Professor Dinu MARIN, PhD
The Bucharest Academy of Economic Studies
E-mail: marin.dinu@economie.ase.ro
Aura Gabriela SOCOL , PhD
E-mail: auragabriela.socol@gmail.com
Cristian SOCOL, PhD
socol.cristian@gmail.com
Marius MARINAS, PhD
The Bucharest Academy of Economic Studies
E-mail: marinasmarius@yahoo.fr

PRO-CYCLICAL FISCAL POLICIES - ASYMMETRIC TRANSMISSION CHANNEL IN EUROZONE. THE ROMANIAN CASE

Abstract. The European economy has been severely affected by the recent international financial crisis. This study makes an analysis for the way in which the predominantly pro-cyclical national fiscal policies have acted as a transmission channel of the Eurozone asymmetries. The empirical evidences have demonstrated the less developed countries desiring to join the Eurozone will be the most affected by the asymmetric impact of the fiscal policy's procyclicity, however, the contagion effects may also negatively reflect upon the developed countries. According to the estimation made for three models derived from the „classical" reaction function, there have been performed tests for the pro-cyclical/anti-cyclical characteristic of the fiscal policy, for its discretionarism degree, and also for the efficiency of the automatic stabilizers for Romania. In the end, the study proposes a set of solutions and recommendations.
Keywords: fiscal policy, fiscal reaction function, automatic stabilizers.

I. Introduction

There has been substantial analytical work examining whether economic developments across euro area countries have further converged or diverged since the introduction of the euro. However, there is still substantial and persistent heterogeneity across euro area countries. This heterogeneity stems from diverse sources, including: a. idiosyncratic country-specific shocks; b. different developments in total factor

productivity (TFP), reflecting national differences and preferences in respect of innovation, industry characteristics and investments in R&D; c. differences in discretionary fiscal policies; and, to a lesser degree, d. differences in labor input, and in product and labor market institutions. Structural differences still remain an important source of heterogeneity in growth and adjustment, but not only in the euro area. The issue of heterogeneity is rather complex [1]. However, our study is focused on the analysis made for one of the above-mentioned factors, namely the risk determined by the procyclicity of the fiscal policy.

II. Literature review

Gavin and Perotti (1997) observed that budget deficits in Latin America in 1970–95 largely failed to respond to economic growth, suggesting that discretionary policy was used in a procyclical fashion, so as to offset automatic stabilizers. The idea that developing countries may face borrowing constraints, in bad times but not in good times, is also supported by the evidence presented in Kaminsky and others (2004). Other studies present evidence of procyclicality for developed countries as well, albeit to a lesser extent. Given the evidence that automatic stabilizers improve overall budget performance by ½ percentage point (van den Noord, 2000; Bouthevillain and others, 2001), this result suggests that discretionary policy has been used procyclically in developed countries as well. [2]

But why is fiscal policy procyclical? Some of the explanations given to this phenomenon is that high external debt causes severe constraints on the capability of achieving new loans, and consequently countries are constrained to cut budget deficits. Aguiar and Gopinath (2007) found that in developing countries "the cycle is the trend"; in these countries business cycles turn to become persistent, and determine the fundamentals of economic performance of those countries. In particular, one possible channel is fiscal policy: in times of recessions (booms) the erratic character of the crisis (good times) forces developing economies to cut (increase) expenditures, acting procyclically. [3]

This procyclical behavior may characterize other sectors of the economy, far beyond fiscal policy reaction (Kaminsky, Reinhart, and Včgh, 2004). The recent renewed interest in cyclicality of fiscal policy is mainly empirical. This new empirical literature began with Galí (1994), who found that fiscal expenditures are counter-cyclical or a-cyclical in developed countries. In contrast Gavin and Perotti (1997) found that fiscal policy is highly pro-cyclical in Latin American countries. These findings led to much research that re-examined these findings and corroborated them to a large extent. Lane

(2003) shows that cyclicality of fiscal policy varies significantly across categories, but in most advanced economies they are counter-cyclical. [4]

III. Pro-cyclical fiscal policy as an asymmetric transmission channel

The argument is as follows: the 3 % deficit ceiling set by the Maastricht Treaty, which tends to be reached in cyclical downturns, is likely to push countries to adopt corrective measures in bad times and thus to implement pro-cyclical budgetary policies. This issue concerns the risk of pro-cyclicality of fiscal policies during cyclical downturns. In a monetary union discretionary fiscal policy should generally be neutral over the cycle, while automatic stabilizers operate to help smooth out economic fluctuations. The argument is that if a government is unable to achieve a sound budgetary position during "good times" it may be unable to let automatic stabilisers display their effects when the economy slows down, due to the risk of breaching the 3% deficit ceiling. (Mongelli, 2008)

Is the SGP efficient in eliminating procyclical bias in policy-making? The tendency for procyclical bias in the conduct of discretionary fiscal policies has been a typical characteristic of European policy-making (Brunila and Martinez-Mongay 2002). The SGP is not however well equipped to rein in procyclical tendencies due to its asymmetry: it is essentially focused on budgetary discipline during cyclical downturns rather than during upswings. While an excessive deficit is sanctioned, there are no effective enforcement mechanisms to ensure appropriate budgetary behaviour and to run even sizeable budget surpluses during cyclical peaks. Specifically, the SGP does not foresee any restraints to political temptation to spend the automatic fruit of higher growth, which lies at the heart of the political deficit bias. To avoid excessive deficit during a downturn would in turn imply procyclical fiscal tightening. This potential flaw in the SGP was recognized already from the very beginning. (Brunila, 2002).

At the euro area level pro-cyclical fiscal relaxation will put pressure on monetary policy and call higher interest rates to contain acceleration in the area-wide inflation. The result would be an unbalanced policy-mix, which is detrimental for sustained economic growth and employment for the area as a whole. Overall, one reason why the SGP tends to work asymmetrically and does not necessarily improve the incentives for disciplinary fiscal behaviour during good times is the confusion surrounding the appropriate interpretation of the medium-term objective of 'close to balance or in surplus'. [5]

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas
_____

A growing empirical literature demonstrates that fiscal policy in emerging and developing countries tends to be pro-cyclical, while it is a-cyclical or counter-cyclical in most developed countries. As a result, the less developed countries which joined/which desire to join the Eurozone will be the most affected by the asymmetric impact of the fiscal policy's procyclicity, however, the contagion effects may also negatively reflect upon the developed countries. Table 1 reports the correlation coefficient between annual real GDP and real government consumption growth in four different time periods. The general result for developed countries shown in the last eight rows of the table is a close to zero or negative correlation, regardless of the sample period considered. Hence, the simple correlation coefficient confirms the pro-cyclical or counter-cyclical budget policy. In contrast, the general result for many less developed countries is a positive correlation suggesting pro-cyclicality, though there are exceptions. Results for some countries are different for different time periods, which make us cautious when interpreting the results. (Darvas, 2010).

Table 1. Correlation of annual real GDP and real government consumption growth

	1995-2007	1995-2010	2001-07	2001-10
Bulgaria	0.81	0.77	−0.25	0.29
Cyprus	−0.54	−0.35	−0.37	−0.20
Czech	−0.21	−0.08	−0.59	−0.11
Estonia	−0.18	0.14	−0.23	0.54
Hungary	0.81	0.62	0.92	0.62
Latvia	0.30	0.45	0.84	0.91
Lithuania	0.69	0.83	0.13	0.90
Malta	n.a.	n.a.	−0.01	0.24
Poland	0.27	0.56	0.59	0.78
Romania	0.09	0.24	−0.65	0.28
Slovenia	−0.26	0.03	0.04	0.23
Slovak	0.43	0.40	−0.10	0.12
Albania	0.40	n.a.	0.41	n.a.
Croatia	−0.03	0.04	0.67	0.27
Macedonia	n.a.	n.a.	−0.64	−0.55
Turkey	0.17	0.24	0.56	0.50
Russian	0.24	n.a.	0.57	n.a.
Armenia	0.57	n.a.	0.40	n.a.
Azerbaijan	−0.15	n.a.	−0.29	n.a.
Belarus	0.76	n.a.	−0.29	n.a.
Georgia	−0.04	n.a.	−0.35	n.a.
Moldova	0.76	n.a.	0.71	n.a.
Ukraine	0.78	n.a.	−0.37	n.a.
Euro area 12	0.04	−0.08	−0.06	−0.03
Denmark	0.23	0.20	0.18	−0.08

_____

Sweden	0.05	0.02	0.03	0.07
United	−0.09	−0.38	−0.03	−0.46
Switzerland	−0.26	−0.17	−0.55	−0.21
Norway	−0.12	−0.55	−0.21	−0.63
Japan	−0.01	0.24	−0.62	0.13

Source: Darvas, Z., The Impact of the Crisis on Budget Policy in Central and Eastern Europe, OECD Journal on Budgeting, Volume 2010/1

To sum up, although there are important country-specific differences (*e.g.* Cyprus and the Czech Republic were found to have negative correlations in all sample periods), many CESEE countries indicate a positive correlation between GDP and government consumption growth, in at least one of the sample periods we studied. In contrast, the correlation is close to zero or negative in developed countries, irrespective of the time period studied. (Darvas, 2010)

IV. Pro-cyclical fiscal policy. The case of Romania

According to the latest Convergence Programme, Romania proposed to adopt the Euro currency in 2015. This section of the study makes an analysis for the pro-cyclical/anti-cyclical characteristic of the Romanian fiscal policy, from the point of view of the possible risk, which it may encounter subsequently to its admittance to the Eurozone. The characteristic of the fiscal policy has been analyzed by using models derived from the classical reaction function proposed in 2003 by Galli and Perotti. A reaction function of the fiscal policy will help to test the reaction of the current budget balance/ the structural budget balance to the shocks occurred in the level of the public endebtness degree, of the output gap and of the previous values of the primary/structural budget balance. [6] Moreover, this is a modality to investigate the sustainability of the public finances, recommended by Bohn (1998, 2005) and used, respectively improved/enlarged by several other authors (Fatas and Mihov, (2002), Gali and Perotti, (2003) etc).

Methodology

The estimate of a reaction function for the fiscal policy[1] is based on the following relation (Gali and Perotti, 2003):

$$PB_t = a \times PB_{t-1} + b \times DEBT_t + c \times GAP_t + constant + error\ term,$$

_____

[1] Called in the economic literature the "core" reaction function" of fiscal policy.

_____

where:

PB = primary budget deficit;
GAP = output gap;
DEBT = public debt;
a,b,c = coefficients

The variables (primary budget deficit, output gap, respectively public debt) are indicated as percentage of the gross domestic product. If a > 0, we may explain that there is a tendency to balance the budget, thus increasing the sustainability of the public finances. The coefficient b > 0 demonstrates the existence of an active constraint with reference to the public debt[2]. If c > 0, then the fiscal policy is deemed to be anti-cyclical. Galí and Perotti (2003) suggest the use of two different measures of the budget deficit: (i) *the cyclically adjusted budget deficit (the structural budget deficit)* in order to examine the discretionary characteristic of the fiscal policy, and also its pro-cyclical or anti-cyclical characteristic or (ii) *the cyclical budget deficit* in order to assess the efficiency of the automatic stabilizers. The reaction function of the fiscal policy for Romania will be calculated by using the following three models (Golinelli and Momigliano, 2007).

1. CAPB Model[3]

In the economic literature, most of the studies use the so-called „CAPB model" to estimate the rule of fiscal policy, within which the actions of discretionary fiscal policy are measured by making a modification in the structural primary budget balance (ΔCAPB). This modification is explained by the initial position of the public finances (measured by the structural balance and by the public debt, both at the moment t-1) and by the cyclical conditions (measured by the level of the output gap).

$$\Delta CAPB_t = \phi_1 \times CAPB_{t-1} + \phi_2 \times DEBT_{t-1} + \phi_3 \times GAP_{t(t-1)} + u_t \qquad (2)$$

where:

$\Delta CAPB_t$ = modification of the primary structural balance (cyclically adjusted primary budget balance);
$CAPB_{t-1}$ = primary structural balance during the previous period;
$DEBT_{t-1}$ = public debt during the previous period;
$GAP_{t(t-1)}$ = output gap;
ϕ_1, ϕ_2, ϕ_3 = coefficients.

We may consider that the model is stable if the coefficient ϕ_1 is negative, while the coefficient of the public debt must be positive. Moreover, we may consider that the

_____

[2] Although this condition does not guarantee the sustainability of the public debt.
[3] *Cyclically-adjusted primary balance .*

_____

fiscal and budgetary policy is sustainable if the reaction of the primary balance to shocks of the public debt is instantaneous and not delayed in time. A positive value of the output gap coefficient (ϕ_3) indicates the fact that the fiscal policy is anti-cyclical, while a negative value means that the fiscal policy is pro-cyclical.

2. CAPB/PB Model

The CAPB/PB model is similar to the previous one. The difference between them is that the modification made in the structural primary budget balance (ΔCAPB) is explained by the primary budget deficit at the moment t-1 (replacing the structural primary budget balance in the previous moment). As for the rest, the variables are the same.

$$\Delta CAPB_t = \phi_4 \times PB_{t-1} + \phi_5 \times DEBT_{t-1} + \phi_6 \times GAP_{t(t-1)} + u_t \qquad (3)$$
where:
$\Delta CAPB_t$ = modification of the primary structural budget balance;
PB_{t-1} = primary structural balance during the previous period;
$DEBT_{t-1}$ = public debt during the previous period;
$GAP_{t(t-1)}$ = output gap during the current period/during the previous period;
ϕ_4, ϕ_5, ϕ_6 = coefficients.

This model has been used predominantly in the European Union, especially after 1997, subsequently to the Stability and Growth Pact had been introduced. Initially, this model was used more often (if compared to the CAPB model) because the data referring to the cyclically adjusted deficit were not always available, and the modality to calculate it was much more difficult than that of the current budget balance.

3. PB model

Finally, the third model is based on economic studies which are more interested in the asymmetries existing in the reaction of the fiscal policies decision makers, thus adopting a rule, which practically replaces the modification made in the structural primary budget balance ($\Delta CAPB_t$) with the modification made in the primary budget balance (ΔPB_t) in model 2.

$$\Delta PB_t = \phi_7 \times PB_{t-1} + \phi_8 \times DEBT_{t-1} + \phi_9 \times GAP_{t(t-1)} + u_t \qquad (4)$$
where:
ΔPB_t = modification of the primary budget balance;
PB_{t-1} = primary structural balance during the previous period;
$DEBT_{it-1}$ = public debt during the previous period;

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas

_____

$GAP_{t(t-1)}$ = output gap during the current period/during the previous period;
ϕ_7, ϕ_8, ϕ_9 = coefficients.

The PB model supposes a significantly different behavior of the fiscal authorities if compared to the other two models, so that the dependent variable in this case includes, at the same time, the effects of the discretionary policies' actions, and also those which are due to the automatic stabilizers. Actually, this is demonstrated in the below equation (5), where the primary budget balance is decomposed in its two components: the cyclical component and the structural component. The cyclical component is equal to the product between the output gap and a coefficient λ, which indicates the effects of the automatic stabilizers.

$$PB_t = CAPB_t + \lambda_t \times GAP_t. \tag{5}$$

By means of these relations, we may identify to what extent the discretionarism of the fiscal-budgetary policy is due to the cyclical component. This can be made by subtracting an average (λ) of the individual coefficients λ_t from the analyzed period from the estimated coefficient of the output gap from the relation (4), respectively ϕ_9,.

$$\phi_{discretionary} = \phi_9 - \lambda. \tag{6}$$

The structural budget balance used in the CAPB and CAPB/PB models has been estimated according to the methodology proposed by (Hagemann, 1999):
(1) the estimate of the gap between the gross domestic product which has been really achieved and the potential gross domestic product (potential GDP) (output-gap);
(2) the estimate of the cyclical component based on the output gap and on the sensitivity of the budget deficit (in its turn, it will be obtained by means of income elasticities, respectively of the budget expenses depending on the GDP);
(3) the estimate of the structural component by means of eliminating the cyclical component from the current budget component.

The budget cyclical component is determined according to the sensitivity of the budget deficit in case of economic fluctuations. Actually, the sensitivity of the budget deficit according to the cyclical evolution of the economy represents the variation in percents of the budget balance to the modification by 1 percent of the output gap. The structural component of the budget is obtained by subtracting the cyclical component from the component of the current budget balance, according to the following formula:

_____

$$CAB_t = B_t - B_t^C = B_t - \sum_j B_{t\ j}^C$$

where:

CAB$_t$ = structural components of the budget (the cyclically adjusted component);

B$_t$= current budget balance;

B$_t^C$ = cyclical budget components on categories of incomes and expenses.

The formula used to calculate the cyclical component is as it follows:

$$B_{t\ j}^C = B_{t\ j} \times \alpha_j^{PIB} \times output\_gap_t$$

The cyclical component of each category of incomes and expenses ($B_{t\ j}^C$) is calculated b uty using the output gap and the elaticity estimated for the gross domestic product (α_j^{PIB}). The sensitivity of the budget deficit to the modification made in the gross domestic product (PIB) (ϕ - actually, it is the first derivative of the current budget balance (B$_t$) related to the gross domestic product and it is calculated as the difference between the sensitivity of the budget incomes (ϕ_v) and the sensitivity of the budget expenses (ϕ_G) to the variation of the domestic output:

$$\phi = \phi_v^4 - \phi_G^5$$

The total elasticity of the budget incomes is obtained as an aggregate sum between the elasticities of the three categories of taxes (the direct taxes, the indirect taxes and the social contributions), balanced with their share in the total of the budget incomes. Moreover, the total elasticity of expenses is obtained as a result of balancing the category of expenses taken into consideration with their share in the total of the budget expenses[6]. By means of Granger causality tests, measurements have been made for the causality relations between the above-mentioned categories of budget incomes and expenses and the gross domestic product. In order to estimate the elasticity of the budget incomes and expenses related to the gross domestic product (GDP), the cointegration procedure has been used[7].

_____

[4] $\phi_v = \alpha_V$ * the share of the incomes in the gross domestic product.
[5] $\phi_G = \alpha_G$ * the share of expenses in the gross domestic product.
[6] For further details, see the above mentioned methodologies.
[7] For further information about the cointegration procedure, see the annexes.

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas
_____

Results of estimates and interpretation of results
The selection of the variables used in the three models has been made taking into consideration the economic literature and also the results of the stationarity tests. Moreover, there have been used quarterly time series from the period 2000-2010, the source being the data from the Ministry of Finances. In order to estimate the coefficients of the above equations, there has been used the Johanson cointegration procedure. The number of the lags used for the stationarity tests have been selected according to the SC minimizing criterion (*Schwarz information criterion*). The results of the ADF stationarity test reveals the fact that the series are 1st order integrated, and this allows the investigation of the existence of a cointegration relation between the variables. The non-stationarity of the series allows the use of the cointegration procedure in order to identify the presence of a long-term stationary relation between non-stationary series. With reference to the number of lags taken into account within cointegration, it has been determined based on a VAR type model (auto-regressive vector) in which we introduced the variables used within the analysis. In order to select the corresponding number of lags, we have used the Hanan-Quinn Information Criterion (HQ), Akaike Information Criterion (AIC) and Schwarz Information Criterion (SC) econometric criteria. The estimated coefficients are indicated in Table 2. According to them, the relations between the variables have been estimated.

1. CAPB Model

$$\Delta CAPB_t = \phi_1 \times CAPB_{t-1} + \phi_2 \times DEBT_{t-1} + \phi_3 \times GAP_{t(t-1)} + u_t$$
$$\Delta CAPB_t = (-0.034) \times CAPB_{t-1} + 0.078 \times DEBT_{t-1} + (-0.742) \times GAP_{t-1} - 0.010$$

Table2. The cointegration vectors for the structural deficit (CAPB model)

Vector Error Correction Estimates Standard errors in ( ) & t-statistics in [ ]	
Cointegrating Eq:	CointEq1
MODIF_DEF_STRUCT(-1)	1.000000
DEF_STRUCT_1(-1)	0.034177
	(0.03500)
	[0.97641]
DAT_PUB_1(-1)	-0.078489
	(0.01472)
	[-5.33330]
OUTPUT_GAP_1(-1)	0.742512

_____

	(0.11397)			
	[6.51488]			
C	0.010931			

Error Correction:	D(MODIF_DEF_ST RUCT)	D(DEF_STRUCT _1)	D(DAT_PUB_1)	D(OUTPU T_GAP_1)
CointEq1	-4.445064	0.244817	3.517703	1.149950
	(3.84772)	(0.20929)	(1.31612)	(0.34060)
	[-1.97525]	[1.16974]	[2.67279]	[3.37624]

2. CAPB/PB Model

$$\Delta CAPB_t = \phi_4 \times PB_{t-1} + \phi_5 \times DEBT_{t-1} + \phi_6 \times GAP_{t(t-1)} + u_t$$
$$\Delta CAPB_t = (-0.053) \times PB_{i-1} + (-0.0011) \times DEBT_{t-1} + (-0.244) \times GAP_{t(t-1)} + 0.0033$$

Table 3. The cointegration vectors for the structural deficit (CAPB/PB model)

Vector Error Correction Estimates Standard errors in ( ) & t-statistics in [ ]	
Cointegrating Eq:	CointEq1
MODIF_DEF_STRUCT(-1)	1.000000
DEF_PRIMAR_1(-1)	0.053132
	(0.02315)
	[2.29558]
DAT_PUB_1(-1)	0.001107
	(0.01271)
	[0.08706]
OUTPUT_GAP_1(-1)	0.244038
	(0.09834)
	[2.48157]
C	-0.003229

Error Correction:	D(MODIF_DEF_ STRUCT)	D(DEF_PRIM AR_1)	D(DAT_PUB_1)	D(OUTP UT_GAP _1)

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas

CointEq1	-16.80772	1.838370	-1.067077	1.049394
				(0.90063)
	(5.54963)	(0.52116)	(2.25711)	
				[
	[-3.02862]	[3.52746]	[-0.47276]	1.16517]

3. PB Model

$$\Delta PB_t = \phi_7 \times PB_{t-1} + \phi_8 \times DEBT_{t-1} + \phi_9 \times GAP_{t(t-1)} + u_t$$
$$\Delta PB_t = (-0,183) \times PB_{t-1} + (-0,245) \times DEBT_{t-1} + (-1,556) \times GAP_t + 0,0023$$

Table 4. The cointegration vectors for the primary deficit (PB model)

Vector Error Correction Estimates
Standard errors in ( ) & t-statistics in [ ]

Cointegrating Eq:	CointEq1
MODIF_DEF_PRIMAR(-1)	1.000000
DEF_PRIMAR_1(-1)	0.183461
	(0.07861)
	[2.33379]
DAT_PUB_1(-1)	0.245639
	(0.03906)
	[6.28936]
OUTPUT_GAP(-1)	1.556178
	(0.28337)
	[5.49168]
C	-0.041465

Error Correction:	D(MODIF_DEF_PRIMAR)	D(DEF_PRIMAR_1)	D(DAT_PUB_1)	D(OUTPUT_GAP)
CointEq1	-1.415152	0.176543	-1.860027	-0.466565
	(1.83277)	(0.09618)	(0.61415)	(0.17693)
	[-2.77214]	[1.83548]	[-3.02863]	[-2.63701]

_____

The estimate of the reaction function to the fiscal-budgetary policy for Romania – by means of the three presented models – led to the following results. In the first model, the coefficient of the structural deficit at the previous moment (φ_1= -0.034) is statistically insignificant. This reveals the fact that *the fiscal-budgetary policies' decision makers in Romania do not analyze the evolution of the previous structural budget balance indicator in the making decision process*. The coefficient of the public debt's share in the GDP (φ_2= 0.078) is positive, thus demonstrating the fact that *the fiscal-budgetary authorities take into consideration the constraints related to the public debt, however with a quite low importance.* However, the increase of the structural budget deficit in Romania will have to modify the view of the Romanian fiscal-budgetary policies decision makers, under the terms of a fast increase of the financing necessity for the twin deficits – budget and current account deficits – which are more and more unsustainable, increasing the risk of occurrence of the Ricardian equivalence phenomenon. The analysis of the factors which have an influence upon the modification of the structural budget balance indicates the fact that *the only indicator taken into consideration by the authorities in laying the bases for decisions is the output gap.* The coefficient (φ_3=-0.742) provides arguments for the fact that *during the analyzed period, the fiscal-budgetary policy was predominantly pro-cyclical, thus decreasing the sustainability of the public finances.*

The second model brings a few interesting pieces of information. If in the first model we have seen that the structural balance modified during the analyzed period irrespective of the extent of the previous structural balance, the second model shows us that *the modification of the structural balance in Romania is actually explained mostly by the evolution of the previous primary budget deficit.* At this moment, the use of the second model for Romania is correct, taking into consideration the fact that our country has not been constrained by the provisions from the Stability and Growth Pact yet, but it refers to the performance criteria required by the Treaty of Maastricht, which take into consideration the primary budget deficit threshold < 3% of the GDP, and they do not have a certain reference level of the structural budget balance. Along with the admittance to the Eurozone, the assessment of the fiscal-budgetary decisions' efficiency will be related to the structural balance indicator.

As opposed to the first two models, the third one takes into consideration both the effects of the discretionary policy actions and also those which are due to the automatic stabilizers in Romania. The analysis made for the factors which have an influence upon the modification of the primary budget balance indicates the fact that all the three factors which have been taken into consideration are significant (φ_7 = -0.183, φ_8 = -0.245 and φ_9 = -1.556). The negative sign of the coefficient φ_7 reveals the fact that *the fiscal-budgetary actions do not determine the tendency to balance the public budget situation in Romania, but on the contrary.* The coefficient φ_9 = -1.556

_____

validates, on the one hand, the fact that *the fiscal-budgetary policy has been mostly pro-cyclical* and, on the other hand, the fact that *the output gap is a fundamental indicator for making fiscal-budgetary decisions in Romania*. As we have previously demonstrated in this paper (see the presentation of the three models made in this section), the coefficient φ_9 comprises both the effect of the discretionary policy measures ($\varphi_{discreționary} = -1.206$), and also the effect of the automatic stabilizers action ($\lambda = 0.35$, the sensitivity average of the budget deficit related to the GDP during the analyzed period). The level of the coefficient λ (0,35 for Romania) is lower if compared to the level taken into consideration in the case of the Eurozone countries (0.5) (Bouthevillain et al, 2001), and this fact indicates *a lower efficiency of the automatic stabilizers' action in Romania if compared to the Eurozone countries.*

From the new trade-off point of view, the price stability – the output stability, all the three models make us reach the conclusion that, during the analyzed period, *the governments from Romania have given a greater importance to the GDP gap (economic growth) to the prejudice of the inflation stability.* This view will have to be re-analyzed under the terms of joining the Eurozone, case in which the fiscal-budgetary policy has to play a significant role in the absorption of the asymmetric shocks, which are forecasted to affect most of the macroeconomic deficit types.

V. Conclusions and recommendations

Romania has had an improper management of the macroeconomic policies. The pro-cyclic fiscal policies resulted in creating a fiscal space during the recession gap periods and in its running short during the expansion gap periods. Romania has made large fiscal adjustments when the economy used to function below its potential, opposite to the postulates of the macroeconomic theory, which recommends fiscal consolidation processes during the expansion periods.

Romania should have good policies in good times to promote macroeconomic stability. The creation of a fiscal space should be made during expansion periods and its use will help us during recession periods. Romania needs to find the proper automatic stabilizers. The return to the taxation progressivity can provide this target, thus forcing us to be more restrained in consumption during the expansion periods, having the benefit of a smaller fall of consumption during the recession periods.

Increasing the discipline of the public finances. The good fiscal governing can be obtained by adopting a Good Fiscal Governance Code, which should be compatible with the EU procedures and which will include rules, procedures and regulations used to prepare, approve and monitor the budgetary process.

The implementation of fiscal-budgetary rules, besides those indicated in the medium term fiscal-budgetary strategy. a) Golden Rule – during an economic cycle, the budget should be balanced or there even should be obtained a budget surplus; b) Sustainable Investment Rule – the government will only access loans to make investments and not to cover the current expenses; c) Aiming to the structural budget balance – a maximum 0.5% structural budget deficit in 2015 (this aim should be accompanied by a correction mechanism for the previous deviations if compared to specific settled aims). This integrated system of fiscal rules will be able to provide a high manoeuvre margin in case of occurrence of asymmetric shocks, it will determine a higher stability of the main macroeconomical aggregates (GDP, consumption, employment etc) and it will decrease the incentives related to making discretionary fiscal-budgetary decisions. Thus, the possibility that Romania could become a free rider along with its admittance to the Eurozone will be reduced, namely it will eliminate the negative effects of the fiscal-budgetary indiscipline to the entire zone.

Acknowledgement

Notes

[1] These remarks were made by Lorenzo Bini Smaghi, Member of the Executive Board of the ECB Conference at the German Institute for International and Security Affairs in the speech Asymmetric Adjustment in Monetary Unions:Evidence from the Euro Area, during the conference *The Eurozone under stretch? Analysing regional divergences in EMU: Facts, Dangers and Cures,* Berlin, 19 June 2007, available at http://www.ecb.int/press/key/date/2007/html/sp070619.en.html. Indeed, the sources determining heterogeneity among the EU countries are complex. However, the purpose of this paper is to provide details for the impact and the risks determined by the fiscal policy's pro-cyclicity, as a factor which causes heterogeneity.
[2] We may find a relevant presentation of the problems generated by the discretionary fiscal policies, especially in the developing countries, in the section Literature review from Paolo Manasse's paper (2007), Procyclical Fiscal Policy: Shocks, Rules and Institutions – a View from MARS, International Monetary Fund, WP 06-27, available at http://www.imf.org/external/pubs/ft/wp/2006/wp0627.pdf
[3] An interesting point of view regarding the testing of the "the cycle is trend" hypothesis in the developing countries may be found at Michel Strawczynski and Joseph Zeira (2010) Procyclicality of fiscal policy in Emerging Countries: The cycle is the trend, preliminary version, May, paper available at http://econ.tau.ac.il/papers/macro/cycle_is_the_trend_TAseminar.pdf, pp. 2
[4] We may find a review of the main results from the empirical researches in the paper written by Michel Strawczynski and Joseph Zeira (2010) Procyclicality of fiscal policy in Emerging Countries: The cycle is the trend, preliminary version, May, paper available at http://econ.tau.ac.il/papers/macro/cycle_is_the_trend_TAseminar.pdf, pp.3

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas

_____

[5] Detailed arguments for the fact that the provisions from the Stability and Growth Pact provide "encouragements" to emphasize the pro-cyclic fiscal policies may be found in the paper Fiscal Policy: Co-ordination, Discipline and Stabilisation, author Anne Brunila, Bank of Finland, April 2002, Paper prepared for the meeting of the Group of Economic Analysis of the European Commission, 16 April 2002, paper available at http://ec.europa.eu/dgs/policy_advisers/archives/experts_groups/docs/brunila.pdf

[6] The methodology used in this paper was used by authors in preliminary works for the Central and Eastern European countries and it was subsequently developed in order to characterize the behaviour of the Romanian fiscal policies. The reasons for the use of this methodology in this paper come from the need to relevantly explain the high pro-cyclicity of the Romanian fiscal policies, under the terms of the subject matter proposed to be studies. The authors considered that the use of interpretations and conclusions which are similar to those from other published studies of which subject matter is the characteristic of the fiscal policy fulfills the purpose of this study – the risk that the highly pro-cyclic fiscal policy in Romania could become the main transmission channel for the asymmetric shocks, along with joining the Eurozone.

REFERENCES

[1] **Aguiar, M. & Gopinath, G. (2007),** *The Role of Interest Rates and Productivity Shocks in Emerging Market Fluctuations; Working Papers Central Bank of Chile 445,* Central Bank of Chile;

[2] **Bayoumi, R., Eichengreen, B. (1992),** *Shocking aspects of European Monetary Unification; NBER working paper,* No. 3949

[3] Bohn, H.(1998), *The Behavior of US Public Debt and Deficits; The Quarterly Journal of Economics 113;*

[4] **Bohn, H.(2005),** *The Sustainability of Fiscal Policy in the United States.* CESifo Working Paper, nr. 1446;

[5] **Bouthevillain, C., Courthimann, P., Dool van den, G., Hernández de cos, P., Langenus, G., Mohr, M., Momigliano and, S., Tujula, M.(2001),** *Cyclically Adjusted Budget Balances: An Alternative Approach; European Central Bank Working Paper,* No 77;

[6] **Braconier, H. and Holden, S.(1999),** *Fiscal Indicators and Cyclical Sensitivity in the Nordic Countries; NIER, WP 67*

[7] **Bradner, P., Diebalek, L., Schuberth, H.(1998),** *Structural Budget Deficits and Sustainability of Fiscal Positions in the European Union; Österreichische Nationalbank Working Paper,* No. 26;

[8] **Brunila, A. and C. Martinez-Mongay(2002),** *Fiscal policy in the Early Years of EMU;* In Buti, M. and A. Sapir (ed.) "EMU and economic Policy in Europe", Edward Elgar, UK and USA;

[9] **Darvas, Z.(2010),** *The Impact of the Crisis on Budget Policy in Central and Eastern Europe; OECD Journal on Budgeting,* Volume 1;

[10] **Eisner, R.,(1989),** *Budget Deficits: Rethoric and Reality;* Journal of Economic Perspectives, vol. 3, No. 2

[11] **Enders, W.(1995),** *Applied Econometric Time Series;* John Wiley & Sons, Inc.

[12] **Fatás, A., Mihov, I. (2002),** ***On Constraining Fiscal Policy Discretion in the EMU;*** *Oxford Review of Economic Policy*, No. 19;

[13] **Gali, J. and Perotti, R.(2003),** ***Fiscal Policy and Monetary Integration in Europe***, NBER Working Paper, No. 9773;

[14] **Gavin, M., Perotti, R.(1997),** ***Fiscal Policy in Latin America****;* In: *NBER Macroeconomic Annual*, edited by B. Bernanke and J. Rothemberg (Cambridge, Massachusetts: MIT Press);

[15] **Girouard, N., André, C. (2005),** ***Measuring Cyclically-adjusted Budget Balances for OECD Countries;*** *Economics Department Working Papers*, No. 434, OECD, Paris;

[16] **Golinelli, R., Momigliano, S.(2007),** ***The Cyclical Response of Fiscal Policies in the Euro Area. Why Do Results of Empirical Research Differ so Strongly?****,* *BCE working papers*, avalilable at www.ecb.int, Frankfurt;

[17] **Greiner, A., Koeller, U., Semmler, W. (2005),** ***Testing Sustainability of German Fiscal Policy.*** Evidence for the period 1960-2003, *Cesifo Working Paper Series*, ESifo GmbH;

[18] **Gros, D.(1996),** ***A Reconsideration of the Optimum Currency Area Approach;*** *CEPS Working Paper* nr. 101, Bruxelles;

[19] **Gujarati, D. (2003),** ***Basic Econometrics;*** Fourth edition; McGraw Hill, New York;

[20] **Hagemann, R.(1999),** ***The Structural Budget Balance The IMF's Methodology;*** *IMF Working Paper nr. 55*, International Monetary Fund (IMF); National Bureau of Economic Research (NBER), July;

[21] **Hagen von, J., Mundschenk, S.(2002),** ***Fiscal and Monetary Policy Coordination in EMU;*** *Central Bank of Chile, www.bcentral.cl*;

[22] **Howarth, D.(2005),** ***Making and Breaking the Rules: French Policy on EU „gouvernement economique" and the Stability and Growth Pact***; *European Integration on line Papers,* www.eoip.or.at;

[23] **Kaminsky, G. & Reinhart C M & Vegh, C.A.(2004),** ***When it Rains, it Pours: Procyclical Capital Flows and Macroeconomic Policies;*** *NBER Working Papers* 10780, National Bureau of Economic Research, Inc.;

[24] **Lane, Philip R.(2003),** ***The Cyclicality of Fiscal Policy: Evidence from the OECD***; *Journal of Public Economics* 87, 2661-2675

[25] **Mello de, Luiz(2005),** ***Estimating a Fiscal Reaction Function: The Case of Debt Sustainability in Brazil***; No 423, OECD Economics Department, Working Papers

[26] **Mongelli, F.(2002),** ***New Views on the Optimum Currency Areas Theory: what is EMU telling us?;*** *Economic papers, 302, DGECFIN, European Commission;*

[27] **Mongelli, F.(2008),** ***European Economic and Monetary Integration and the Optimum Currency Area Theory***; *ECB Working Paper*, no. 138;

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas

[28] **Noord van den, P.(2000),** *The Size and Role of Automatic Fiscal Stabilizers in the 1990s and Beyond*; *OECD WP 230;*

[29] **Socol, A.(2009),** *Macroeconomia integrarii monetare europene. Cazul Romaniei*; Economica Publishing, Bucharest.