknesses are encountered during the fiscal consolidation process; estimation of real-time cyclical conditions; identification of short-term fluctuations in tax elasticity; as well as during the estimation of one-off and temporary measures.[14] Theoretically, if we estimate these adjustments from the "one size fits all" point of view, they might also be utilised in Albania when the CAB is used to monitor Albania's fiscal policy.

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[14] For more details, refer to Larch and Turrini (2009), pp. 18-28.

3. THE APPROACH AND OBTAINED RESULTS

Economic literature offers different approaches concerning CAB's calculation. Computing CAB entails a series of interconnected steps, as follows: 1) identification of budgetary items sensitive to cyclical fluctuations; 2) output gap estimation; and 3) assessment of revenue and expenditure elasticities (after determining their respective macroeconomic base). The combination of revenue and expenditure elasticities with the estimate of the output gap provides the cyclical component of the budget balance.

The OECD and the ECB's approaches are the most widely used for CAB estimation.[15] Taking into account the availability of the data required for each technique, we have employed a simplified form of OECD's approach, known as the "disaggregated approach". While more data-intensive, this approach offers advantages over the aggregated approach (ECB's approach) in terms of stability and greater insights into the cyclical response of various tax and expenditure items.

3.1. THE APPROACH

OECD follows three main steps to measure CAB: (i) estimation of elasticity coefficients of revenues and spending components that are sensitive to the cyclical fluctuations in economy, (ii) output gap estimation; and (iii) computation of cyclical component of the budget balance. The formula used for CAB computation:

$$CAB = BB - \varepsilon OG$$

BB: budget balance

ε: budgetary sensitivity parameter

OG: output gap[16]

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[15]   European Commission pursues the same methodology as OECD.

[16] $OG = (GDP_{current} - GDP_{potential}) / GDP_{potential}.$

εOG is the cyclical component of budget balance. On the other hand, budgetary sensitivity parameter, ε is derived from the difference between tax revenues sensitivity ε_R, and spending sensitivity coefficient ε_G.

$$\varepsilon = \varepsilon_R - \varepsilon_G$$

Sensitivity parameters measure the response of tax proceeds and expenditures with respect to changes in output gap. They are calculated by the following formulas:

$$\varepsilon_R = \eta_R \frac{R}{Y} \qquad \varepsilon_G = \eta_G \frac{G}{Y}$$

Where:

η_R and η_G respectively represent the elasticity of tax proceeds and the elasticity of current primary expenditures to the output gap.

$\frac{R}{Y}$: the share of the current tax burden on GDP.

$\frac{G}{Y}$: the share of primary current expenditure on GDP.

3.2. IDENTIFICATION OF BUDGETARY ITEMS SENSITIVE TO BUSINESS CYCLES

In the first step, it is crucial to properly determine the fiscal variables sensitive to the cyclical fluctuations. On revenues side, the items identified as sensitive to the cycle are:

a.   Indirect tax proceeds, which are approximated by VAT revenues, excises and custom duties (IT);
b.   Personal income tax revenues (PIT);
c.   Corporate income tax (for medium-sized and large enterprises, as well as for small-sized enterprises) revenues (CIT);
d.   Social security contributions (SSC).

On expenditures side, the only item considered sensitive to cyclical conditions in economy is the unemployment-related spending.

The overall tax revenues elasticity parameter η_R is obtained by aggregating the elasticities of individual budgetary items. The individual revenue elasticities $\eta_{R,i}$ are first aggregated to an overall revenue elasticity using the share of each on the total current tax burden ($\frac{R_i}{R}$) as weight:

$$\eta_R = \sum_{i=1}^{4} \eta_{R,i} \frac{R_i}{R}$$

$\eta_{R,i}$ is the elasticity of each tax item (IT, PIT, CIT and SSC) with respect to output gap.

$\frac{R_i}{R}$ is the weight of each tax item on the total tax revenues.

The budget spending elasticity, η_G, is calculated by the following formula:

$$\eta_G = \eta_{G,U} \frac{G_u}{G}$$

$\eta_{G,U}$: elasticity of unemployment–related spending with respect to output gap.

$\frac{G_u}{G}$: the share of unemployment-related spending on total current primary expenditure.

3.3. DATA

The dataset employed to estimate CAB consists of 3-monthly data for the period 2005Q1- 2012Q4. Fiscal data (VAT, excises, custom duties, profit tax, social security contributions, tax revenues, current expenditures, interest payments, unemployment-related spending and social security outlays) are retrieved from the Ministry of Finance. Whereas data related to labour market (average wage in production, average wage in public sector, employment by sectors), CPI and GDP are taken from the publications of INSTAT.

Time series are adjusted for seasonality. A Hodrick-Prescott filtering technique was employed to get estimates of the trend levels of all the relevant variables, using coefficient $\lambda = 480$. The reason for choosing $\lambda = 480$ instead of the "classical" 1600 for quarterly data is that Hodrick-Prescott method gives biased results if the time series exhibit sudden structural breaks. In fact, the conducted tests suggested structural breaks for private employment and for the quarterly GDP. So, if we selected $\lambda = 1600$, the effect of structural breaks would spread out over the period, which may lead to large differences between the actual trend and the HP-trend. This problem was partially mitigated by choosing $\lambda = 480$ (instead of 1600).[17]
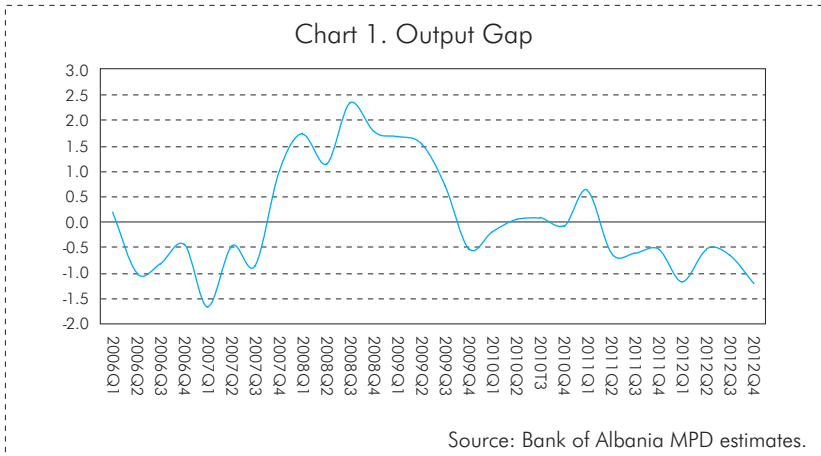
3.4. OUTPUT GAP (OG)

To estimate the output gap, contrary to the OECD approach, which uses the production function method, we used the Hodrick – Prescott filter (Hodrick and Prescott, 1997). The HP filter is simpler to implement in terms of shorter time series and narrower dataset requirement.[18] There are different statistical methods to estimate potential GDP, or even output gap. The HP filter is simple and does not require subjective economic judgements. Another approach to estimate the output gap would be the production function method, as followed by OECD. Nevertheless, this approach requires a broad dataset related to output factors, such as capital stock at constant prices, total number of employed persons in economy, and total productivity of output factors.[19] On the other hand, the HP filter has pitfalls related to the number of observations, which are suggested to be more than 30. Output gap estimation for Albania is based on seasonally-adjusted GDP series and is obtained as a combination of different filters[20], both for λ parameter and the filter type.

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[17] For details related to selection of λ parameter refer to Bouthevillain. et. al., (2001), ECB WP no.77, page 23-31.
[18]   To use the production function method, longer time series and a broader dataset should be employed, compared to the HP filter. As it will be explained later, not all appropriate variables to follow the production function method are available in our case.
[19] In case of Cobb-Douglas production function.
[20] Potential GDP forecasts by the Monetary Policy Department of the Bank of Albania.

Chart 1. Output Gap

Source: Bank of Albania MPD estimates.

However, it should be mentioned that output gap results are prone to high uncertainties, as long as potential output is not observed, but is estimated by regression equation, simultaneously combined with considerable GDP revisions.

3.5. TAX REVENUES ELASTICITY WITH RESPECT TO THE OUTPUT GAP

To estimate the cyclical response of tax i to the business cycle, we need to compute three elasticities, namely: (i) the elasticity of tax receipts to the tax base; (ii) output elasticity of employment; and (iii) employment elasticity of wages. Table 1 provides the formulas used to calculate each elasticity. Conceptually, the elasticities $\eta_{R,i}$ can be separated into two components, the elasticity of tax proceeds with respect to the relevant tax base, and the elasticity of the tax base relative to a cyclical indicator. The first component is determined and derived from the structure of the tax system. Theoretically, for proportional taxes, the value will be unity, but there may be several cases when the elasticity can exceed unity (progressivity) or fall below it (regressivity). For simplicity, we have assumed unit elasticity of tax proceeds with respect to tax base, meaning that an increase in macroeconomic base (wage, gross profits or private consumption) is followed by the same rise in the respective tax revenues. The *a priori* assumption of unit elasticity of

most tax proceeds to the tax base enables us to avoid estimating the elasticity on the basis of regression analysis, which often leads to biased estimates due to frequent tax law amendments. To avoid erratic elasticity estimates, dummies capturing the tax law amendments are usually introduced into the regression equations. In our case even dummies cannot alleviate the problem as long as the tax legislation has been amended continuously with a strong impact on tax proceeds.[21] The nature of most taxes in Albanian tax legislation makes it possible to assume proportionality between tax proceeds and the relevant base. Unit elasticity assumption of tax proceeds to their tax bases is reasonable as long as most taxes are levied *ad valorem*, with the tax rate set as a certain per cent of the tax base.[22] More details on the unit elasticity assumption will be provided in the following section.

3.5.1. DETERMINATION OF THE MACROECONOMIC TAX BASE

The first step in CAB calculation process comprises the identification of the relevant base for individual tax proceeds and unemployment related expenditures. This stage constitutes one of the differences between the OECD and ECB methodologies for estimating the CAB. The OECD methodology considers wages and gross profits of corporates as relevant tax bases (see table 1 below), whereas the ECB sets forth different bases for each of the income items. According to the ECB, private consumption is used as a proxy for macroeconomic base for indirect tax revenues; for personal income the employment in private sector and average wage in the same sector are used; and, for social security contributions the wages fund of the private sector are used. The ECB methodology considers the fact that different components of aggregate demand may exhibit different trends and fluctuations, particularly in the

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[21] During the last decade several changes and amendments were adopted to VAT, Excises and Personal Income Tax Laws. These amendments lead to the broadening or reduction of taxpayers' base (i.e. VAT exemptions, deductions from base, rate reliefs and postponing payments, as well as continuous change of excises rate and the broadening/narrowing of excise goods range).

[22] Excluding excises and custom duties. However, due to the unfeasibility to incorporate data from tax code to a regression equation, which sets out the elasticity of each of item to the corresponding tax base, we have assumed unit elasticity of revenues from excises and custom duties to tax base.

short run. For example, if GDP increase is driven by an upswing in private consumption, indirect tax revenues should increase more compared to the case when economic growth owes to an upward external demand.[23] The ECB approach is more advantageous than the OECD methods, due to the fact that it is able to capture the "composition effect" of aggregate output when estimating the cyclical and structural fiscal balance. However, due to limitations in the database available, we have pursued the OECD method.[24]

3.5.1.1. Personal income tax revenues

As mentioned above, wages in the private sector should be considered as the tax base for personal income tax revenues. Wage elasticity of personal income tax per worker, due to lack of data, is assumed equal to 1. While, according to OECD (EC) methodology to estimate the elasticity of income tax with respect to the tax base, the marginal and the average tax rates of a representative household should be computed for several points in the earnings distribution. Then the weighted averages of the marginal and average tax rates have to be calculated. The weights of the various earning levels could be derived from estimated earnings distributions. In our case, we lack data regarding the records on the number of employees by wage level, to measure the average and marginal tax rate for each wage interval. Nevertheless, as tax legislation has been subject to frequent amendments in Albania, the results obtained from regression equation might be erratic. The use of dummy variables, which may capture amendments to the tax legislation, is not efficient in this case, as numerous amendments have been adopted. Unit elasticity assumption is the second best choice and it is relevant especially after 2007 Q3 (despite some exemptions), since, at that time, the personal income tax turned from progressive to proportional, 10%.

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[23] For details, refer to Bouthevillain. et. al.,(2001),ECB WP no.77.

[24] For example, data on private consumption are available only annually and extend till 2008. Also, labour market data, especially those of wages in the private sector, suffer from informality, and deficiencies in their publication.

3.5.1.2. Social security contributions

Following the same logic, we have pursued proportionality assumption of wage elasticity with respect to social security contributions per worker.[25] Indeed, as income (wage) rises, the social security contributions increase, too. Unit elasticity assumption is justified by the law on social and health security, which sets forth a contribution rate of 27.9% of gross monthly wage, with the employer contributing 16.7% and the employee 11.2%.

3.5.1.3. Profit tax revenues

Unit elasticity assumption of profit tax revenues with respect to the tax base has also been made, such that cyclical variations in the tax yield correspond to fluctuations in the tax base. The bulk of tax base in this case is formed by corporates' gross profits. In absence of data regarding the corporates' gross profits, they are calculated based on revenues collected from profit tax and small business tax items adjusted for the corresponding rates in respective years.[26] Unit elasticity of profit tax revenues to the tax base assumption is based on the Income Tax Law, which sets out a rate of 10% of corporates' profit as a legal obligation to be allocated to government account, without exemptions or tax reliefs.[27] In Albania, corporates profits share to GDP exhibits the highest volatility, ranging 12-20%. This characteristic reflects that corporate profits fluctuate sharply over the cycle, transmitting thus similar fluctuations to the proceeds from the corporate tax, while statutory tax rates are proportional.

3.5.1.4. Indirect tax revenues

As suggested by the OECD methodology, unit elasticity of indirect

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[25] If we had to compute econometrically the wage elasticity to social contributions, the wage in manufacturing sector should be considered to allow for an international comparison of countries.

[26] If we follow precisely the OECD methodology, we should take into account the gross profits of corporates. We cannot measure the gross profits of corporates, due to the lack of detailed data for companies, so instead of that we have taken into consideration the net profits of companies.

[27] Starting from 1 January 2008. Prior to this period, this rate was 20%.

tax proceeds to macroeconomic tax base (private consumption) is assumed. Indirect tax revenues constitute the major part of tax revenues (approximately 55%), accounting for 13% of GDP during 2008-2011. Unit elasticity of indirect income tax to the private consumption holds for the revenues from VAT, while it is not theoretically sound for excises and custom duties proceeds. Unlike VAT, excise duties are levied based on commodity volume or unit, and not *ad valorem*. Based on available data, efforts have been made to estimate econometrically indirect tax proceeds elasticity to tax base. The explanatory variables used in regression equation turned out statistically insignificant. The use of dummy variables in regression equations, to capture the effects of tax legislation amendments, did not improve the estimation statistics. This owes to the fact that Law on Excises and Law on Custom Duties have undergone through several amendments with the aim to gradually align Albania's tax legislation with the EU one, or to comply with the terms of Free Trade Agreements concluded with various countries. These amendments in the tax legislation had a significant impact on tax revenues collected both at the time these changes took place, and later.

3.5.2. OUTPUT ELASTICITY OF EMPLOYMENT

The second step to measure the budgetary sensitivity is the calculation of output elasticity of employment. This coefficient is used to identify the impact of cyclical fluctuations observed in employment to tax revenues, assuming a given tax yield per worker. Output elasticity of employment is calculated econometrically, based on following formula:

$$log\left(\frac{L}{L^*}\right) = \beta_1 + \beta_2 \, log\left(\frac{Y}{Y^*}\right)$$

Where, L and L* are the current and potential employment, whereas Y and Y* current and potential output.

To compute output elasticity of employment for Albania, we have considered only the employment in the private sector, assuming that employment in the public sector is not affected by changes

in the output. The explanatory variables used in the regression equation included the output gap; employment gap in period t-1; and the moving average component. Time series were tested for the presence of unit root and the ADF test suggested that they were not stationary at levels. To remove the non-stationarity of the time series we introduced a MA(1) component in the error terms. A dummy variable was also included in the regression equation to capture amendments to the fiscal package, which entered into force in the second half of 2007. One of the fiscal measures with a significant impact on the tax revenues was the adoption of a wage floor, defining thus reference wages corresponding to certain job positions in the private sector.[28] Even though the fiscal package brought together several measures (besides those affecting the labour market) with a sharp increase in tax revenues during 2008, dummy variable included to the regression equation resulted statistically insignificant. The other regression coefficients were statistically significant at 5% level. DW statistic resulted 1.6, while R^2 was 0.3. The equation and the respective coefficients are provided as following:

$$DLOG(L_{PRIVAT\_SA}/L_{PRI\_TREND}) = 0.0002 + 0.4025DLOG(Y_{SA}/Y_{SA\_POT}) + 0.6604DLOG(L_{PRIVAT}(-1)/L_{PRI\_TREND}(-1)) + MA(1)^{[29]}$$

Where, L_{PRIVAT_SA} and Y_{SA} are respectively seasonally adjusted private sector employment and real GDP.

L_{PRI_TREND}: private sector employment trend, estimated by HP filter.

Y_{SA_POT}: potential GDP

The conducted tests[30] indicated no presence of serial correlation for residuals, whereas their distribution was not normal[31], which

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[28] The law stipulating the floor wages for private sector was repealed at the end of 2012.

[29] If we use the concept of "Koyck transformation", then the aggregation of explanatory coefficients would provide a parameter equal to 1.18, which is not plausible. Thus, we have preferred to consider only coefficient $\beta_2 = 0.4$.

[30] Q statistic and Serial correlation LM test.

[31] Breuch-Godfrey serial correlation LM test shows the possibility of serial correlation, as signalled by Q statistic test. Whereas Jarque Bera test shows that the dissemination is not normal, this relates to the fact that the number of observations is low, about 30.

might be related to the small number of observations. Based on the regression equation, output elasticity of employment was estimated at about 0.4. That implies that an output change by 1% triggers an employment change about 0.4%. The OECD average for this coefficient is around 0.6.[32] Theoretically, this parameter scores values lower than 1, due to Okun Law[33], because output fluctuations are partially absorbed by variations in labour productivity. However, it should be noted that the regression yield in our case may be biased, and subject to revision, as, in absence of private sector potential employment estimates, we have considered the employment trend derived from HP filter, although the latter takes into consideration structural breaks.[34]

3.5.3. EMPLOYMENT ELASTICITY OF WAGES

Employment elasticity of wages determines the variations in the tax bill per earners. Noord (2000) suggests that this parameter should be interpreted as the "Phillips curve" effect on wages.[35] Theoretically, higher employment should exert upward pressures on the real wage rate, which, in turn, should be followed by higher tax revenues. Based on OECD methodology, this coefficient is estimated using the equation as follows:

$$log\left(\frac{wL^*}{Y^*}\right) = \beta_1 + \beta_2 \, log\left(\frac{L}{L^*}\right)$$

where L and Y stand for employment in private sector and the output respectively, and w is the wage in private sector. The representative wage considered in the regression equation was that of the industrial sector. Data available for the wage in industrial sector are expressed in nominal value and at annual frequency (by INSTAT). The annual data were rendered into quarterly ones,

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[32] Noord (2000).

[33] Okun Law states a negative correlation of unemployment rate to real GDP changes. Alternatively, an increase in unemployment rate should be followed by a lower (from normal) GDP growth rate.

[34] See the section "Data" above for details regarding the parameter λ.

[35] Phillips Curve constructed by A. W. Phillips in 1958, reveals a negative relationship between unemployment rate and wage inflation rate (Macroeconomics, 5th edition, page 361 (Mankiw, G.).

assuming the wage increase would materialize in the third quarter of each corresponding year[36], and were CPI deflated to derive an average real wage rate. Also, a dummy variable was included in the equation, to capture the legislation changes (with regard to the floor wage) of 2008. The regression equation (with a low R^2 of 0.18 and the DW=1.98) yielded statistically insignificant β_2 coefficient (whereas the dummy variable in this equation resulted statistically significant!). The results indicating that variations in employment are not reflected to wage fund adjustments might be partly attributed to low flexibility and the informality characterising the labour market in Albania.

Since the regression equation did not generate a statistically significant coefficient, we have employed the average employment elasticity of wages coefficient for OECD members' estimated by Noord (2000).

3.5.4. TAX REVENUES ELASTICITY RESULTS

Considering all the assumptions and calculations set out above, the elasticities of each tax revenues item are presented as following:

Table 1. Derivation of tax revenue elasticities following Noord, 2000

	Macro-economic tax base	Elasticity with respect to the base[i]	Output elasticity of employment[ii]	Employment elasticity of wages[iii]	η_{Ri}	Specific assumptions
Category		A	B	C	$D=B(1+A*C)^{iv}$	E
PIT	Wage	1	0.4	0.5	0.6	
SSC	Wage	1	0.4	0.5	0.6	
					$D=\{1-(1-E)*B*(1+C)\}/E$	
CIT	Corporates profit	1	0.4	0.5	2.8	Profit/ GDP=19%

[i]: assumed equal to 1.
[ii]: estimated econometrically.
[iii]: OECD members average (2000).
[iv]: each elasticity is derived based on Noord (2000).

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[36] The reason behind this assumption is that in the third quarter of every year, the government approves the minimum wage level in the economy; the wage increase in the private sector usually takes place in the same quarter.

Indirect tax revenues elasticity with respect to the output gap has been set to unity, as suggested by OECD methodology, since regression equation might provide erratic results. Meanwhile, the average output elasticity parameters for PIT, SSC and CIT estimated by Noord (2000) for OECD members is 1, 0.8 and 1.3, respectively.

In addition to the simplified version of the approach presented by Noord, we have also applied the formulas presented by Andrè and Girouard (2005), to allow for comparison of tax elasticities results. Andrè and Girouard estimate each elasticity coefficient based on two constituent components: (i) elasticity of tax proceeds with respect to the relevant tax base, (ii) and elasticity of the tax base relative to a cyclical indicator. For the first elasticity, the same logic was applied as in the case of deriving tax elasticities according to Noord, assuming unit elasticity of each tax item to the corresponding macroeconomic tax base. Regarding to the wage bill elasticity with respect to the output gap, in absence of accurate and theoretically plausible econometric results, we have considered OECD member states average for the sub-groups 6 and 7.37. The derived elasticities are summarized in the table 2.

Table 2. Derivation of tax revenue elasticities (Andrè and Girouard, 2005)

	Macroeconomic tax base	Elasticity with respect to the base[i]	Elasticity of wage bill with respect to the output gap[ii]	η_{Ri}	Specific assumptions
Category		A	B	C=A*B	D
PIT	Wage	1	0.8	0.8	
SSC	Wage	1	0.8	0.8	
				C={1-(1-D)*B}/D	
CIT	Corporate profits	1	0.8	1.8	Profits/GDP=19%

[i]: assumed equal to 1.
[ii]: average elasticity of sub-groups 6 and 7 countries of OECD (2005).

Considering the formulas presented in tables 1 and 2 corresponding to the respective elasticity of each tax item with respect to the output

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[37] According to OECD (2005), in sub-group 6 are classified the Czech Republic, Hungary, Poland and Slovak Republic. Whereas in sub-group 7 are listed Spain, Greece and Portugal

gap, the overall tax revenues elasticity to output gap is aggregated by the following formula:

$$\eta_R = \sum_{i=1}^{4} \eta_{R,i} \frac{R_i}{R},$$

The elasticity parameter derived by following Noord and Andrè, Girouard approach resulted 0.91 and 0.92, accordingly. The weights of each tax item to the total tax revenues are derived taking into account the average share of corresponding item during 2008-2011.[38] Summary of results derived from both approaches in estimating elasticities of tax revenues with respect to the output gap for Albania are presented in the table 3.

Table 3. Summary of results

	Andrè&Girouard	Noord	Weight $\left(\frac{R_i}{R}\right)$	Average OECD(2000)	Average OECD (2005)
η PIT	0.81	0.59	0.09	1.0	1.3
η SSC	0.81	0.59	0.18	0.8	0.7
η CIT	1.84	2.81	0.07	1.3	1.5
η IT	1.00	1.00	0.56	0.9	1.0
η R	**0.91**	**0.92**			

Output elasticity of tax revenues, the parameter measuring the responsiveness of tax revenues to output gap variations $\varepsilon_R = \eta_R \frac{R}{Y}$, resulted 0.22, taking into account 23.7% share of tax revenues to nominal GDP.[39]

3.6. CURRENT PRIMARY EXPENDITURE ELASTICITY WITH RESPECT TO OUTPUT GAP

The elasticity coefficient of budget expenditure measures the variations in unemployment-related spending relative to output

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[38] We have not considered the period prior to 2008 while calculating the respective weights, because of the significant impact the fiscal package of this year had on the collected tax revenues.

[39] This ratio represents the average share of tax revenues to GDP for the period 2008-2011.

fluctuations. The parameter η_G, is derived from elasticity of the unemployment-related spending with respect to the output gap, adjusted by the share of this item in the total of current primary expenditure ($\eta_G = \eta_{G,u}\frac{G_u}{G}$). As suggested by OECD methodology, current primary expenditures are assumed to vary proportionally with unemployment related expenditures. At the same time, unit elasticity of unemployment-related spending relative to the macroeconomic base (unemployment serves as a proxy in this case) is assumed. On the other hand, unemployment benefit rates are supposed to be independent of the cycle.

Estimation results of output elasticity of current primary expenditure are summarized in table 4. Employment elasticity of labour supply was set to zero, as a reason of an unobserved systematic relationship between the labour force and the output gap fluctuations. With regard to the long-term equilibrium unemployment rate (NAIRU[40]), we have taken into account two values. The first one corresponds to the period 2005-2008, and the second to the period 2009-2011. The Albanian economy is considered to have incurred a structural change at the end of 2008 and during 2009.[41] For output elasticity of expenditures estimation OECD methodology suggests the use of the NAWRU (instead of NAIRU).[42] In our case, in absence of accurate estimates (in the time being) for NAWRU we have employed the NAIRU rate, because of the common features these two concepts carry out. Moreover, while calculating NAIRU not only wage, but price expectations too, are taken into account. Output elasticity of unemployment-related expenditure, $\eta_{G,U}$, is estimated at about -2.5 for the period 2005-2008, whereas for 2009-2011 it stands approximately -2.6. The sign of this parameter proved to be negative, as expected, suggesting that a cyclical upswing in output should lower unemployment-related expenditures. Multiplying the $\eta_{G,U}$ by the average share of unemployment-related spending in

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[40]   NAIRU is defined as the equilibrium unemployment rate in the long run under constant inflation rate. This is achieved when employers' price expectations and employees' wage expectations are met (OECD, 1997). NAIRU estimations for Albania are done by Dushku and Kota (2007).

[41]   After the deceleration of the pace of growth observed till 2008, the Albanian economy is predicted to have entered into a new structuring stage during 2009-2011, mainly due to job reduction.

[42]   NAWRU measures structural unemployment, by combining the unemployment rate to the wage inflation rate (OECD, 1997).

current primary expenditure, we derive the overall output elasticity of expenditures, which is estimated at -0.2. It should be noted that for both values of $\eta_{G,U}$ (-2.5 and -2.6), η_G, results convert to -0.17.

Table 4. Elasticity of budget expenditure with respect to the output

	Output elasticity of employment	Employment elasticity of labour supply	NAIRU / NAWRU	Gu/G	$\eta_{G,U}$	η_G
	A	B	C	D	E=-A*{(1-B)/C-1}	F=D*E
Albania	0.4[ii]	0.0[iii]	13%[iv]	7%[v]	-2.6	-0.2
Av. OECD[i]	0.6	0.3	9%	7%	-4.3	-0.3[vi]

[i]: According to Noord (2000).
[ii]: OLS estimate.
[iii]: Assumed 0.
[iv]: NAIRU for Albania by Dushku E. and Kota (2011). Value in table presents the average for period 2009-2011.
[v]: Average share of unemployment-related spending in total current primary expenditure for the period 2008-2011.
[vi]: Average of η_G for OECD countries estimated in 2000 is -0.3, while the revised one in 2005 is -0.1. This change is attributed mostly to the unemployment-related spending items revision. With the reduction of the number of unemployment-related items in 2005, their share in current primary expenditure declined compared to 2000.

The sensitivity parameter of current primary expenditure, ε_G is estimated about -0.04, (using the formula $\varepsilon_G = \eta_G \frac{G}{Y}$). This parameter was derived by multiplying the average ratio of current primary expenditure to GDP (21%) registered over recent years by the overall output elasticity of current primary expenditures η_G.

3.7. BUDGETARY SENSITIVITY

Output elasticity of revenue and expenditure estimates ($\eta_R = 0.9$ and $\eta_G = -0.2$) are broadly consistent with the "normative values" suggested by economic literature and comparable to empirical evidences for Albania.[43] The budgetary sensitivity parameter $\varepsilon = \varepsilon_R - \varepsilon_G$ is about 0.26, indicating that for every 1% output increase

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[43] See Fedelino et.al. (2009), Bouthevillain. et. al.,(2001), Girouard and Andrè (2005) for country comparisons. For the case of Albania results are comparable to Mançellari (2009). By applying a SVAR model, Mançellari has estimated the elasticity of revenues and expenditures 0.96 and -0.15, respectively.

the budget balance in GDP terms improves by 0.26 percentage points. In Table 5, the estimations for Albania compared to some European countries.

Table 5. Budgetary sensitivity parameters

	ε_R	ε_G	ε
Bulgaria (BG)	0.35	-0.01	0.36
Czech Republic (CZ)	0.36	-0.01	0.37
Greece (EL)	0.42	-0.01	0.43
Spain (ES)	0.38	-0.05	0.43
Italy (IT)	0.49	-0.02	0.51
Hungary (HU)	0.45	-0.01	0.46
Poland (PL)	0.33	-0.06	0.39
Romania (RO)	0.28	-0.02	0.30
Slovenia (SI)	0.42	-0.05	0.47
Slovak Republic (SK)	0.27	-0.02	0.29
Albania (AL)	0.22	-0.04	0.26
EU 27	0.39	-0.04	0.43

Source: EC. DG ECFIN, 2005; and author's calculations for Albania.

As shown in the table, budgetary sensitivity parameter for Albania is comparable to estimations for countries such as Slovak Republic and Romania, and relatively lower than other countries in the list. Smaller ε value might be attributed to comparatively lesser tax revenues share to GDP and to the limited size of public sector in the case of Albania.

However, it should be noted that the measurement of budget elasticity parameter is subject to ambiguity. First, the calculation of this parameter is based on information extracted from tax legislation and related fiscal data combined with econometrical estimations by using time-series data. In this aspect, budgetary sensitivity parameter reflects the "average" response of all budget items sensitive to cyclical fluctuations for the entire reference period. Their behaviour might differ from year to year, as different types of taxes respond differently during certain points of business cycle (the potential output is not adjusted for composition effects on demand). Second, cyclical behaviour of tax revenues might have altered in response to numerous reforms and changes undertaken in tax legislation framework in 2005-2012 horizon. Third, the

performance of tax revenues is explained to some extent by the type of shock to economy, since a demand-side shock driven by external imbalances does not have the same impact on tax revenues compared to a shock that might stem from a considerable change in consumer behaviour.
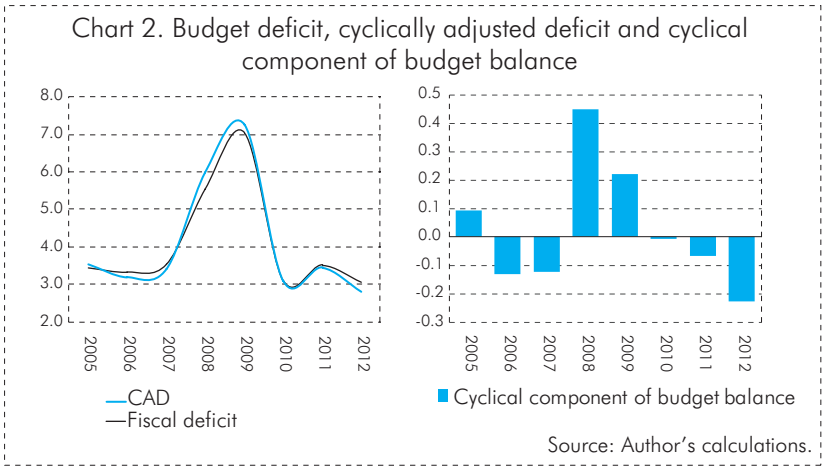
4. CAB AND FISCAL POLICY

Based on results obtained in the previous section, an overall view on fiscal policy stance will be provided, then a short comparative analysis of fiscal positions and fiscal consolidation size of Central and South Eastern European countries during 2012. Nevertheless, it should be noted that the accuracy of results is limited in several aspects. First, the results might be questionable, since they rely on numerous assumptions while computing tax revenues and expenditure elasticities. Indeed, these parameters might be object to further discussion or revision, as they may bear effects that might originate from structural breaks in economy. Second, economic literature suggests that in spite of the applied method, estimations on the output gap might be erratic, particularly toward the end of the sample period. Also, an additional error margin for CAB in our case might be the non-identification of the temporary and one-off measures. Indeed, during the analysed time horizon their prevalence in terms of number of cases was proved, and their actual budgetary impact resulted substantial. They were manifested in the form of receipts from privatisation of state owned assets; revenues from the sale of various licences (3G license for telecommunication corporates); or proceeds from the tax amnesty in 2011. However, the identification of full bundle of one-off measures together with their impact on CAB will be subject of future research.

4.1. FISCAL POSITION BASED ON CAB ESTIMATES

Discrepancies concerning the fiscal surveillance framework were evidenced, depending on whether the referred indicator is headline deficit or the cyclically adjusted one. Cyclical component of budget balance beside its magnitude recorded diverse course during the years under review (Chart 2, right-hand), implying that for specific years, the discretionary component of fiscal policy might have been overestimated, or quite the opposite. To better illustrate the point two different years are considered.

The first case is that of 2008. At the end of the year, budget deficit registered a share of 5.5% of GDP. On the other hand, the budget

deficit reflecting the discretionary fiscal policy only was estimated at about 6%. CAB estimation points out an improvement of the fiscal position by 0.5 percentage points, due to favourable cyclical conditions observed in 2008.

Chart 2. Budget deficit, cyclically adjusted deficit and cyclical component of budget balance

—CAD
—Fiscal deficit

■ Cyclical component of budget balance

Source: Author's calculations.

Quite differently, at the end of 2012, the cyclical component of budget balance is estimated to be negative. The negative value of 0.2 percentage points indicates a deterioration of the same extent to the overall budget deficit, as a result of the economic environment. In other words, assuming that in 2012 the limit on the fiscal deficit of 3% of GDP will not be overridden, 92% of it will reflect the discretionary fiscal policy impact, while the remaining part will be attributed to temporary factors deriving from cyclical fluctuations.

4.2. CAB AND AUTOMATIC STABILIZERS

Fiscal policy plays a crucial role in stabilizing the economy during a business cycle. Discretionary policy, however, typically involves implementation lags and is not automatically reversed when economic conditions change. By contrast, automatic fiscal stabilizers ensure a prompter and self-correcting fiscal response (IMF, 2009). While automatic stabilisers are a fairly established concept in a broad branch of fiscal policy literature, there is still

no consensus about their actual nature and their effectiveness in reducing the output volatility.[44]

Economic literature does not provide any consensus regarding automatic stabilizers size,[45] which, inter alia, depends on the tax legislation and social securities system. To estimate the automatic stabilizers size, some economists favour the public sector size as proxy for the automatic stabilizers magnitude, expressed by the ratio of expenditures to GDP. Others, including Mohanty and Scatigna (2003), define the cyclical component of budget balance as automatic stabilizers. Following this definition, in the case of Albania, the automatic stabilizers size is illustrated in Chart 2, right-hand section. The automatic stabilizers size in this paper is approximated by changes in the cyclical component of the budget balance, following Cottarelli and Fedelino (2010).

Recalling the equation of budget balance in terms of GDP,

$BB = CAB + CC$

where CC, is the cyclical component of the budget balance. The automatic stabilizers size, calculated as $AS = \Delta CC = CC_t - CC_{t-1}$ is presented in Chart 3 as follows.

Chart 3. Automatic stabilizers

Source: Author's calculations.

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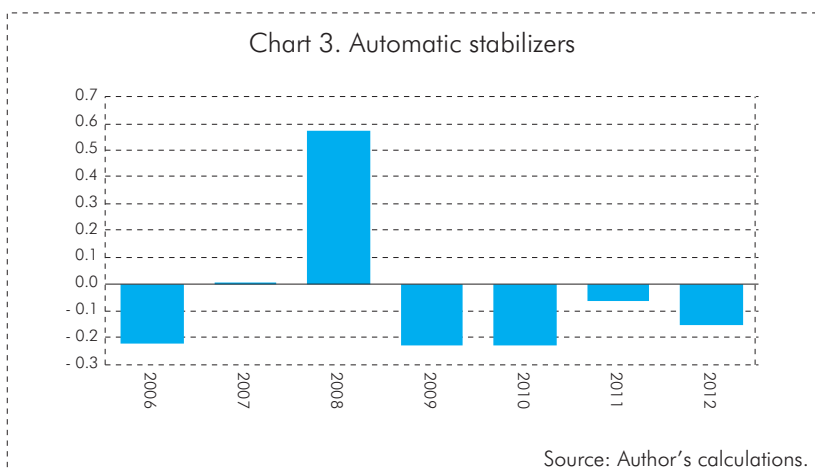
[44]   See Velt, et al. (2012) for further details.
[45]   See Cottarelli and Fedelino (2010).

As presented in the chart, the magnitude of automatic stabilizers in our case is negligible. Low automatic stabilizers size might be attributable to: (i) public sectors' moderated dimension; (ii) tax structure, dictating low tax revenues GDP ratio; (iii) single tax rate on income, instead of the progressive one[46]; and (iv) moderate fluctuations estimated for output gap.

Identification of automatic stabilizers operation and size is crucial for the monetary authority. Specifically, automatic stabilizers are temporary and less likely to affect market expectations adversely (i.e. interest rates). However, in our case, the size and effectiveness of automatic stabilizers are constrained to some extent by the small share of tax burden on GDP (about 24%), which imposes a weak response of tax revenues to a possible demand-side shock on the economy.

4.3. FISCAL POLICY STANCE

According to economic literature, there are three definitions of fiscal policy stance with regard to economic developments: procyclical fiscal policy, countercyclical fiscal policy and neutral fiscal policy. During the episodes when economic growth is above its potential, fiscal expenditures increasing at higher rates compared to revenues one imply an increase in deficit to GDP ratio, suggesting thus a pro-cyclical fiscal policy. On the other hand, in "bad times", when the economy grows below its potential, the pro-cyclical nature of fiscal policy is reflected in lower public spending to GDP ratio, leading, in turn, to lower budget deficit to GDP ratio. Gavin and Perotti (1997) argue that the pro-cyclicality of fiscal policy in "bad times" is explained, to some extent, by the government's credit constraints to borrow for financing public expenditures. This is particularly common in developing countries. In bad times, many developing countries cannot borrow, or can do so only at very high interest rates; therefore, they cannot run deficits and have to cut spending. In booms, they can borrow more easily and choose to do so, increasing public spending. Moreover, Alesina and Tabellini

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[46] Baunsgaard and Symansky (2009) have estimated how tax progressivity on personal income is translated into higher automatic stabilizers size for 26 OECD members.

(2005) show a strong positive correlation between procyclicality and measures of corruption: more corrupt countries display a more pro-cyclical fiscal policy. They also conclude that procyclicality of fiscal policy results from a government failure, not a market failure, and takes place irrespective of whether or not the government is against a credit limit.

Fiscal policy displays a countercyclical feature whenever the fiscal deficit widens in presence of negative output gap. During these "bad times", the fiscal deficit increases in response to fiscal stimulus packages undertaken by the government to revitalise the economy. Counter-cyclicality of fiscal policy is also demonstrated in the presence of a positive output gap, being materialised in lower fiscal deficit to GDP ratio. A neutral fiscal policy keeps the CAB unchanged over the economic cycle, but lets the automatic stabilisers work (EC, 2009).

In Chart 4, the fiscal policy stance is illustrated for the period 2006-2012. It considers changes in CAB (vertical axis) depending on cyclical conditions in economy (horizontal axis). The upper part of the chart shows an improvement of CAB, while the two quadrants positioned below the horizontal axis illustrate deterioration of the fiscal position. Right-hand section of the chart refers to improved cyclical conditions, while the left-hand section illustrates "bad times", when output gap is negative. In spite of the prescriptions from economic theory and the broad agreement in the policy community against pro-cyclical fiscal policy, counter-cyclical behaviour was far from being a norm in Albania during the past decade. Pro-cyclical pattern of fiscal policy was imparted not only in "good times", but also in "bad times" (2006, 2010 and 2012). At the same time, the pro-cyclical bias of fiscal policy was displayed not only in its easing pattern (year 2008 and 2009), but also in the tightening one (2006, 2010 e 2012).

Chart 4. Fiscal position and the cyclical conditions in Albania, 2005-2012

Source: Author's calculations.
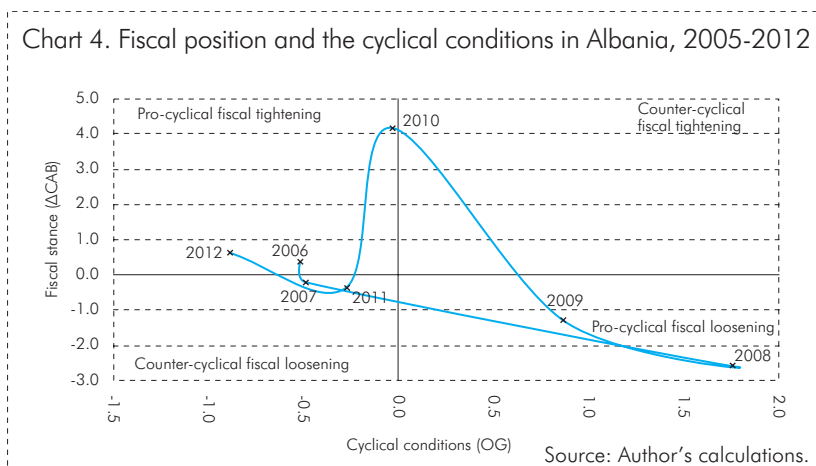
CAB estimates point out to a countercyclical feature of the fiscal policy resulted, respectively, in 2007 and 2011. During these years, CAB deteriorated in annual terms, in the presence of a negative output gap. The estimates indicate that the countercyclical response of the discretionary fiscal policy to smooth the output volatility was apparent only during the "bad times". As Fatas and Mihov (2009) argue, even when the fiscal policy is countercyclical, it tends to be less countercyclical than the normative models suggest. Nevertheless, in this stage of research, testing whether the Fatas and Mihov arguments do hold in our case has been out of focus.

Referring to economic literature, pro-cyclical policy is not desirable particularly for the monetary authority, if the latter's objective is to mitigate the output volatility. In this context, a more aggressive intervention of central bank to dampen aggregate demand fluctuations, leads to higher volatility of interest rates, raising thus questions on the effectiveness of monetary policy. However, there are also economists defending the theory that pro-cyclical fiscal policy should not be viewed with scepticism, and it is not necessarily bad for the economy as long as it helps in reducing long-term fiscal risks and in improving financial markets confidence.

The pro-cyclical feature of fiscal policy was empirically tested via a regression equation, where CAB changes were explained by output gap variations and public debt accumulation. The regression

equation was a "by-product"[47] of the approaches followed by Fatas dhe Mihov (2009) and Debrun and Kapoor (2010). It quantifies the short-term response of the CAB to the output gap (parameter β_2) and discretionary dimension of the fiscal policy (parameter β_3) and is expressed as:

$$CAB_t = \beta_1 + \beta_2 OG_{t-1} + \beta_3 D_{t-1} + \varepsilon$$

Where,

D_{t-1} represents public debt stock of the previous year.
OG_{t-1}: output gap in the previous year.
ε: error terms.

This simple regression suggests that the fiscal policy is a function of debt level (parameter β_3) and cyclical conditions (coefficient β_2). As expected, parameter β_2 resulted negative, implying that a cyclical upturn (downturn) tends to deteriorate (improve) the CAB, indicating that government actions are systematically destabilizing and offset— at least partly—the impact of automatic stabilizers on the economy. At this stage of study, no efforts have been made to quantify the pro-cyclical dimension of fiscal policy and we have just evidenced the sign of parameter β_2, which measures the short-term reaction of CAB with respect to the output gap.

CAB estimates, besides the fiscal policy stance assessment, provide the specification of the fiscal consolidation processes during the period under review. Based on the definition of the stages for fiscal consolidation process by EC (2009)[48], only one fiscal consolidation was distinguished during the analysed period. In 2010, a considerable fiscal adjustment was recorded, materialised into CAB improvement by 4.2 percentage points from a year earlier.

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[47] Unlike these authors, we have assumed that cyclical changes at time t-1 have implications for the CAB at time t. Debrun and Kapoor (2010) consider CAB_{t-1}, as the second explanatory variable for CAB_t. Fatas and Mihov (2009), in addition to explanatory variables used by Debrun and Kapoor, consider D_t, as well.
[48] Details on the definition of the starting, continuation and termination of fiscal consolidation process, European Economy, 2009 "Achieving and safeguarding sound fiscal positions", page 62.

This fiscal consolidation noted during this year was driven by a sharp decline of investment spending, which, in 2008 and 2009, recorded the highest historical values.[49]

Chart 5. CAB and fiscal consolidation

Source: Authors' calculations.
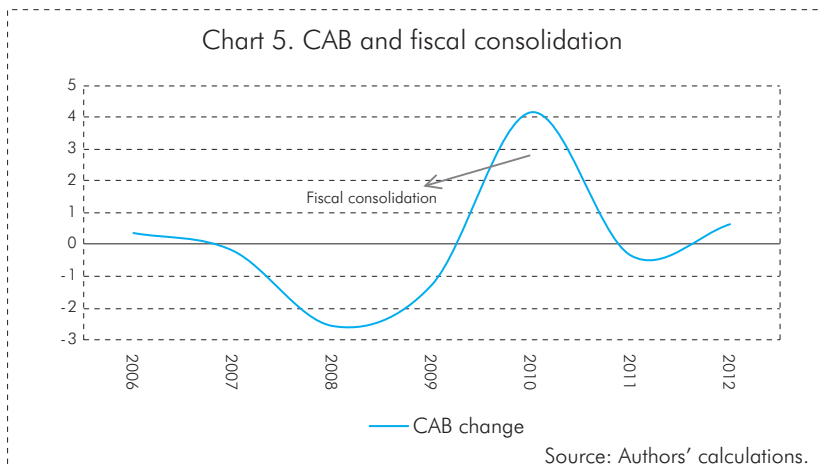
Also, in 2012, another fiscal consolidation process started, whose continuation is largely conditioned by the expected fiscal policy behaviour in 2013.[50]

4.4. FISCAL POSITION IN 2012: COMPARISON WITH CESEE COUNTRIES

After the global crisis, the intervention of fiscal monetary authorities was indispensable to alleviate further deterioration of real sector main indicators. Many countries experienced unprecedented public debt increase in response to several fiscal stimulus packages with the aim of safeguarding their economies and restoring the confidence in financial markets. As at end of 2012, euro area public debt was estimated at about 88% of GDP. This ratio was 20
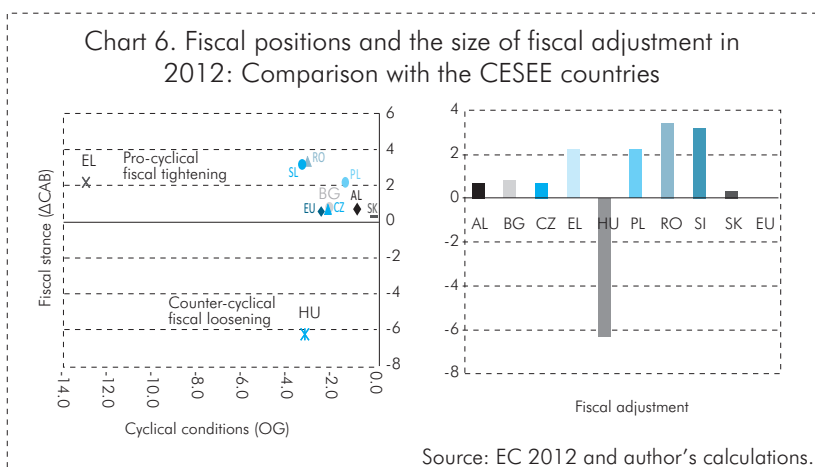
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[49] Capital expenditure in 2008 and 2009 rose by about 2.5 percentage points of GDP, from their historical average thanks to expenses for the Durrës-Kukës road construction.

[50] Based on the draft plan for 2013, budget deficit planned for 2013 is higher than that expected for 2012.

percentage points higher than the level recorded prior to the global crisis, EC (2012). Besides the high fiscal deficits and the enduring interventions in financial markets, the sharp increase in public debt was determined by the subdued real economic growth recorded during this period.

The deterioration of fiscal positions in CESEE countries and beyond raised the concerns about fiscal sustainability, emphasising the need for immediate measures toward fiscal consolidation. Theoretically, fiscal consolidation might lead to aggregate demand shrinkage in the short run; but, in the long run, it contributes to economic growth through to risk premium reduction. One element that plays a role in the relationship between growth and consolidation is the composition of the consolidation. Consolidations based on expenditure rather than on revenues tend, in general, to be more lasting and more growth-supporting in the medium term, but more recessive in the short term. Moreover, the fiscal consolidations aimed at reducing current expenditure instead of the capital one, have proved to be more successful, Kumar et.al (2007).

Overall, the budgetary positions of CESEE countries, including Albania, appear more or less similar. The combination of continued falling deficits alongside a widening output gap for 2012 means that, overall, the fiscal stance is positioned on the pro-cyclical side this year.

Chart 6. Fiscal positions and the size of fiscal adjustment in 2012: Comparison with the CESEE countries

Source: EC 2012 and author's calculations.

Also, CESEE countries faced structural challenges related to internal and external imbalances alongside growth impediments linked to the legacy of the global financial crisis. In view of the substantial debt increase induced by the crisis, the only choice for many CESEE countries was to pursue ambitious fiscal consolidation plans. However, the weak growth environment posed a challenge to fiscal consolidation. Fiscal retrenchment planned for 2012 in CESEE countries relies mostly on spending cuts and tax increase.[51] However, the size of fiscal consolidation for 2012 varies considerably among countries (Chart 6, right-hand section), depending on the national objectives for public debt and the setting up of fiscal space in the future.

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[51] For details see EC, Public finances in EMU, 2012.

CONCLUSIONS

Despite its pitfalls with regard to calculation and interpretation, CAB is a key indicator for analysing and monitoring the underlying fiscal position. By disentangling the effect of cyclical factors on the budgetary position, CAB provides better guidance on the underlying orientation of fiscal policy compared to the headline deficit. The accurate projections on output gap and elasticity parameters position CAB as the right anchor of fiscal policy. At the same time, targeting CAB as a fiscal rule will enhance credibility and fiscal discipline, supporting, in turn, fiscal sustainability, as this type of fiscal rule provides room for counter-cyclical fiscal policy. Nonetheless, the drawbacks of this indicator are not rare and come across in the calculation process, as well as in the interpretation stage. Once a compromise on the accuracy of projections is reached, CAB changes may be used as a warning instrument for fiscal adjustment needs and future fiscal policy changes, being thus a useful tool in the decision-making process. However, the effectiveness of this indicator in the decision making area is also conditional to the correct implementation of fiscal plans for the forthcoming period.

Obtained estimates on budgetary elasticity parameters were broadly consistent with the "normative" values suggested by the economic literature and comparable to empirical evidence for Albania. However, CAB estimates may be subject to ambiguity, since they rely on a significant number of assumptions and might bear effects originating from structural breaks in economy.

Discrepancies concerning the fiscal surveillance framework were evidenced, depending on whether the referred indicator is headline deficit or the cyclically adjusted one. The available evidence suggests that, in spite of the prescriptions from economic theory and the broad agreement in the policy community against pro-cyclical fiscal policy, counter-cyclical behaviour was far from being a norm in Albania during the past decade. The pro-cyclical feature of fiscal policy was empirically documented via a regression equation, which quantified the short-term response of the CAB to the output gap and discretionary dimension of the fiscal policy. Meanwhile, automatic

stabilizers size and effectiveness was marginal on mitigating output fluctuations, owing to interrelated number of factors, such as small share of tax burden on GDP, applicable tax system features, low variations estimated for output gap and the modest size of public sector compared to other countries.

Owing to the restrictions arising from the available dataset during the preparation of this paper, the focus of the future work should consist in refining the followed approach, in terms of enriched estimates of output gap and budgetary sensitivity parameters. In this context, relaxing the simplifying assumptions of unit elasticity as well as tackling short-term fluctuations of tax elasticities could be some ways to overcome the problem of inaccurate budgetary estimates. Also, another important aspect to be dealt with in future is the identification of the full bundle of temporary and one-off measures, to complement CAB estimates with structural balance calculations.

ABBREVIATIONS

EC: European Commission

EMU: European Monetary Union

EU: European Union

ECB: European Central Bank

IMF: International Monetary Fund

SGP: Stability and Growth Pact

OECD: Organisation for Economic Cooperation and Development

CESEE: Central Eastern and South Eastern Europe

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