

# STRUCTURAL BUDGET DEFICIT - ANALYSIS TOOL FOR FISCAL POLICY. CASE STUDY: ROMANIA

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## Abstract

*In developed countries, but also in emerging ones, governments could not cover expenses based on revenues, which led to the formation of budget deficit. Thus, there were some questions about the permissible size of the budget deficit, the impact of this indicator on the economy on short and long-term, but also about the options to cover the budget deficit recorded by a country. Given that some Euro Area member states have exceeded the 3% of GDP budget deficit limit, as a result of poor management of public finances, it was decided to monitor a new indicator - structural budget deficit. This is a fundamental indicator of nominal convergence, which reflects how public finances are managed. Thus, in order to obtain a more detailed view of a country's economy, it is essential to determine the structural budget deficit.*

**Keywords:** growth, fiscal policy, deficit, output gap

## 1. Introduction

The budget deficit reflects the influence of permanent factors (stable elements of public revenues and expenditures, stable income and expenditure flows are prevailing under normal conditions, in the absence of external shocks, when the economy operates at its potential, with a low and stable inflation) and transitory factors (those factors affected the business cycle, such as budget revenue performance in different periods: they grow rapidly during periods of expansion and decline in recessions, regarding expenditures, things are in the reverse: social transfers, especially unemployment aid spending increases during recessions and fall during expansion periods; transitory factors acting on the government balance are generally the consequence of deviation of output from its potential level, but can be identified also with extraordinary events such as natural disasters), without being able to distinguish between them. (Socol, 2011).

According to **Hegemann (1999)** structural budget balance is the balance remaining after removal of residual effects of the economic cycle on public finances. Components of revenues and expenditures affected by the economic cycle appears as "automatic stabilizers", helping to "polish" the economic cycle and reduce the volatility of GDP, with a positive effect on potential economic growth on a long time horizon.

At the beginning, structural budget balance was used to indicate the fiscal position in terms of full employment of labor, but over time the *valences* indicator have diversified.

Thus, this indicator is used as an *instrument of discretionary changes* in fiscal policy level, ie, of evolutions due to fiscal policy adopted and due to economic influences.

Structural budget deficit is determined to observe the *character of fiscal policy* (restrictive or expansive). In other words, if fiscal policy is expansionary, the structural budget deficit will increase. On the other hand, if we have a tight fiscal policy, the structural component of the deficit will decrease. If the government would not change fiscal policy, the budget deficit would remain at the same level, so it would be constant.

Also, the structural budget balance allows assessment of the *sustainability of fiscal policy*, specifying to what extent the current fiscal policy is deemed to be viable or involves the application of significant adjustments in the future. If there is an unsustainable growth of public debt, driven by an increase in the structural budget deficit, is required to apply fiscal and budgetary measures, aimed to improve the situation.

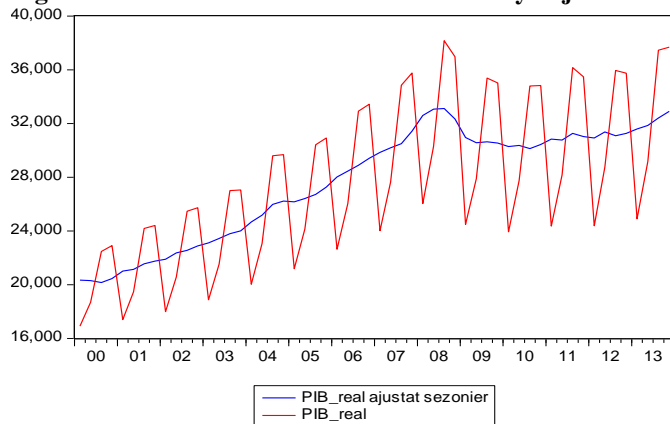
Although there are a number of methodologies for determining this indicator, all involve applying the following three steps (Hegemann, 1999): (1) estimate the gap between actual GDP and potential GDP achieved (outputgap); (2) determining the cyclical component of the budget aggregates based on the output gap, estimate of revenue and expenditure elasticity using GDP and estimate budget deficit sensitivity; (3) estimate structural component by subtracting the cyclical component from the current levels of budgetary aggregates. (Socol, 2009)

**2. Estimation of structural budget deficit in Romania during 2000-2013**

Since the data used to determine potential GDP had a quarterly basis, we considered parameter  $\lambda = 1600$ . Quarterly data, expressed in million for real GDP were provided by the National Institute of Statistics. For seasonal adjustment of the data we used the function Tramo/Seats from Eviews program.

In the chart below is shown the real GDP series (million average prices of 2000) and seasonally adjusted real GDP.

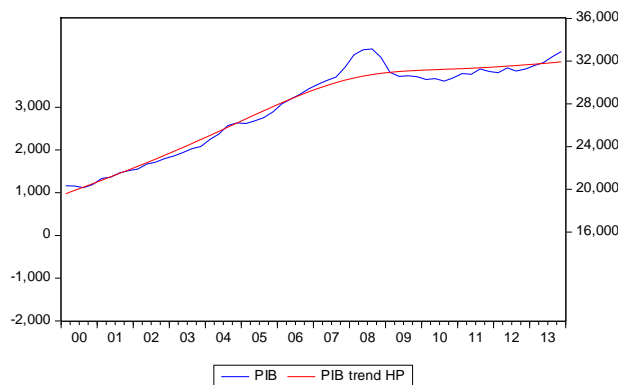
**Figure 1 : Real GDP and real GDP seasonally adjusted**



Source: own processing using Eviews 7

In order to determinate potential GDP and output gap for Romania we used Hodrick-Prescott filter. The chart below shows the data obtained.

**Figure 2 : Potential GDP determined by Hodrick-Prescott filter**



Source: own processing using Eviews 7

Output gap was estimated using the Hodrick-Prescott filter, the table below highlighting the output gap values obtained.

**Table 1 : Estimation of the output gap**

Year	Output gap (%)
2000	-3,22
2001	-3,19
2002	-2,40
2003	-3,92
2004	1,34
2005	-1,67
2006	0,81
2007	2,21
2008	6,20
2009	-2,95
2010	-3,46
2011	-1,33
2012	-2,56
2013	-2,49

*Source: own processing*

During 2000-2003 output gap recorded was negative, so the Romanian economy operate below potential, but measures to boost the economy were not taken, which led to the creation of fiscal space. 2006-2008 period corresponds to a positive output gap, so the economy operate above potential. This period was characterized by economic overheating leading to exhaustion of fiscal space created during the period mentioned above.

Cyclical budgetary component is determined as the product of budget sensitivity (determined taking into account the income and expenditure elasticities) and output gap estimate. (Socol, 2009). The table below shows the results for cyclical budget balance between 2000- 2013 in Romania. To determine the structural budget deficit cyclical component is subtracted from the current budget component. Using the calculations above, the structural budget deficit for Romania in the period 2000- 2013 is shown in the following table:

**Table 2 : Estimated structural budget deficit**

Year	Current budget balance	The cyclical component	Structural budget deficit
2000	-4,2	-2,1	-2,1
2001	-3,5	-1,6	-1,9
2002	-2,3	1	-1,3
2003	-1,5	0,1	-1,6
2004	-1,3	1,2	-2,5
2005	-1,2	1,1	-2,3
2006	-2,2	1,3	-3,5
2007	-2,6	2,7	-5,3
2008	-5,4	2,5	-7,9
2009	-7,2	1,9	-9,1
2010	-6,5	-0,3	-6,2
2011	-4,4	-1,4	-3,0
2012	-2,5	0,2	-2,7
2013	-2,3	-0,8	-1,5

*Source: own processing*

According to the data included in the table above, we can say that a simple analysis of the consolidated budget deficit gives wrong information. For example, in 2008 and 2009 current budget deficit recorded values of -5.4% of GDP and -7.2% of GDP. Things are different, however, if we eliminate the influence of the economic cycle, the deficit was actually -7.9% of GDP in 2008 and -9.1% of GDP for 2009.

The high values achieved by structural budget deficit constituted the alarm signal, as they were implemented a series of decisive measures in order to ensure the sustainability of fiscal policy. Thus, structural budget deficit fell from 9.1% of GDP, reached in 2009, at 3% of GDP, value recorded at the end of 2011. The measures envisaged expenditures, changes taking place public sector, in staff remuneration area and in pension system. Encouraging decrease of structural budget deficit is also mentioned in the report fiscal treaty, Romania managed to implement one of the most ambitious fiscal adjustment programs.

Măsurile au vizat sectorul cheltuielilor, schimbări având loc în sectorul remunerării personalului bugetar și în sistemul de pensii. Diminuarea îmbucurătoare a deficitului bugetar structural este menționată și în raportul Tratatului fiscal, Romania managed to implement one of the most ambitious fiscal adjustment programs.

### 3. The nature of fiscal policy in Romania during 2000-2013

As mentioned in the previous chapter, the actual budget balance is not an indicator for assessing fiscal policy, since it reflects the influence of both, permanent and transitory factors. Therefore, it is determined structural budget balance, in order to determine the type of fiscal policies - restrictive or expansionary, procyclical or countercyclical.

If fiscal policy is expansionary, then the structural budget deficit increases. If the structural budget deficit decreases, fiscal policy is restrictive. If the fiscal policy would not ever change, meaning that automatic stabilizers should operate only as a consequence of macroeconomic fluctuations, the structural budget deficit would be constant.

The relationship between changes in structural budget balance and output gap is shown in the table below.

**Table 3 : Nature of fiscal policies**

		<i>Structural budget deficit</i>		
		<b>increase</b>	<b>stagnates</b>	<b>decrease</b>
<i>Output gap</i>	<b>positive</b>	expansionary procyclical fiscal policy	neutral fiscal policy	countercyclical restrictive fiscal policy
	<b>negative</b>	countercyclical expansionary fiscal policy	neutral fiscal policy	procyclical restrictive fiscal policy

Source: realized after Enache, 2008

If it is taken into account also the output gap, it can be highlighted the impact of fiscal policy on the business cycle fluctuations: fiscal policy is considered to be *pro-cyclical* if it is restrictive in terms of output gap of recession and expansionary when there is inflationary gap. A fiscal policy is *countercyclical* if aims to stimulate the economy in recession or braking economy in conditions of prolonged expansion. (Socol, 2009)

If we consider the dynamics of structural budget deficit, previously determined and the sign of output gap, we can recognize the type of fiscal policy in Romania between 2000-2013.

**Table 4: Types of fiscal policies adopted in Romania between 2000-2013**

variables	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
<b>SBD</b>	↑	↑	↑	↓	↑	↓	↑	↑	↑	↑	↓	↓	↓	↓
<b>OG</b>	-	-	-	-	+	-	+	+	+	-	-	+	-	-
<b>FP</b>	CE	CE	CE	RP	EP	RP	EP	EP	EP	CE	RP	RC	RP	RP

Source: own processing

Note:

SBS = structural budget deficit

OG = output gap

FP = fiscal policy

CE – countercyclical and expansionary fiscal policy

RP – restrictive and procyclical fiscal policy

EP – expansionary and procyclical fiscal policy

RC – restrictive and countercyclical fiscal policy

Regarding the Romanian economy, it can be observed the strong character of expansionary fiscal policy during 2000-2002, 2004, 2006-2009. During these periods the structural budget deficit increased significantly, from 2.3% of GDP in 2005 to -9.1% of GDP in 2009. To improve the current budget deficit, but also the structural one, was necessary to promote a restrictive fiscal policy. Moreover, in 2006-2008, the output gap was positive, highlighting the need to implement a restrictive fiscal policy.

If we analyze the type of fiscal policy after the developments of structural budget deficit, it can be seen that during 2003, 2005, 2010 to 2013 was implemented a restrictive fiscal policy. Fiscal policy analysis starting from output gap of GDP points out that in 2000-2002 and 2009, 2011 was a countercyclical fiscal policy, and in 2003-2008, 2010, 2012, 2013 the fiscal policy was procyclical.

The results indicate that in the period under review, fiscal policy in Romania was mainly cyclical. It also indicates a high degree of inconsistency in terms of the type of fiscal policy implemented, the longest period with the same type of fiscal policy was 3 years, from 2006 to 2008, when fiscal policy was expansionary and procyclical.

Thus, we outline the following question: "Why Romania does not promote countercyclical fiscal policy?". The response resulting from the previous facts is that Romania has made large fiscal adjustments in times of expansion, contrary to the views of researchers, which recommends fiscal consolidation processes in good times and not heavy periods, when they could pave the decrease in production. Logically, another question arises: "Why the Government maintained fiscal adjustment in 2005-2008, despite recommendations known in literature?". According to the literature, procyclicality of fiscal policy is highly correlated with high levels of corruption. (Dima et al, 2013).

Between 2005 and 2008 public expenditure doubled in nominal terms, the public share of GDP increase from 33% to 37% of GDP. Spending on public sector wages have increased more than twice during those three years, due to higher wages, combined with a significant increase in the number of employees in the public sector. Consolidated budget deficit increased in 2008 at about 5.4% of GDP. Since the economy went into recession in 2009, a loosening of fiscal policy to mitigate the economic crisis was not possible because of the very high level of expenditure, whereas the government could not cover a large deficit. Removing the cyclical component of budgetary revenues reveals the true extent of fiscal imbalance in terms of structural deficits, well above the current deficit. From 2004 to 2009, the structural deficit was higher than the current deficit when the economy operates above potential, especially in 2006-2008, thus depleting the fiscal space. Procyclical fiscal policies resulted in a fiscal space during recessionary gap and in conducting them on short-term periods of expansion gap. Romania has made large fiscal adjustments when the economy operated below its potential, contrary to macroeconomic theory that recommends fiscal consolidation processes during periods of expansion.

#### 4. Conclusions

Fiscal policy in Romania in pre-crisis period was a procyclical one, characterized by dominance of political considerations on short-term, without paying much attention to the consequences on the sustainability of public finances on medium and long term.

Measures implemented are strong evidences regarding the procyclicality character of fiscal policy in Romania. Statistical developments during analyzed period shows that taxation and spending tends to be procyclical both during boom and recession. Thus, in Romania, expenditure increase and tax rates decrease in periods of economic growth and spending are decreasing and taxes are raising during recession.

Procyclical fiscal policy in Romania comes also from weakness of automatic stabilizers and discretionary policies are a result of the poor quality of public and political sectors. Many countries come with stimulus packages to fight the crisis, and tax reforms are an obvious fiscal stimulus and is expected to be effective in encouraging economy. The sustainability of fiscal policy is based on the system's ability to enhance the credibility of public institutions to develop tax base, stimulate the economy, to stimulate interest in investment, to create a stable business environment, GDP being its consequence. Gross domestic product will increase as the businesses are thriving.

Compared with the greatest crisis in the years 1929-1933, the current crisis has forced the international authorities to reconsider the mix of fiscal policy anticrisis.

In Romania, the economic reality shows that the government is far from applying best economic policy. Basic characteristics of Romanian economy are unstable and unpredictable in terms of reactions to changes in the budget. Fiscal interventions changes over time, in scope and also as instruments used, depending on the objectives of government policy. The main measures are to mitigate the impact of the global crisis and to bring the Romanian economy to the point that will be sustainable. Fiscal instability leads primarily to discourage investments, and then to remove them from other areas, characterized by lower rates. Any increase in the flat tax, especially income tax, is considered a negative signal to investors and can lead to a liquidity crisis in the business.

The measures taken by Romania are characterized by lack of consistency, which translates into low efficiency and increases the social costs of the crisis. Measures regarding the "expansionary policies - restrictive policies" lead us to conclude that the two policies are not convergent.

Until now, developments in macroeconomic indicators show that the government is far from applying the appropriate fiscal policy. As a consequence, Romania should reevaluate fiscal policy in a way that includes, among its features, transparency, accountability and clear operating mechanisms. Since pro-cyclical fiscal policy reduces the effectiveness of automatic fiscal stabilizers it is highly recommended to abandon this policy.

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## 6. Brief biography

Moraru Camelia - PhD Student at Academy of Economic Studies in Bucharest, Romania. My field is Economics and my PhD thesis is entitled "The Role of Fiscal Policy in the process of Economic Growth". I am currently teaching assistant within an university in my home town, Constanta, Romania. I have published more than 10 articles in my area of research and I have published one book.

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