

**Decizie de indexare a faptei de plagiat la poziția
00369 / 22.03.2017
și pentru admitere la publicare în volum tipărit**

care se bazează pe:

A. Nota de constatare și confirmare a indiciilor de plagiat prin fișa suspiciunii inclusă în decizie.

Fișa suspiciunii de plagiat / Sheet of plagiarism's suspicion	
Opera suspicionată (OS) Suspicious work	Opera autentică (OA) Authentic work
OS	MARIN, Dinu, SOCOL, Aura Gabriela, SOCOL, Cristian and MARINAȘ, Marius. Pro-cyclical fiscal policies – asymmetric transmission channel in Eurozone. The Romanian case. <i>Journal of Economic Computation and Economic Cybernetics Studies and Research</i> . 2012. Available at: www.ecocyb.ase.ro/Articles20121.htm . Last accessed: 21 March 2017. Note: This article represents the dissemination of research financed by Social European Fund, contract no POSDRU/89/1.5/S/59184 Postdoctoral research performance and excellence in economic sciences in Romania, Academy of Economic Studies, Bucharest.
OA	SOCOL, Cristian and SOCOL, Aura Gabriela. The analysis of fiscal policy management in Romania: Lessons for emerging countries. <i>African Journal of Business Management</i> 3 (5). p. 240-247. May, 2009. Available online at www.academicjournals.org/AJBM . DOI: 10.5897/AJBM09.017 ISSN 1993-8233.
Incidența minimă a suspiciunii / Minimum incidence of suspicion	
p.5:23 – p.8:16	p.241:12s – p.242:42s
p.10: Table 2	p.243: Table 1
p.11: Table 3	p.243: Table 2
p.12: Table 4	p.244: Table 3
Fișa întocmită pentru includerea suspiciunii în Indexul Operelor Plagiate în România de la Sheet drawn up for including the suspicion in the Index of Plagiarized Works in Romania at www.plagiate.ro	

Notă: Prin „p.72:00” se înțelege paragraful care se termină la finele pag.72. Notația „p.00:00” semnifică până la ultima pagină a capitolului curent, în întregime de la punctul inițial al preluării.

Note: By „p.72:00” one understands the text ending with the end of the page 72. By „p.00:00” one understands the taking over from the initial point till the last page of the current chapter, entirely.

B. Fișa de argumentare a calificării de plagiat alăturată, fișă care la rândul său este parte a deciziei.

Fișa de argumentare a calificării

Nr. crt.	Descrierea situației care este încadrată drept plagiat	Se confirmă
1.	Preluarea identică a unor pasaje (piese de creație de tip text) dintr-o operă autentică publicată, fără precizarea întinderii și menționarea provenienței și însușirea acestora într-o lucrare ulterioară celei autentice.	✓
2.	Preluarea a unor pasaje (piese de creație de tip text) dintr-o operă autentică publicată, care sunt rezumate ale unor opere anterioare operei autentice, fără precizarea întinderii și menționarea provenienței și însușirea acestora într-o lucrare ulterioară celei autentice.	
3.	Preluarea identică a unor figuri (piese de creație de tip grafic) dintr-o operă autentică publicată, fără menționarea provenienței și însușirea acestora într-o lucrare ulterioară celei autentice.	
4.	Preluarea identică a unor tabele (piese de creație de tip structură de informație) dintr-o operă autentică publicată, fără menționarea provenienței și însușirea acestora într-o lucrare ulterioară celei autentice.	✓
5.	Republicarea unei opere anterioare publicate, prin includerea unui nou autor sau de noi autori fără contribuție explicită în lista de autori	✓
6.	Republicarea unei opere anterioare publicate, prin excluderea unui autor sau a unor autori din lista inițială de autori.	
7.	Preluarea identică de pasaje (piese de creație) dintr-o operă autentică publicată, fără precizarea întinderii și menționarea provenienței, fără nici o intervenție personală care să justifice exemplificarea sau critica prin aportul creator al autorului care preia și însușirea acestora într-o lucrare ulterioară celei autentice.	✓
8.	Preluarea identică de figuri sau reprezentări grafice (piese de creație de tip grafic) dintr-o operă autentică publicată, fără menționarea provenienței, fără nici o intervenție care să justifice exemplificarea sau critica prin aportul creator al autorului care preia și însușirea acestora într-o lucrare ulterioară celei autentice.	
9.	Preluarea identică de tabele (piese de creație de tip structură de informație) dintr-o operă autentică publicată, fără menționarea provenienței, fără nici o intervenție care să justifice exemplificarea sau critica prin aportul creator al autorului care preia și însușirea acestora într-o lucrare ulterioară celei autentice.	✓
10.	Preluarea identică a unor fragmente de demonstrație sau de deducere a unor relații matematice care nu se justifică în regăsirea unei relații matematice finale necesare aplicării efective dintr-o operă autentică publicată, fără menționarea provenienței, fără nici o intervenție care să justifice exemplificarea sau critica prin aportul creator al autorului care preia și însușirea acestora într-o lucrare ulterioară celei autentice.	
11.	Preluarea identică a textului (piese de creație de tip text) unei lucrări publicate anterior sau simultan, cu același titlu sau cu titlu similar, de un același autor / un același grup de autori în publicații sau edituri diferite.	
12.	Preluarea identică de pasaje (piese de creație de tip text) ale unui cuvânt înainte sau ale unei prefețe care se referă la două opere, diferite, publicate în două momente diferite de timp.	

Notă:

a) Prin „proveniență” se înțelege informația din care se pot identifica cel puțin numele autorului / autorilor, titlul operei, anul apariției.

b) Plagiatul este definit prin textul legii¹.

„...plagiatul – expunerea într-o operă scrisă sau o comunicare orală, inclusiv în format electronic, a unor texte, idei, demonstrații, date, ipoteze, teorii, rezultate ori metode științifice extrase din opere scrise, inclusiv în format electronic, ale altor autori, fără a menționa acest lucru și fără a face trimitere la operele originale...”.

Tehnic, plagiatul are la bază conceptul de **piesă de creație** care²:

„...este un element de comunicare prezentat în formă scrisă, ca text, imagine sau combinat, care posedă un subiect, o organizare sau o construcție logică și de argumentare care presupune niște premise, un raționament și o concluzie. Piesa de creație presupune în mod necesar o formă de exprimare specifică unei persoane. Piesa de creație se poate asocia cu întreaga operă autentică sau cu o parte a acesteia...”

cu care se poate face identificarea operei plagiate sau suspicioase de plagiat³:

„...O operă de creație se găsește în poziția de operă plagiată sau operă suspicioasă de plagiat în raport cu o altă operă considerată autentică dacă:

- i) Cele două opere tratează același subiect sau subiecte înrudite.
- ii) Opera autentică a fost făcută publică anterior operei suspicioase.
- iii) Cele două opere conțin piese de creație identificabile comune care posedă, fiecare în parte, un subiect și o formă de prezentare bine definită.
- iv) Pentru piesele de creație comune, adică prezente în opera autentică și în opera suspicioasă, nu există o menționare explicită a provenienței. Menționarea provenienței se face printr-o citare care permite identificarea piesei de creație preluate din opera autentică.
- v) Simpla menționare a titlului unei opere autentice într-un capitol de bibliografie sau similar acestuia fără delimitarea întinderii preluării nu este de natură să evite punerea în discuție a suspiciunii de plagiat.
- vi) Piesele de creație preluate din opera autentică se utilizează la construcții realizate prin juxtapunere fără ca acestea să fie tratate de autorul operei suspicioase prin poziția sa explicită.
- vii) În opera suspicioasă se identifică un fir sau mai multe fire logice de argumentare și tratare care leagă aceleași premise cu aceleași concluzii ca în opera autentică...”

¹ Legea nr. 206/2004 privind buna conduită în cercetarea științifică, dezvoltarea tehnologică și inovare, publicată în Monitorul Oficial al României, Partea I, nr. 505 din 4 iunie 2004

² ISOC, D. Ghid de acțiune împotriva plagiatului: bună-conduită, prevenire, combatere. Cluj-Napoca: Ecou Transilvan, 2012.

³ ISOC, D. Prevenitor de plagiat. Cluj-Napoca: Ecou Transilvan, 2014.

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 procyclicality, 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.*

JEL classification: E62, H62
REL classification: 8K, 20H

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

Pro-cyclical Fiscal Policies - Asymmetric Transmission Channel in Eurozone.....

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 policy¹ is based on the following relation (Gali and Perotti, 2003):

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

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 debt². 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 Model³

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 (Δ CAPB). 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).

$$\Delta \text{CAPB}_t = \phi_1 \times \text{CAPB}_{t-1} + \phi_2 \times \text{DEBT}_{t-1} + \phi_3 \times \text{GAP}_{t(t-1)} + u_t \quad (2)$$

where:

Δ 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.

$$\Delta\text{CAPB}_t = \phi_4 \times \text{PB}_{t-1} + \phi_5 \times \text{DEBT}_{t-1} + \phi_6 \times \text{GAP}_{t(t-1)} + u_t \quad (3)$$

where:

- ΔCAPB_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;
- $\text{GAP}_{t(t-1)}$ = 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 (ΔCAPB_t) with the modification made in the primary budget balance (ΔPB_t) in model 2.

$$\Delta\text{PB}_t = \phi_7 \times \text{PB}_{t-1} + \phi_8 \times \text{DEBT}_{t-1} + \phi_9 \times \text{GAP}_{t(t-1)} + u_t \quad (4)$$

where:

- ΔPB_t = modification of the primary budget balance;
- PB_{t-1} = primary structural balance during the previous period;
- DEBT_{t-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.

$$PB_t = CAPB_t + \lambda_t \times GAP_t \quad (5)$$

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 .

$$\phi_{\text{discretionary}} = \phi_9 - \lambda. \quad (6)$$

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 buty 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 expenses⁶. 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 used⁷.

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.

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

$$\Delta \text{CAPB}_t = \phi_1 \times \text{CAPB}_{t-1} + \phi_2 \times \text{DEBT}_{t-1} + \phi_3 \times \text{GAP}_{t(t-1)} + u_t$$

$$\Delta \text{CAPB}_t = (-0.034) \times \text{CAPB}_{t-1} + 0.078 \times \text{DEBT}_{t-1} + (-0.742) \times \text{GAP}_{t-1} - 0.010$$

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

Pro-cyclical Fiscal Policies - Asymmetric Transmission Channel in Eurozone.....

	(0.11397)			
	[6.51488]			
C	0.010931			
Error Correction:	D(MODIF_DEF_STRUCT)	D(DEF_STRUCT_1)	D(DAT_PUB_1)	D(OUTPUT_GAP_1)
CointEq1	-4.445064 (3.84772) [-1.97525]	0.244817 (0.20929) [1.16974]	3.517703 (1.31612) [2.67279]	1.149950 (0.34060) [3.37624]

2. CAPB/PB Model

$$\Delta \text{CAPB}_t = \phi_4 \times \text{PB}_{t-1} + \phi_5 \times \text{DEBT}_{t-1} + \phi_6 \times \text{GAP}_{t(t-1)} + u_t$$

$$\Delta \text{CAPB}_t = (-0.053) \times \text{PB}_{t-1} + (-0.0011) \times \text{DEBT}_{t-1} + (-0.244) \times \text{GAP}_{t(t-1)} + 0.0033$$

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_PRIMAR_1) D(DAT_PUB_1) D(OUTPUT_GAP_1)

Dinu Marin, Gabriela Socol, Cristian Socol, Marius Marinas

CointEq1	-16.80772	1.838370	-1.067077	1.049394
	(5.54963)	(0.52116)	(2.25711)	(0.90063)
	[-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 (1.83277) [-2.77214]	0.176543 (0.09618) [1.83548]	-1.860027 (0.61415) [-3.02863]	-0.466565 (0.17693) [-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 ($\varphi_1 = -0.034$) 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 ($\varphi_2 = 0.078$) 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 ($\varphi_3 = -0.742$) 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 ($\varphi_7 = -0.183$, $\varphi_8 = -0.245$ and $\varphi_9 = -1.556$). 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 $\varphi_9 = -1.556$

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

This article represents the dissemination of research financed by Social European Fund, contract no POSDRU/89/1.5/S/59184 Postdoctoral research performance and excellence in economic sciences in Romania, Academy of Economic Studies, Bucharest.

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-cyclicality, 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) *Procyclical 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) *Procyclical 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

[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-cyclicality of the Romanian fiscal policies, under the terms of the subject matter proposed to be studied. 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., Schubert, 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. Rothenberg (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*, available 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 économique” 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: Pro-cyclical Capital Flows and Macroeconomic Policies*; *NBER Working Papers* 10780, National Bureau of Economic Research, Inc.;
- [24]Lane, Philip R.(2003), *The Cyclicity 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.