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Transition European Countries**

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FISCAL POLICY AND INTERNATIONAL TRADE: AN APPLICATION TO THE TRANSITION EUROPEAN COUNTRIES

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Abstract

In this paper we will study the relationship between the government balance and the current account in the scenario of an economic union where fiscal consolidation is constrained by the fiscal discipline required by supranational agreements. For the empirical application we will use data on the Central and Eastern European Countries (CEECs). Those countries, grouping the former socialist countries of Europe, experienced significant growth after their accession to the European Union (EU) which led to a high potential for convergence with their Western EU partners but, sometimes, at the cost of unsustainable external positions. Recently, after the economic crisis some of them have recovered their external disequilibria, although the fiscal consolidation required for recovering would mean a brake on their process of growth and convergence.

JEL classification: E62, F32, F41.

Keywords: Fiscal consolidation, fiscal rule, current account, Central and Eastern European Countries.

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1. Introduction

The relationship between fiscal policy and international trade and the implications for economic growth has not been widely discussed. On one hand, the role of fiscal policy for economic growth has been analyzed as surveyed by Díaz-Roldán and Martínez-López (2006). On the other hand, the relationship between openness and economic growth is a debated topic as addressed by Krugman (1996), Frankel and Romer (1999), and Andersen and Babula (2008).

In recent years following the economic crisis, there has been debate on the role of economic policies. It is well known that the success of fiscal consolidation depends on improvement in primary fiscal balances and on macroeconomic conditions. However, the extent to which fiscal policies affect the trade balance and the implications for growth is a question that has not yet been answered by the literature.

Monacelli and Perotti (2008), studied the effects of government spending on trade. They found that a rise in government spending generates an appreciation of the terms of trade and a fall in the price of traded goods. Nickel and Vansteenkiste (2008) analyzed the relationship between fiscal policy and balance of payments, concluding that the effects of the fiscal deficit on the current account deficit depend on the initial public debt level. Barrios et al. (2010) estimated the determinants of successful fiscal consolidation and find that repair of the banking sector is a key condition. They also stressed that the initial public debt level plays a significant role in achieving a successful fiscal consolidation, but they did not explore the effects of fiscal adjustment on the external sector. Riguzzi (2011) studied the extent to which the degree of openness influences the transmission mechanism of fiscal policy. He found that openness to trade limits both the stimulating effect of government spending on output and the contractive effect of higher taxes on output. More recently, Karras (2012) tested the effectiveness of fiscal policy in open economies, and he finds that an increase in trade openness reduces the magnitude of the long-run fiscal multiplier.

As can be seen, the public debt level seems to be a determinant of the success of fiscal consolidation and its implications for external deficits. In any case, none of the papers mentioned above study the relationship between government deficits and the current account deficit in the particular scenario of an economic union where fiscal consolidation is constrained by the fiscal discipline imposed by supranational agreements. Our main contribution will be to explore such issues in an economic union scenario where fiscal rules are allowed.

We will perform the empirical applications for the Central and Eastern European countries (CEECs). Those countries, grouping the former socialist countries of Europe, experienced significant growth after their accession to the EU which led to a high potential for convergence with their Western EU partners but, sometimes, at the cost of unsustainable external positions. Trying to test the export-led growth hypothesis Bajo-Rubio and Díaz-Roldán (2009) found that in the Czech Republic, the trade balance would have not arrive at unsustainable positions, and accordingly, the foreign sector would have played a quite beneficial role in the economic evolution of the Czech economy over the last fifteen years. For the rest of the CEECs the results would have been neutral regarding the role of the foreign sector, with the exception of the Baltic states (in particular Latvia and Lithuania), which showed external deficits potentially unsustainable in the long run and they also suffered a great fall in their rates of growth. Recently, after the economic crisis some of them have recovered their external disequilibria, although the fiscal consolidation required for recovering would mean a brake on their process of growth and convergence.

The structure of the paper is as follows: in next section we will summarize some considerations on the EU, in section 3 we will obtain and discuss some empirical results using fiscal rules. Then, in section 4 we will relate the obtained results to the performance of the current account. Finally in section 5 the concluding remarks will be presented.

2. The macroeconomics of the European Union and the CEECs

Starting in January 1st 1999, twelve European countries formed a monetary union, the so called Economic and Monetary Union (EMU). In the context of the European Union (EU), from the beginning, the success of the EMU has been related to the benefits of the single currency, presumed to favour a higher degree of integration of financial markets. And also on the sound public finances, guaranteed by the fiscal discipline provided by EMU. When signing the Stability and Growth Pact (SGP), Member States committed themselves to reach a medium-term budgetary position close to balance. In fact, the Maastricht Treaty stresses as basic that the Member States of the EMU should avoid excessive deficits; and the reference values for deficit-to-GDP and debt-to-GDP ratios, have worked in practice as an explicit fiscal rule. But, in practice, the policy orientation of the SGP has not been fully satisfied. This has opened a debate about the utility and

effectiveness of fiscal rules in EMU, and on their complementarities with discretionary fiscal policy measures and automatic stabilisers to deal with short-run fluctuations.

On May 1st 2004, eight Central and Eastern European countries (CEECs hereafter), i.e., the Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Slovak Republic and Slovenia, joined (together with Cyprus and Malta) the EU. Bulgaria and Romania joined the EU in 2007. And more recently Croatia did in 2013. These countries should enter the EMU and adopt the euro at a time sooner or later after their integration into the EU. To do this, they must fulfill all the conditions that had to be met by the current EMU members, i.e., a budget deficit of less than 3% of GDP and government debt lower than 60% of GDP, low inflation, and interest rates close to the EU average. Also, in order to be able to adopt the euro, the new members must have observed the normal fluctuation margins provided by the European exchange-rate mechanism (ERM-II) for at least two years without devaluing its currency.

Since the purpose of this paper is to study the relationship between the government balance and the current account in the scenario of an economic union, we will use data of European countries (source Eurostat) from 1999 (from where the whole data for each country is available) to 2013. Table 1 shows the government deficit (–)/surplus (+), the government debt, the current account (in percentage of GDP), and the GDP rate of growth (% change on previous year) for the EU-27 and for Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovak Republic and Slovenia (the CEECs). In 1999 the government deficit and the government debt of EU-27 were –1.0 and 65.6 respectively. In that year most of the CEECs exhibit values for the deficit higher than 3.0, although the levels of public debt were lower than 60.0. In 2013 the government deficit and the government debt of EU-27 were – 3.3 and 87.4 respectively, while the CEECs exhibit lower levels for deficit (except Poland and Slovenia), and debt. After the economic crisis, only Hungary and the EU-27 as a whole show figures for debt above the 60.0 limit required by the Maastricht Treaty. Regarding the current account, the CEECs have improved their position after joining EU; although all of them show both government deficits and current account deficit during the whole period. And if we look at the rates of growth, all the countries experienced significant growth after their accession to the EU but the figures have diminish after the economic crisis.

Table 1
Government deficit (-)/surplus (+), debt and current account (% of GDP)
GDP rate of growth (% change on previous year)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU-27															
Def/sup	-1	0,6	-1,5	-2,6	-3,2	-2,9	-2,5	-1,5	-0,9	-2,4	-6,9	-6,5	-4,4	-3,9	-3,3
Debt	65,6	61,8	60,9	60,3	61,9	62,2	62,7	61,5	58,9	62,2	74,5	80,2	82,7	85,5	87,4
CC	-0,6	-1,3	-1	-0,2	-0,3	-0,4	-0,8	-1,3	-1	-2,1	-0,7	-0,5	-0,2	0,6	1,2
GDPgwt	2,9	3,9	2	1,3	1,5	2,6	2,2	3,4	3,2	0,4	-4,5	2	1,7	-0,4	0,1
Bulgaria															
Def/sup	0,1	-0,5	1,1	-1,2	-0,4	1,9	1	1,9	1,2	1,7	-4,3	-3,1	-2	-0,8	-1,5
Debt	77,6	72,5	66	52,4	44,4	37	27,5	21,6	17,2	13,7	14,6	16,2	16,3	18,4	18,9
CC	-4,7	-5,4	-5,5	-2,4	-5,3	-6,4	-11,6	-17,6	-25,2	-23,1	-8,9	-1,5	0,1	-0,8	1,9
GDPgwt	2	5,7	4,2	4,7	5,5	6,7	6,4	6,5	6,4	6,2	-5,5	0,4	1,8	0,6	0,9
CzechR															
Def/sup	-3,6	-3,6	-5,6	-6,5	-6,7	-2,8	-3,2	-2,4	-0,7	-2,2	-5,8	-4,7	-3,2	-4,2	-1,5
Debt	15,8	17,8	23,9	27,1	28,6	28,9	28,4	28,3	27,9	28,7	34,6	38,4	41,4	46,2	46
CC	-2,4	-4,6	-5,1	-5,3	-6	-5,1	-1	-2	-4,3	-2,1	-2,4	-3,9	-2,7	-1,3	-1,4
GDPgwt	1,7	4,2	3,1	2,1	3,8	4,7	6,8	7	5,7	3,1	-4,5	2,5	1,8	-1	-0,9
Estonia															
Def/sup	-3,5	-0,2	-0,1	0,3	1,7	1,6	1,6	2,5	2,4	-3	-2	0,2	1,1	-0,2	-0,2
Debt	6,5	5,1	4,8	5,7	5,6	5	4,6	4,4	3,7	4,5	7,1	6,7	6,1	9,8	10
CC	-4,3	-5,4	-5,2	-10,6	-11,3	-11,3	-10	-15,3	-15,9	-9,2	2,7	2,8	1,8	-1,8	-1
GDPgwt	-0,3	9,7	6,3	6,6	7,8	6,3	8,9	10,1	7,5	-4,2	-14,1	2,6	9,6	3,9	0,8
Hungar															
Def/sup	-5,5	-3	-4,1	-9	-7,3	-6,5	-7,9	-9,4	-5,1	-3,7	-4,6	-4,3	4,3	-2,1	-2,2
Debt	60,8	56,1	52,7	55,9	58,6	59,5	61,7	65,9	67	73	79,8	82,2	82,1	79,8	79,2
CC	-7,8	-8,6	-6,1	-7	-8	-8,7	-7,5	-7,4	-7,3	-7,3	-0,2	0,2	0,4	0,8	3
GDPgwt	3,2	4,2	3,7	4,5	3,9	4,8	4	3,9	0,1	0,9	-6,8	1,1	1,6	-1,7	1,1

Source: Eurostat

- The government deficit (-)/surplus (+) is defined as the difference between the revenue and the expenditure of the general government sector.
- The debt corresponds to the consolidated general government gross debt at nominal value, outstanding at the end of the year.
- The current account registers the value of exports (credits) and imports (debits) of goods, services, income and current transfers.

Table 1 (cont.)
Government deficit (-)/surplus (+), debt and current account (% of GDP)
GDP rate of growth (% change on previous year)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Latvia															
Def/sup	-3,8	-2,8	-2	-2,3	-1,6	-1,1	-0,4	-0,6	-0,7	-4,4	-9,2	-8,2	-3,5	-1,3	-1
Debt	12,4	12,4	14,1	13,6	14,7	15	12,5	10,7	9	19,8	36,9	44,5	42	40,8	38,1
CC	-8,9	-4,9	-7,7	-6,7	-8,2	-12,9	-12,6	-22,5	-22,4	-13,2	8,6	2,9	-2,1	-2,5	-0,8
GDPgwt	2,9	5,3	7,3	7,1	7,7	8,8	10,1	11	10	-2,8	-17,7	-1,3	5,3	5,2	4,1
Lithuan															
Def/sup	-2,8	-3,2	-3,5	-1,9	-1,3	-1,5	-0,5	-0,4	-1	-3,3	-9,4	-7,2	-5,5	-3,2	-2,2
Debt	22,7	23,6	23	22,2	21	19,3	18,3	17,9	16,8	15,5	29,3	37,8	38,3	40,5	39,4
CC	-11	-5,9	-4,7	-5,1	-6,7	-7,6	-7,1	-10,6	-14,4	-12,9	3,7	0,1	-3,7	-0,2	1,5
GDPgwt	-1	3,6	6,7	6,8	10,3	7,4	7,8	7,8	9,8	2,9	-14,8	1,6	6	3,7	3,3
Poland															
Def/sup	-2,3	-3	-5,3	-5	-6,2	-5,4	-4,1	-3,6	-1,9	-3,7	-7,5	-7,8	-5,1	-3,9	-4,3
Debt	39,6	36,8	37,6	42,2	47,1	45,7	47,1	47,7	45	47,1	50,9	54,9	56,2	55,6	57
CC	-7,4	-6	-3,1	-2,8	-2,5	-5,3	-2,4	-3,8	-6,2	-6,6	-3,9	-5,1	-5	-3,7	-1,3
GDPgwt	4,5	4,3	1,2	1,4	3,9	5,3	3,6	6,2	6,8	5,1	1,6	3,9	4,5	2	1,6
Roman															
Def/sup	-4,4	-4,7	-3,5	-2	-1,5	-1,2	-1,2	-2,2	-2,9	-5,7	-9	-6,8	-5,5	-3	-2,3
Debt	21,7	22,5	25,7	24,9	21,5	18,7	15,8	12,4	12,8	13,4	23,6	30,5	34,7	38	38,4
CC	-4	-3,6	-5,5	-3,3	-5,9	-8,4	-8,6	-10,5	-13,4	-11,6	-4,2	-4,4	-4,5	-4,4	-1,1
GDPgwt	-0,4	2,4	5,7	5,1	5,2	8,5	4,2	7,9	6,3	7,3	-6,6	-1,1	2,3	0,6	3,5
SlovakR															
Def/sup	-7,4	-12,3	-6,5	-8,2	-2,8	-2,4	-2,8	-3,2	-1,8	-2,1	-8	-7,5	-4,8	-4,5	-2,8
Debt	47,8	50,3	48,9	43,4	42,4	41,5	34,2	30,5	29,6	27,9	35,6	41	43,6	52,7	55,4
CC	-5,6	-3,4	-8,3	-7,9	-5,9	-7,8	-8,5	-7,8	-5,3	-6,2	-2,6	-3,7	-3,8	2,2	2,1
GDPgwt	0	1,4	3,5	4,6	4,8	5,1	6,7	8,3	10,5	5,8	-4,9	4,4	3	1,8	0,9
Slovenia															
Def/sup	-3	-3,7	-4	-2,4	-2,7	-2,3	-1,5	-1,4	0	-1,9	-6,3	-5,9	-6,4	-4	-14,7
Debt	24,1	26,3	26,5	27,8	27,2	27,3	26,7	26,4	23,1	22	35,2	38,7	47,1	54,4	71,7
CC	-3,2	-2,7	0,2	1	-0,8	-2,6	-1,7	-1,8	-4,2	-5,4	-0,5	-0,1	0,4	3,3	6,3
GDPgwt	5,3	4,3	2,9	3,8	2,9	4,4	4	5,8	7	3,4	-7,9	1,3	0,7	-2,5	-1,1

Source: Eurostat

- The government deficit (-)/surplus (+) is defined as the difference between the revenue and the expenditure of the general government sector.
- The debt corresponds to the consolidated general government gross debt at nominal value, outstanding at the end of the year.
- The current account registers the value of exports (credits) and imports (debits) of goods, services, income and current transfers.

The economic crisis is not a good environment, and contributes to create difficulties when deciding how to finance the public deficit. In such a context, the scope of fiscal policies for stabilization purposes seems to be reduced. Moreover, the current account imbalances have amplified the effect of the actual economic and financial crisis in Europe and could difficult the recovery. ¿To which extent fiscal consolidations have impact on competitiveness and it could limit the economic growth? In order to illustrate this question, we first will assume that UE-27 countries could have made use of a fiscal

rule to limit excessive deficits. ¿How would have changed the actual data on public deficit reported in Table 1? And the next question would be ¿What are the implications of using fiscal rules on current account? To answer those questions, in next sections, we will explore in a very simple way the relationships between fiscal discipline and the current account.

3. Fiscal rules

The recent economic crisis has contributed to create difficulties when deciding how to finance the public deficit. And in such a context, the scope of fiscal policies for stabilization purposes is more reduced. Moreover, the current account imbalances have amplified the effect of the actual economic and financial crisis in Europe and could difficult the recovery. In the EMU the fiscal consolidation has been enforced by the Pact for the Euro trying to reinforce the coordination of economic policy in favour of competitiveness and convergence, pointing out as an essential need that member states implement in national laws the budget rules.

First, we will calculate the value of public deficit given by fiscal rules¹; and next, we will obtain the current account value resulting from the use of fiscal rules.

In our first step, following Ballabriga and Martínez-Mongay (2003), we will consider a fiscal rule which relates an explicit public deficit target (in terms of the GDP), g^o , with public debt deviations (in terms of the GDP) respect to its optimal level ($d_{-1} - d^o$), and the output level y :

$$g_i^o = - [\delta(d_{i,-1} - d_i^o) + \theta y_i] \quad i = 1, 2 \quad (1)$$

The public deficit adjusts according to the following path, where $0 \leq \rho \leq 1$:

$$g_i = (1 - \rho)g_i^o + \rho g_{i,-1} \quad (2)$$

From equations (1) and (2), we obtain the fiscal rule:

$$g_i = -(1 - \rho)\delta(d_{-1} - d^o) + \rho g_{i,-1} - (1 - \rho)\theta y \quad (3)$$

Notice that if $(d_{i,-1} - d_i^o) > 0$, then the country has a relatively high level of debt. And the opposite holds for $(d_{i,-1} - d_i^o) < 0$.

¹ From a different point of view, Díaz-Roldán and Montero-Soler (2011) analyze the convenience of using fiscal rules for the New Member States (NMS) of the EMU. And they found that the success of fiscal policy decisions depend on the symmetric or asymmetric nature of the shocks to deal with.

We would like testing whether the public deficit would have been different if CEECs countries would have followed a fiscal rule. And since we are also interested in exploring the implications of fiscal consolidation both in foreign sector and growth, we will relate public deficit with the rate of growth, \hat{y} , instead of the output level, y . In that way, our fiscal rule will be:

$$g_i = -(1 - \rho)\delta(d_{-1} - d^o) + \rho g_{i-1} - (1 - \rho)\theta\hat{y} \quad (4)$$

And, according to the rule given by equation (4), we will calculate the “theoretical” public deficit in the three following scenarios:

- (i) The fiscal authorities give identical weights to debt deviations and to the output level, being $\delta = \theta = 0.5$. And the deficit adjust, also, in the same proportion, being $(1 - \rho) = \rho = 0.5$. This will be the “symmetric” scenario.
- (ii) The fiscal authorities are particularly concerned by fiscal discipline and they are averse to debt deviations, so, $\delta = 0.75$ and $\theta = 0.25$; because public deficit was high in the past, so, $(1 - \rho) = 0.25$ and $\rho = 0.75$. We will call this the disciplined, conservative or “debt averse” scenario.
- (iii) The fiscal authorities are particularly concerned about economic growth, so, $\delta = 0.25$ and $\theta = 0.75$; and about the deficit target, so, $(1 - \rho) = 0.75$ and $\rho = 0.25$. And this will be the “growth promoting” scenario.

As is well known, in EMU the Maastricht Treaty stressed as basic that the Member States of EMU should avoid excessive deficits, no more than 3 in percentage of the GDP, and the government debt should not exceed the 60 per cent of the GDP. Those reference values for deficit-to-GDP and debt-to-GDP ratios, have worked in practice as an explicit fiscal rule. In this paper, we will adopt those values as reference. According to those requirements, the fiscal rules for the cases detailed above will be:

- (i) “Symmetric” scenario:

$$g = -0.25 (d_{-1} - 60) + 0.5 g_{-1} - 0.25 \hat{y}$$

- (ii) “Debt averse” scenario:

$$g = -0.1875 (d_{-1} - 60) + 0.75 g_{-1} - 0.0625 \hat{y}$$

- (iii) “Growth promoting” scenario:

$$g = -0.1875 (d_{-1} - 60) + 0.25 g_{-1} - 0.5625 \hat{y}$$

In Table 2, we show the actual value for the government deficit/surplus, taken from Table 1; and the computed values for the government deficit/surplus, given by the fiscal rules under the three scenarios proposed above.

Table 2
Public deficit (-)/surplus(+)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU-27													
Def/sup	-1,5	-2,6	-3,2	-2,9	-2,5	-1,5	-0,9	-2,4	-6,9	-6,5	-4,4	-3,9	-3,3
FRs	-0,6	-1,3	-1,8	-2,7	-2,6	-2,8	-1,9	-0,3	-0,6	-7,6	-8,7	-7,8	-8,4
FRd	0,0	-1,4	-2,1	-2,9	-2,7	-2,6	-1,6	-0,5	-1,9	-8,0	-8,8	-7,5	-7,7
FRg	-1,3	-1,3	-1,6	-2,6	-2,4	-3,0	-2,5	-0,2	1,5	-5,6	-6,4	-5,1	-5,8
Bulgaria													
Def/sup	1,1	-1,2	-0,4	1,9	1,0	1,9	1,2	1,7	-4,3	-3,1	-2,0	-0,8	-1,5
FRs	-4,4	-2,1	-0,1	2,0	5,1	7,0	9,0	9,8	13,8	9,1	9,0	9,8	9,8
FRd	-3,0	-0,6	0,2	2,2	5,3	6,4	8,2	8,5	10,3	5,3	5,8	6,7	7,1
FRg	-4,8	-3,5	-2,0	-0,9	1,2	2,7	4,1	4,8	12,2	7,2	6,4	7,4	7,1
CzechR													
Def/sup	-5,6	-6,5	-6,7	-2,8	-3,2	-2,4	-0,7	-2,2	-5,8	-4,7	-3,2	-4,2	-1,5
FRs	8,0	5,7	4,0	3,3	4,7	4,6	5,3	6,9	7,9	2,8	2,6	3,3	1,6
FRd	5,0	2,4	1,1	0,6	3,3	3,1	3,8	5,3	4,5	0,3	0,4	1,2	-0,5
FRg	5,3	4,2	2,4	1,6	1,3	1,2	2,1	4,1	7,9	1,9	1,9	3,3	2,0
Estonia													
Def/sup	-0,1	0,3	1,7	1,6	1,6	2,5	2,4	-3,0	-2,0	0,2	1,1	-0,2	-0,2
FRs	12,1	12,1	11,8	12,9	12,3	12,1	13,3	16,3	15,9	11,6	11,0	13,1	12,3
FRd	9,8	9,9	9,9	11,1	11,0	11,0	11,8	12,6	9,0	8,3	9,5	10,7	9,2
FRg	6,7	6,6	5,9	7,1	5,7	5,1	6,8	13,5	17,6	8,0	4,6	8,2	8,9
Hungar													
Def/sup	-4,1	-9,0	-7,3	-6,5	-7,9	-9,4	-5,1	-3,7	-4,6	-4,3	4,3	-2,1	-2,2
FRs	-1,5	-1,4	-4,5	-4,5	-4,1	-5,4	-6,2	-4,5	-3,4	-7,5	-8,1	-3,0	-6,3
FRd	-1,8	-2,0	-6,2	-5,5	-5,0	-6,5	-8,2	-5,2	-4,8	-7,2	-7,5	-0,8	-5,4
FRg	-2,1	-2,2	-3,7	-4,3	-3,8	-4,5	-3,5	-3,1	0,5	-5,5	-6,1	-2,1	-4,9

Notes: The row Def/sup shows the actual value of government deficit (-)/surplus (+) as percentage of GDP (see Table 1). The rows FRs, FRd and FRg, show the results given by the fiscal rule in the three proposed scenarios (i), (ii) and (iii) in section 3.

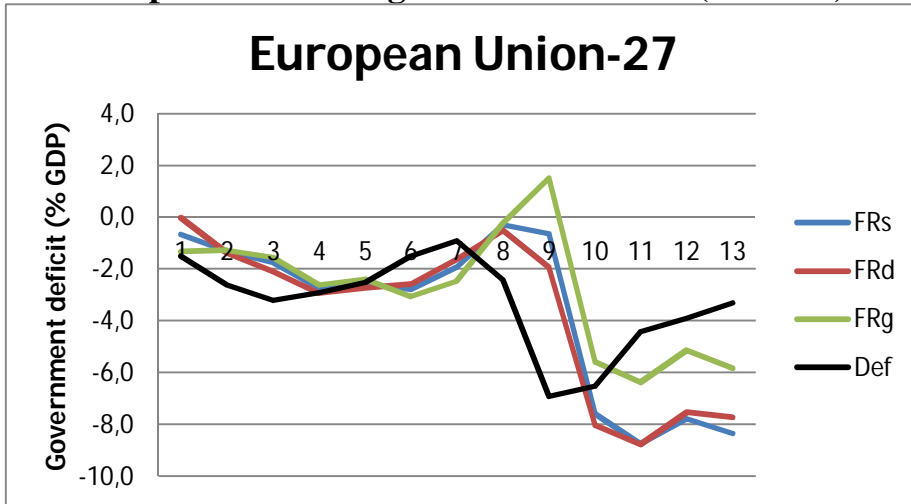
Table 2 (cont.)
Public deficit (-)/surplus(+)

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Latvia													
Def/sup	-2,0	-2,3	-1,6	-1,1	-0,4	-0,6	-0,7	-4,4	-9,2	-8,2	-3,5	-1,3	-1,0
FRs	8,7	8,7	8,5	8,3	8,2	8,9	9,5	13,1	12,3	1,5	-1,6	1,5	3,1
FRd	6,4	6,7	6,5	6,7	7,0	7,9	8,2	9,2	5,3	-2,5	-3,6	0,4	2,4
FRg	4,1	4,1	3,8	3,1	2,5	2,6	3,5	11,0	16,4	2,8	-2,1	-0,4	1,0
Lithuan													
Def/sup	-3,5	-1,9	-1,3	-1,5	-0,5	-0,4	-1,0	-3,3	-9,4	-7,2	-5,5	-3,2	-2,2
FRs	5,8	5,8	5,9	7,3	7,5	8,2	7,9	9,6	13,2	2,6	0,5	1,8	2,5
FRd	4,0	3,9	5,0	5,9	6,0	7,0	7,0	7,2	6,8	-1,4	-1,6	-0,3	1,1
FRg	2,3	2,2	0,8	2,8	2,9	3,3	2,3	6,2	15,8	2,5	-1,0	0,6	1,0
Poland													
Def/sup	-5,3	-5,0	-6,2	-5,4	-4,1	-3,6	-1,9	-3,7	-7,5	-7,8	-5,1	-3,9	-4,3
FRs	4,0	2,6	1,0	-1,2	0,0	-0,4	-0,4	1,5	1,0	-2,5	-3,8	-2,1	-1,3
FRd	2,0	0,1	-0,7	-2,6	-1,6	-1,0	-0,8	1,1	-0,5	-4,2	-5,2	-3,2	-2,2
FRg	2,9	2,1	-0,1	-2,1	-0,7	-2,1	-2,4	-0,5	0,6	-2,4	-3,5	-1,7	-1,1
Roman													
Def/sup	-3,5	-2,0	-1,5	-1,2	-1,2	-2,2	-2,9	-5,7	-9,0	-6,8	-5,5	-3,0	-2,3
FRs	5,6	5,6	6,5	6,8	8,7	8,5	9,2	8,5	10,5	4,9	3,4	3,4	3,1
FRd	3,2	3,5	4,8	5,6	6,6	6,9	6,9	6,2	4,9	0,1	0,3	0,6	1,7
FRg	2,7	2,7	3,2	2,1	5,1	3,5	4,8	4,0	11,0	5,2	2,5	3,0	1,4
SlovakR													
Def/sup	-12,3	-6,5	-8,2	-2,8	-2,4	-2,8	-3,2	-1,8	-2,1	-8	-7,5	-4,8	-4,5
FRs	-1,0	-4,6	-1,6	-1,2	1,7	1,8	3,0	3,2	5,3	8,2	1,0	0,3	1,3
FRd	-3,4	-7,6	-3,1	-3,3	0,9	1,3	2,2	2,5	4,0	4,8	-1,7	-2,3	-0,6
FRg	-0,4	-3,2	-2,1	-1,6	-0,3	-0,9	-0,5	-1,2	2,0	8,3	0,1	0,0	0,9
Slovenia													
Def/sup	-4,0	-2,4	-2,7	-2,3	-1,5	-1,4	0,0	-1,9	-6,3	-5,9	-6,4	-4,0	-14,7
FRs	5,9	5,4	6,1	5,8	6,0	6,1	6,0	8,4	10,5	2,7	2,2	0,6	-0,3
FRd	3,4	3,0	4,1	3,9	4,2	4,8	4,8	6,7	6,2	-0,2	-0,5	-2,2	-1,9
FRg	3,8	3,1	3,8	3,0	3,3	2,6	2,0	5,0	11,1	2,3	2,1	2,2	0,7

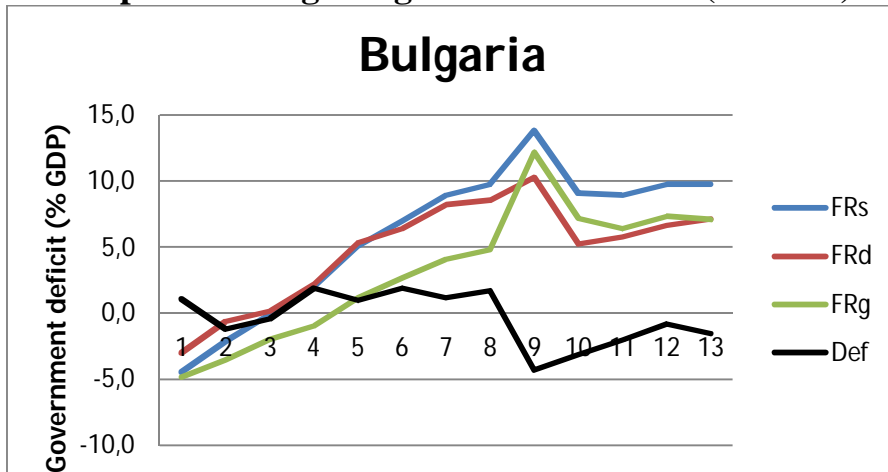
Notes: The row Def/sup shows the actual value of government deficit (-)/surplus (-) as percentage of GDP (see Table 1). The rows FRs, FRd and FRg, show the results given by the fiscal rule in the three proposed scenarios (i), (ii) and (iii) in section 3.

Using fiscal rules seem to reduce public deficit in some cases, or even turn the deficit into a surplus. Although for Hungary fiscal rules prove to be useful before the economic crisis, but not later, and for the EU-27 as a whole using fiscal rules should have been advised only between 2007 and 2010, as can be seen in Table 2 and Graph 1.

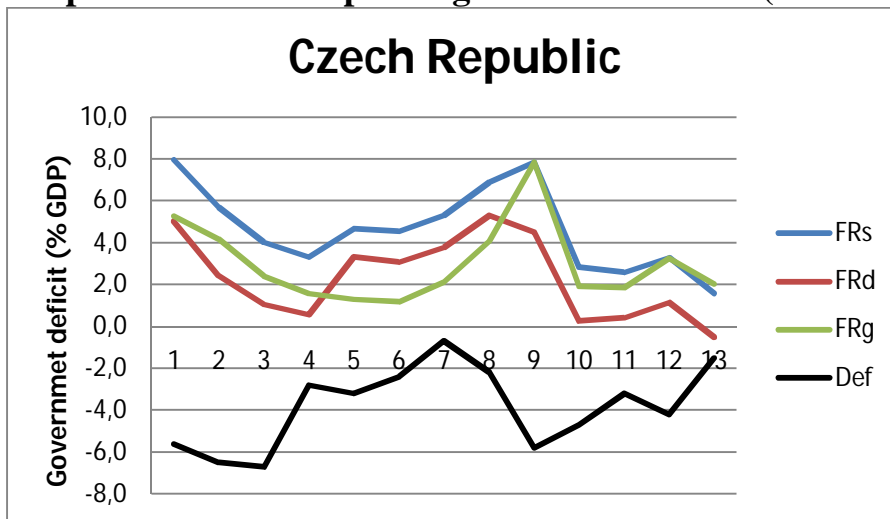
Graph 1.A: EU-27 government deficit (% GDP)



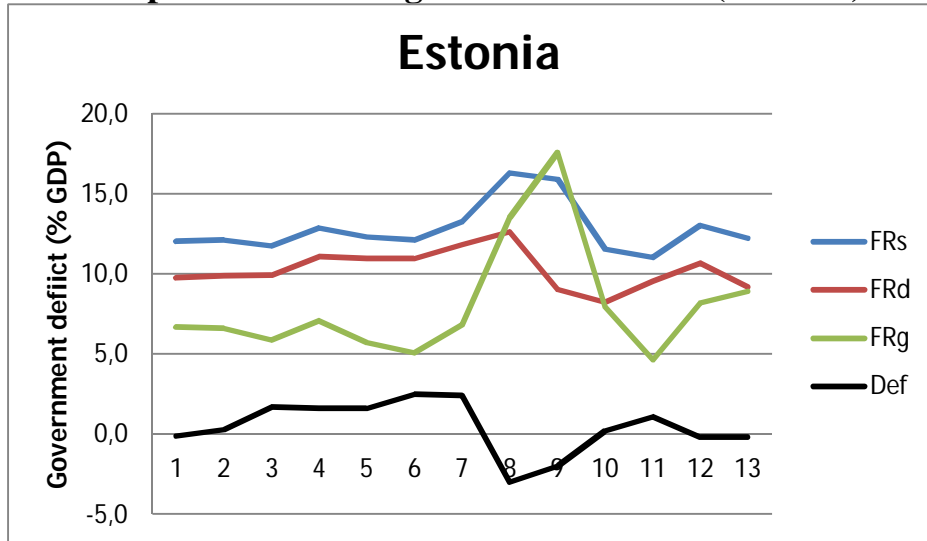
Graph 1.B: Bulgaria government deficit (% GDP)



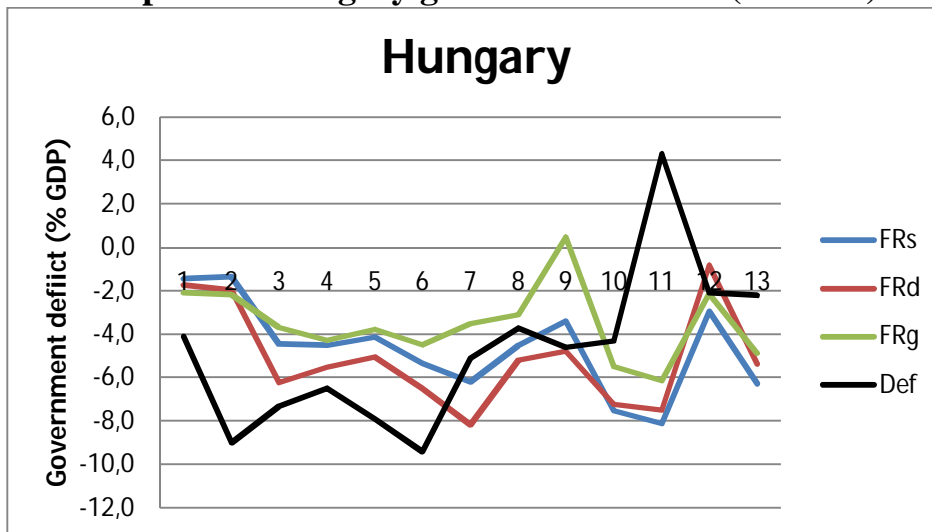
Graph 1.C: Czech Republic government deficit (% GDP)



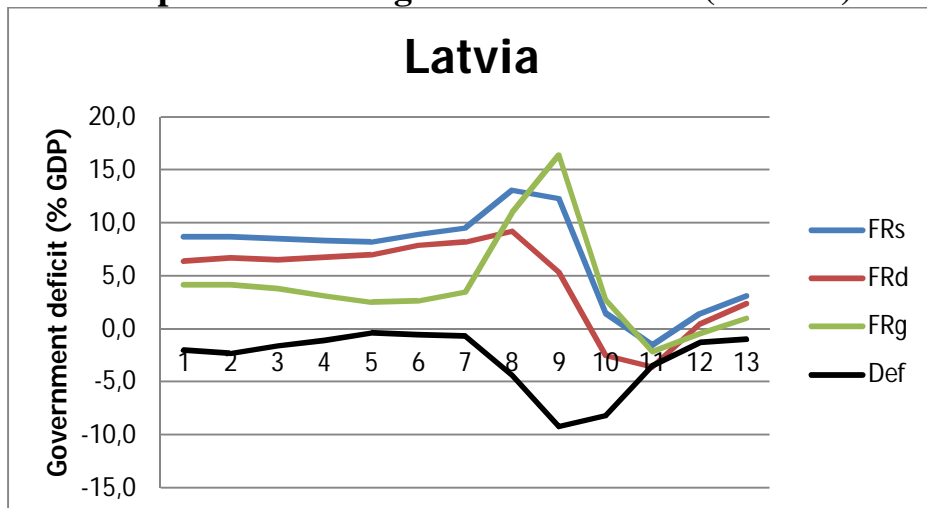
Graph 1.D: Estonia government deficit (% GDP)



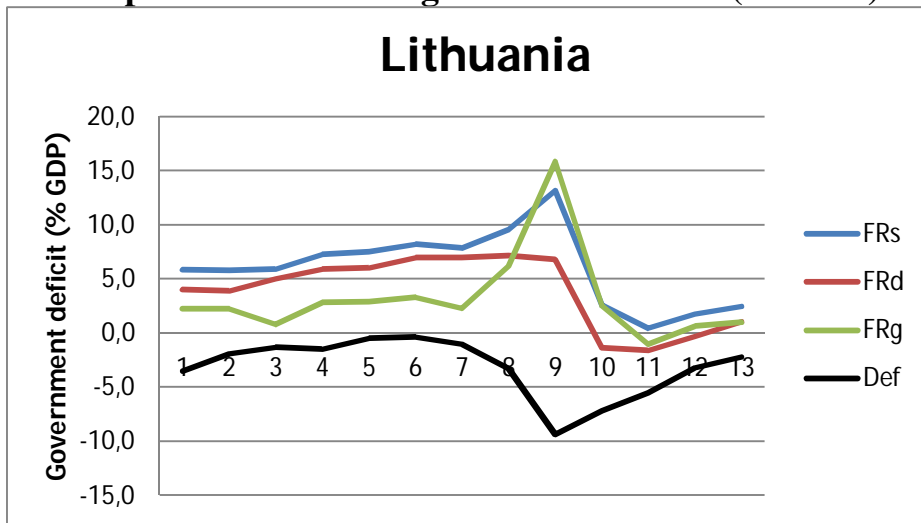
Graph 1.E: Hungary government deficit (% GDP)



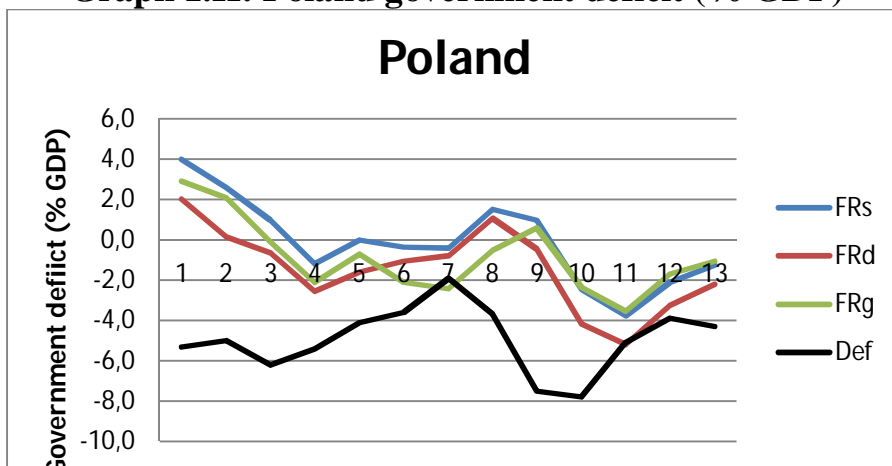
Graph 1.F: Latvia government deficit (% GDP)



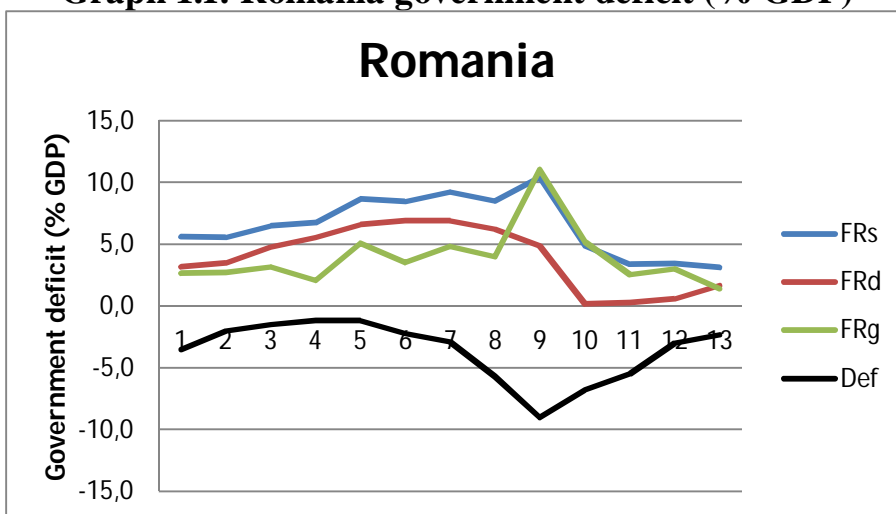
Graph 1.G: Lithuania government deficit (% GDP)



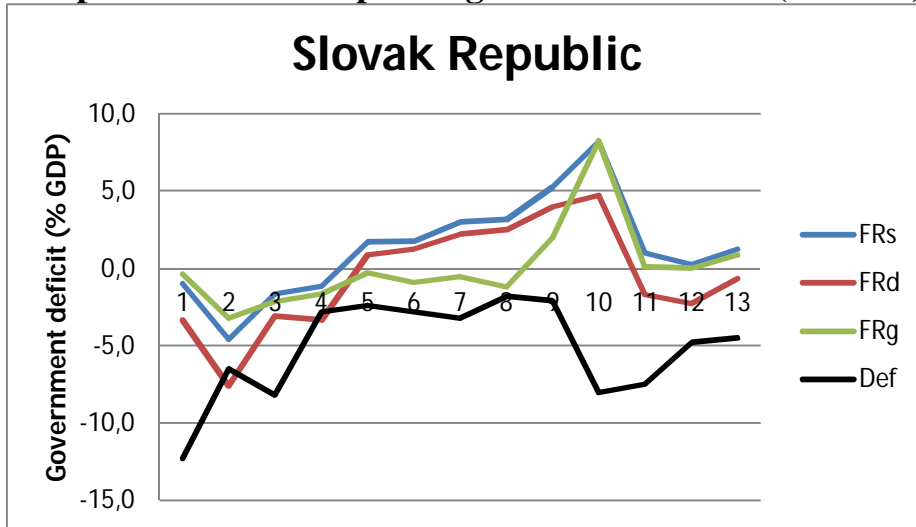
Graph 1.H: Poland government deficit (% GDP)



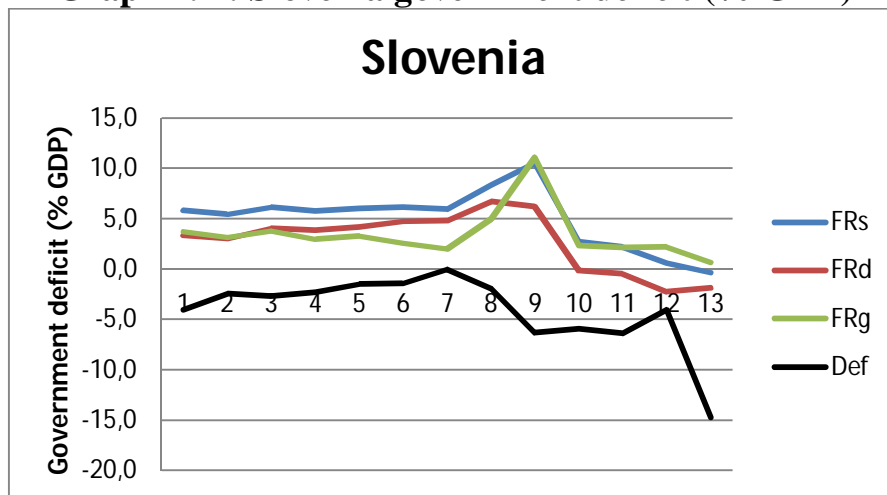
Graph 1.I: Romania government deficit (% GDP)



Graph 1.J: Slovak Republic government deficit (% GDP)



Graph 1.K: Slovenia government deficit (% GDP)



4. The current account

In a second step, since we are interested in studying the implications of fiscal consolidations on external deficit, we would like to know the path of current account under the three scenarios proposed in section 3. In the spirit of the fiscal rule, given by equation (4), we will assume that the current account path, CC , depends negatively on the public deficit, g , and the output rate of growth, \hat{y} , and positively on the past current account CC_{-1} . In that way, we built a kind of “*current account rule*” that offers the

values of current account viewed as product of a weighted average of government deficit and the rate of growth plus an smoothing parameter².

So, we would write the foreign sector rule as:

$$CC = -(\alpha g + \beta \hat{y}) + \gamma CC_{-1} \quad (5)$$

Using the database provided by Eurostat for the variables reported in Table 1, we have estimated equation (5) using panel data for the 27 countries of the EU with fixed effects, to capture the peculiarities of the countries. Estimating by OLS, when there are endogenous explanatory variables, the estimators of the parameters obtained are not consistent. But estimating using Instrumental Variables (two-stage least squares), we can obtain consistent estimates of the parameters in the presence of endogenous explanatory variables, using as instruments lagged values of the regressors. Since our specification includes a lag of the endogenous variable as regressor, the estimates may present problems of autocorrelation and, thus, lead to inefficient estimators. To try to correct it, we use the Generalized Method of Moments (GMM) for dynamic panel data models (Arellano and Bover (1990) and Arellano and Bond (1991)), which provides efficient estimators³.

The results of the estimates by MGM are shown in Table 3. We can observe that the signs and significance of the coefficients obtained are the expected. Both, the coefficient of determination as well as the Durbin-Watson statistic, provide consistent values. And the p-value of the statistic J (Sargan) shows that there is no empirical evidence against the validity of the instruments. Therefore, we choose as basic specification the obtained by estimating MGM reported in Table 3.

² Notice that our fiscal rule based on Ballabriga and Martínez-Mongay (2003), shows government deficit deviations from a certain goal as a weighted average of deviations of public debt and growth. This fiscal rule is equivalent to the monetary rule proposed by Taylor (1993), where the deviations of the real interest rate from its equilibrium value, is obtained as a weighted average of deviations of inflation and output gap. In both cases, policy rules are intended to use the policy instrument (government deficit or interest rate) for smoothing the path of policy goals, or, in other words, to stabilize deviations from the desired values of inflation and output, for monetary policy; and public debt and output for fiscal policy.

³Estimates by OLS and Instrumental Variables are available, upon request.

Table 3

EU-27 estimates by GMM			
Dep vb. CC	FRs	FRd	FRg
α	-0.12 (-2.24)	-0.12 (-2.06)	-0.19 (-2.32)
β	-0.52 (-7.44)	-0.48 (-6.45)	-0.61 (-7.32)
γ	0.68 (6.81)	0.68 (6.80)	0.68 (6.90)
	R²_{adj} = 0.89 DW= 1.94 J= 41.34 P(J-stat)=0.000	R²_{adj} = 0.89 DW= 1.96 J= 44.47 P(J-stat)=0.000	R²_{adj} = 0.89 DW= 1.94 J= 40.75 P(J-stat)=0.000

Notes:

- t-ratios in parenthesis
- instruments are two lags of the regressors and two lags of FRs, FRd and FRg.
- critical values for J, chi-squared (33) are 43.74 (10%) and 47.39 (5%).

In Table 4, we show the actual value for the current account, taken from Table 1; and the computed values for the current account, given by the foreign sector rules under the three scenarios proposed in section 3, and the values estimated for EU-27 reported in Table 3. According to those results, the use of fiscal rules would not always translate in clear effects on current account deficit (see Table 4 and Graph 2).

Table 4
Current account deficit

	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
EU-27													
CC	-1	-0,2	-0,3	-0,4	-0,8	-1,3	-1	-2,1	-0,7	-0,5	-0,2	0,6	1,2
CCs	-1,8	-1,2	-0,7	-1,2	-1,1	-2,0	-2,3	-0,9	1,0	-0,6	-0,2	1,0	1,4
CCd	-1,8	-1,1	-0,6	-1,1	-1,0	-1,8	-2,1	-0,7	1,1	-0,4	-0,1	1,0	1,2
CCg	-1,9	-1,2	-0,8	-1,3	-1,2	-2,0	-2,4	-0,9	1,0	-0,6	-0,2	1,1	1,5
Bulgaria													
CC	-5,5	-2,4	-5,3	-6,4	-11,6	-17,6	-25,2	-23,1	-8,9	-1,5	0,1	-0,8	1,9
CCs	-5,3	-5,9	-4,5	-7,3	-8,3	-12,1	-16,4	-21,5	-14,5	-7,4	-3,0	-1,4	-2,2
CCd	-5,0	-5,5	-4,1	-6,7	-7,6	-11,0	-14,8	-19,4	-12,7	-6,3	-2,5	-1,0	-1,8
CCg	-5,3	-5,9	-4,6	-7,5	-8,5	-12,4	-16,6	-21,8	-14,7	-7,7	-3,3	-1,7	-2,4
CzechR													
CC	-5,1	-5,3	-6	-5,1	-1	-2	-4,3	-2,1	-2,4	-3,9	-2,7	-1,3	-1,4
CCs	-5,7	-5,2	-6,1	-6,9	-7,6	-4,9	-5,0	-5,4	0,0	-3,3	-3,9	-1,7	-0,6
CCd	-4,9	-4,4	-5,2	-6,0	-6,8	-4,3	-4,4	-4,7	0,3	-2,7	-3,3	-1,3	-0,3
CCg	-6,0	-5,5	-6,4	-7,2	-7,9	-5,2	-5,2	-5,6	-0,2	-3,5	-4,1	-1,8	-0,7
Estonia													
CC	-5,2	-10,6	-11,3	-11,3	-10	-15,3	-15,9	-9,2	2,7	2,8	1,8	-1,8	-1
CCs	-8,4	-8,4	-12,7	-12,5	-13,8	-13,5	-15,9	-10,6	-0,8	-0,9	-4,4	-2,4	-3,1
CCd	-7,5	-7,5	-11,4	-11,2	-12,5	-12,3	-14,4	-9,2	0,1	-0,6	-4,0	-2,1	-2,6
CCg	-8,8	-8,8	-13,1	-12,9	-14,2	-13,9	-16,3	-10,8	-1,0	-1,3	-4,8	-2,7	-3,4
Hungary													
CC	-6,1	-7	-8	-8,7	-7,5	-7,4	-7,3	-7,3	-0,2	0,2	0,4	0,8	3
CCs	-7,6	-6,3	-6,3	-7,4	-7,5	-6,5	-4,3	-4,9	-1,0	0,2	0,3	1,5	0,7
CCd	-6,8	-5,6	-5,4	-6,5	-6,6	-5,7	-3,6	-4,3	-0,6	0,2	0,3	1,2	0,6
CCg	-7,7	-6,5	-6,4	-7,6	-7,6	-6,6	-4,4	-4,9	-0,9	0,2	0,3	1,7	0,8

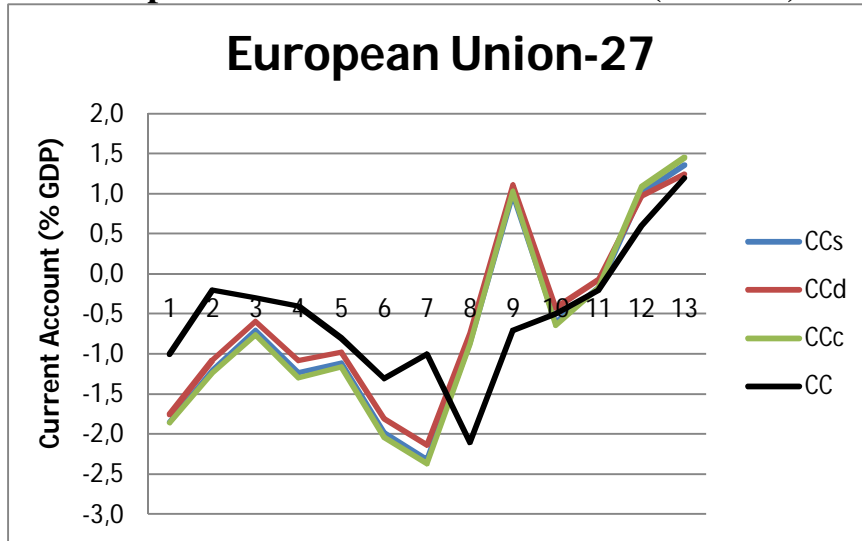
Notes: The row CC shows the actual value of current account as percentage of GDP (see Table 1). The rows CCs, CCd and CCg, show the results given by the foreign sector rule in the three proposed scenarios (i), (ii) and (iii) in section 3.

Table 4 (cont.)
Current account deficit

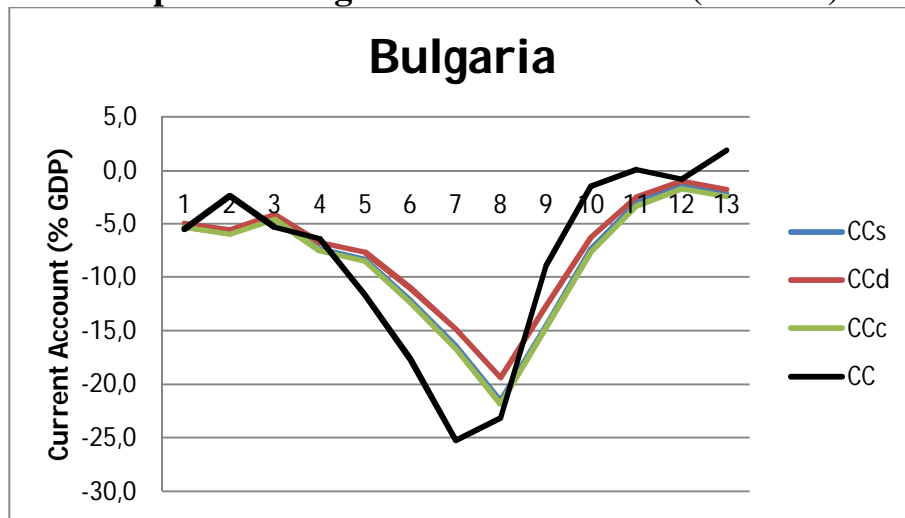
	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Latvia													
CC	-7,7	-6,7	-8,2	-12,9	-12,6	-22,5	-22,4	-13,2	8,6	2,9	-2,1	-2,5	-0,8
CCs	-8,2	-10,0	-9,6	-11,2	-15,0	-15,4	-21,6	-15,3	-1,2	6,3	-0,6	-4,3	-4,2
CCd	-7,3	-8,9	-8,6	-10,0	-13,6	-13,9	-19,5	-13,4	-0,2	6,2	-0,3	-3,8	-3,8
CCg	-8,6	-10,3	-10,0	-11,5	-15,4	-15,8	-22,1	-15,6	-1,3	6,1	-0,9	-4,5	-4,4
Lithuan													
CC	-4,7	-5,1	-6,7	-7,6	-7,1	-10,6	-14,4	-12,9	3,7	0,1	-3,7	-0,2	1,5
CCs	-8,2	-7,4	-9,5	-9,3	-10,1	-9,9	-13,2	-12,4	-2,7	1,4	-3,1	-4,7	-2,1
CCd	-7,3	-6,6	-8,7	-8,3	-9,1	-8,9	-12,0	-11,0	-1,6	1,7	-2,6	-4,0	-1,8
CCg	-8,5	-7,8	-9,9	-9,6	-10,5	-10,2	-13,6	-12,7	-2,8	1,1	-3,4	-4,9	-2,3
Poland													
CC	-3,1	-2,8	-2,5	-5,3	-2,4	-3,8	-6,2	-6,6	-3,9	-5,1	-5	-3,7	-1,3
CCs	-5,2	-3,1	-4,0	-4,3	-5,5	-4,8	-6,1	-7,1	-5,4	-4,4	-5,4	-4,2	-3,2
CCd	-4,5	-2,6	-3,5	-3,8	-4,8	-4,3	-5,5	-6,4	-4,7	-3,8	-4,7	-3,6	-2,8
CCg	-5,4	-3,4	-4,3	-4,5	-5,7	-5,0	-6,3	-7,2	-5,6	-4,6	-5,5	-4,3	-3,3
Roman													
CC	-5,5	-3,3	-5,9	-8,4	-8,6	-10,5	-13,4	-11,6	-4,2	-4,4	-4,5	-4,4	-1,1
CCs	-6,1	-7,1	-5,7	-9,2	-8,9	-11,0	-11,5	-13,9	-5,7	-2,9	-4,6	-3,8	-5,2
CCd	-5,3	-6,2	-5,1	-8,3	-7,9	-9,9	-10,3	-12,4	-4,5	-2,1	-3,8	-3,1	-4,6
CCg	-6,4	-7,4	-6,0	-9,6	-9,2	-11,3	-11,9	-14,3	-6,0	-3,2	-4,9	-4,0	-5,4
SlovakR													
CC	-1	-0,2	-0,3	-0,4	-0,8	-1,3	-1	-2,1	-0,7	-0,5	-0,2	0,6	1,2
CCs	-4,1	-8,0	-8,1	-6,9	-9,0	-10,5	-11,3	-7,4	-2,7	-4,3	-4,2	-3,6	1,1
CCd	-3,6	-7,1	-7,2	-6,2	-8,1	-9,6	-10,3	-6,7	-2,0	-3,6	-3,6	-3,0	1,1
CCg	-4,2	-8,2	-8,3	-7,1	-9,2	-10,8	-11,6	-7,6	-2,8	-4,6	-4,4	-3,8	1,0
Slovenia													
CC	-1	-0,2	-0,3	-0,4	-0,8	-1,3	-1	-2,1	-0,7	-0,5	-0,2	0,6	1,2
CCs	-4,0	-2,5	-1,6	-3,5	-4,6	-4,9	-5,6	-5,6	-0,8	-1,3	-0,7	1,5	2,9
CCd	-3,4	-2,1	-1,3	-3,1	-4,0	-4,4	-5,0	-5,0	-0,2	-0,9	-0,3	1,7	2,8
CCg	-4,3	-2,8	-1,8	-3,8	-4,8	-5,2	-5,9	-5,9	-1,0	-1,6	-0,9	1,4	2,8

Notes: The row CC shows the actual value of current account as percentage of GDP (see Table 1). The rows CCs, CCd and CCg, show the results given by the foreign sector rule in the three proposed scenarios (i), (ii) and (iii) in section 3.

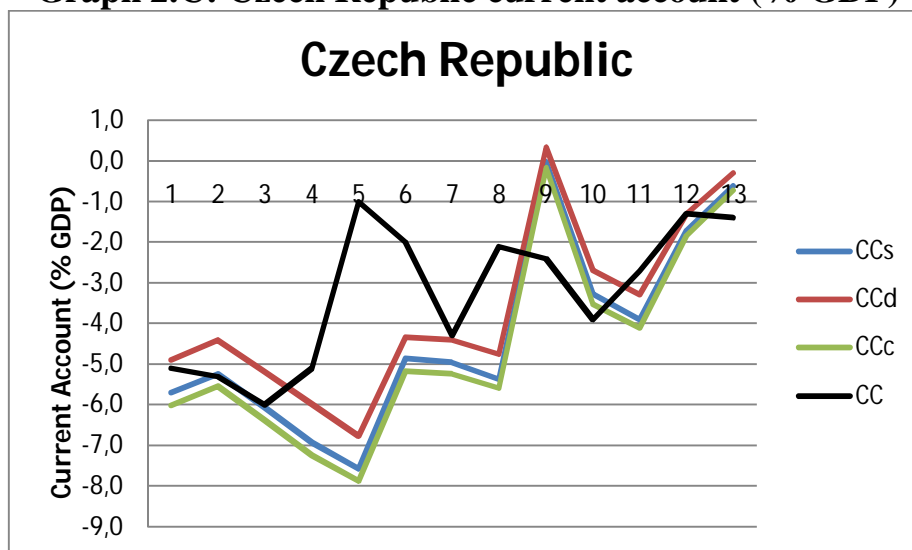
Graph 2.A: EU-27 current account (% GDP)



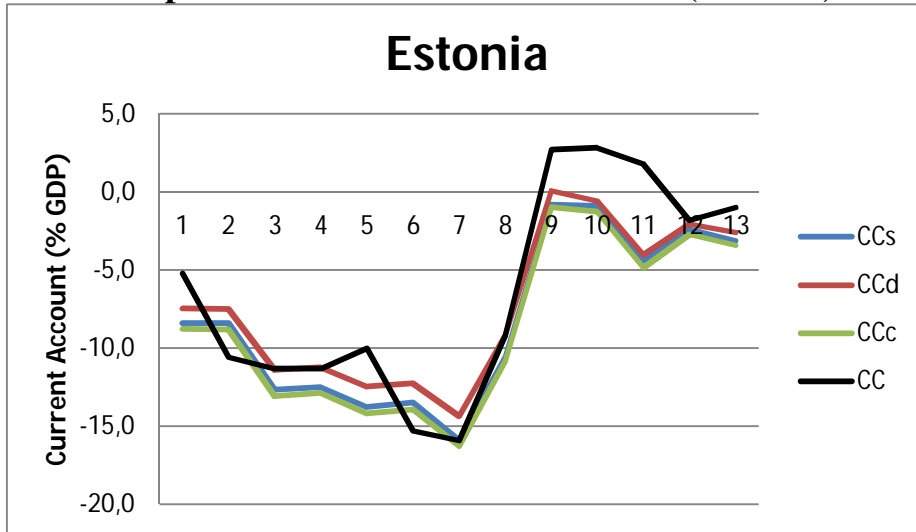
Graph 2.B: Bulgaria current account (% GDP)



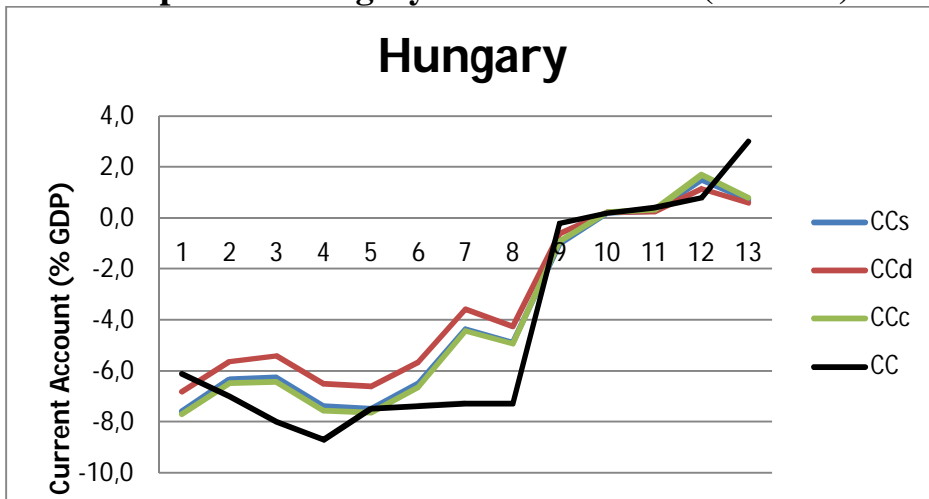
Graph 2.C: Czech Republic current account (% GDP)



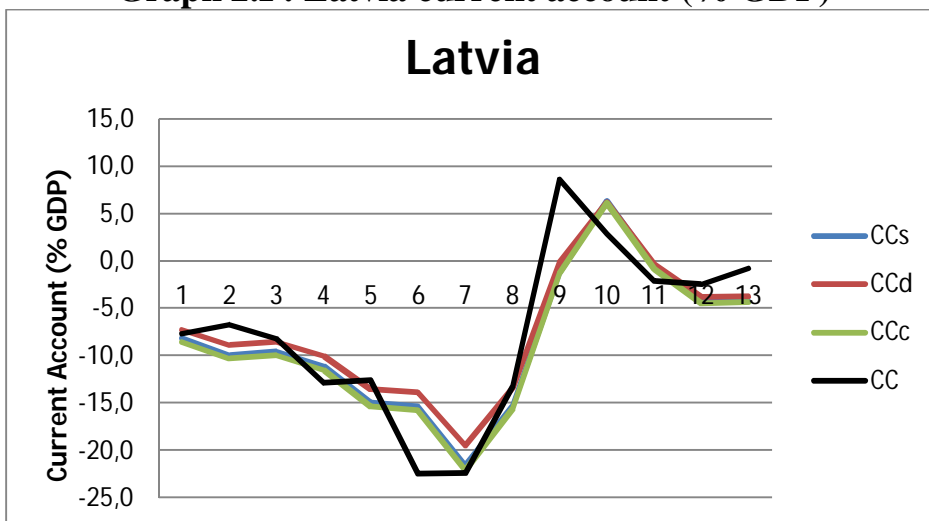
Graph 2.D: Estonia current account (% GDP)



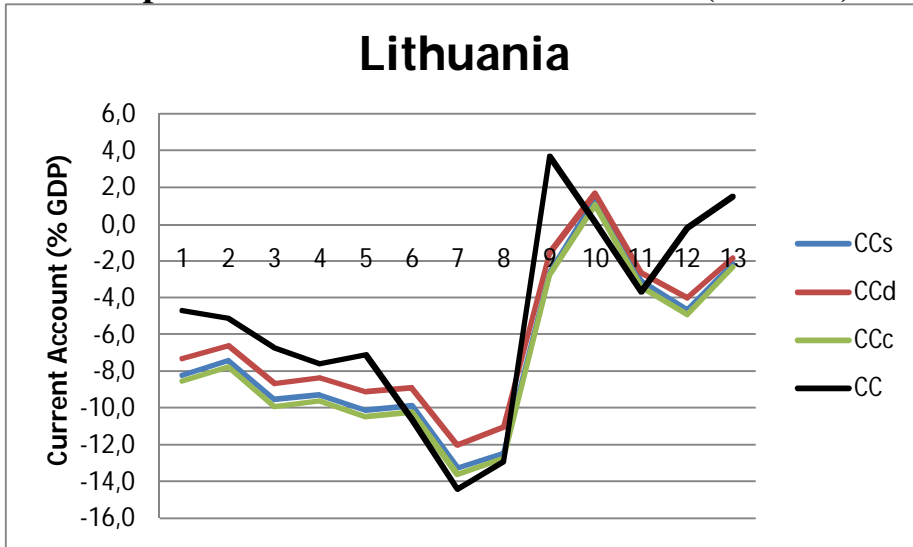
Graph 2.E: Hungary current account (% GDP)



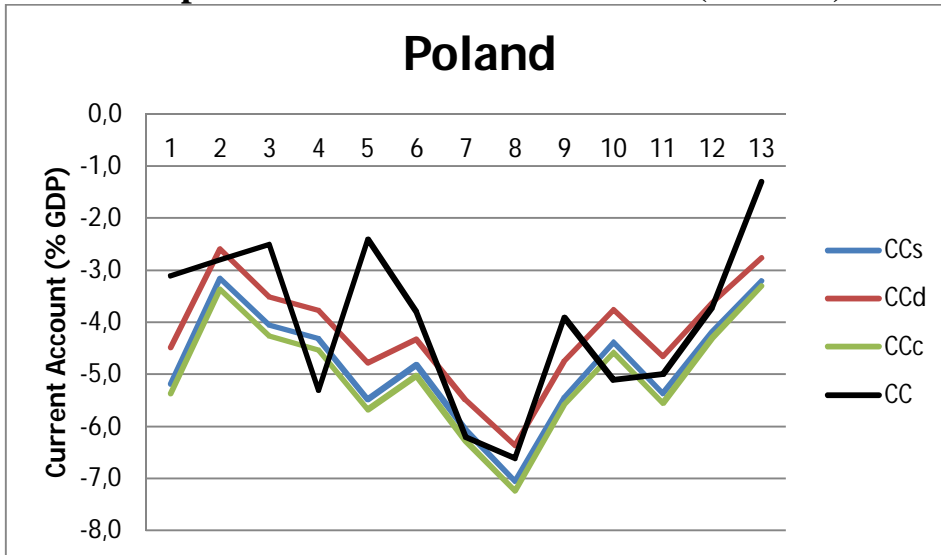
Graph 2.F: Latvia current account (% GDP)



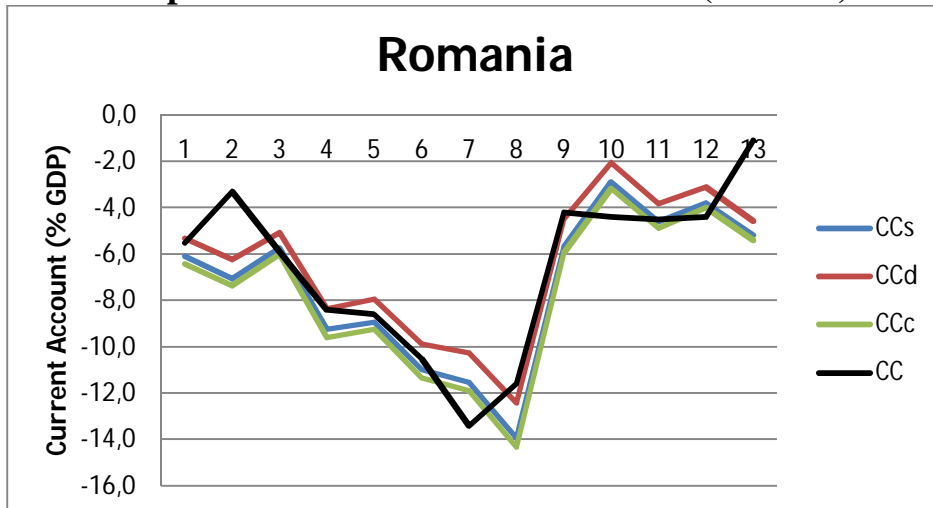
Graph 2.G: Lithuania current account (% GDP)



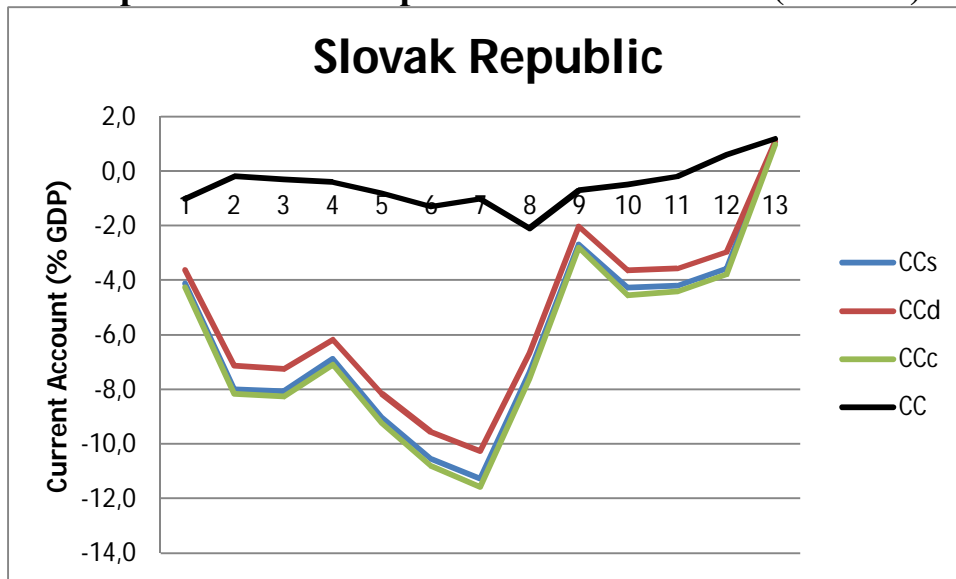
Graph 2.H: Poland current account (% GDP)



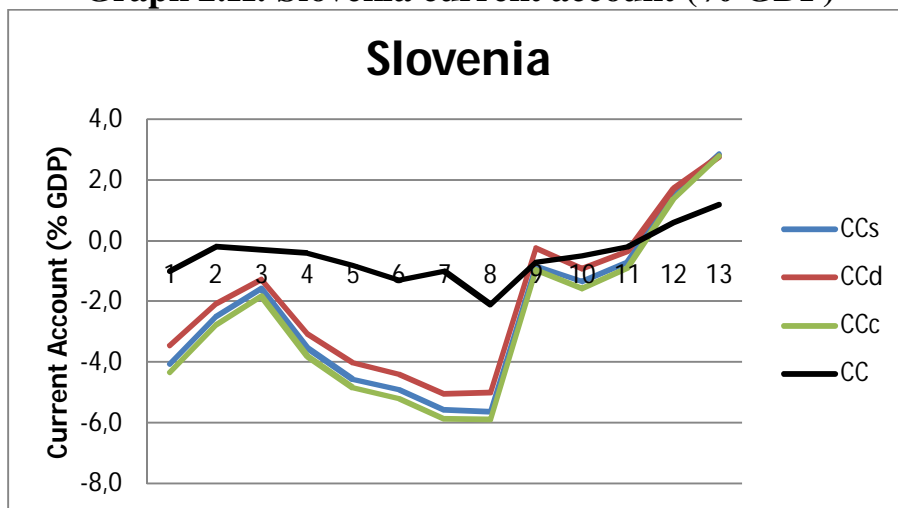
Graph 2.I: Romania current account (% GDP)



Graph 2.J: Slovak Republic current account (% GDP)



Graph 2.K: Slovenia current account (% GDP)



As can be seen in Graph 2, the implications of using fiscal rules would have had different effects on the current account performance of the analysed economies. In the EU-27 as a whole and for Czech Republic and Slovenia, it seems that the outcomes of current account would have been better after following any kind of fiscal rule after the crisis, but not before. When looking at the rest of the CEECs countries, it seems that for Bulgaria, Estonia and Hungary fiscal rules prove to benefit current account records but only for the years before the crisis. For Latvia, Lithuania, Poland and Romania the results are inconclusive, while for Slovak Republic when using fiscal rules the current account deteriorates.

In Table 5 we offer a summary on the usefulness of fiscal rules and their implications on current account records, according to the results showed in Tables 2 and 4, and Graphs 1 and 2. In general the use of fiscal rules seem to be useful for reducing fiscal deficit and this outcome does not translate in a deterioration of the current account but for Slovak Republic during the whole period, and for Bulgaria, Estonia and Hungary only after the crisis.

Table 5
Implications of Fiscal Rules on Current Account

	Fiscal Rules	FR and Current Account
EU 27	Positive 2007-2010	Positive after crisis
Bulgaria	Positive	No after crisis
Czech Republic	Positive	Positive after crisis
Estonia	Positive	No after crisis
Hungary	Positive before crisis	No after crisis
Latvia	Positive	Ambiguous
Lithuania	Positive	Ambiguous
Poland	Positive	Ambiguous
Romania	Positive	Ambiguous
Slovak Republic	Positive	No
Slovenia	Positive	Positive after crisis

Source: Own elaboration based on Tables 2 and 4.

5. Concluding remarks

In this paper we have tried to analyse the relationship between public finances and the current account, in the novel economic framework provided by an economic union scenario, where we will consider the possibility of following an explicit fiscal rule to guarantee a medium-term budgetary position close to balance. To that aim, we have study, in a very simple way, the relationship between the government balance, when fiscal rules are allowed, and their implications on the current account.

Using fiscal rules seem to reduce public deficit in some cases, or even turn the deficit into a surplus. Although for Hungary fiscal rules prove to be useful before the

economic crisis, but not later, and for the EU-27 as a whole using fiscal rules should have been advised only between 2007 and 2010.

Regarding the external sector, the implications of using fiscal rules would have had different effects on the current account performance of the analysed economies. In the EU-27 as a whole and for Czech Republic and Slovenia, it seems that the outcomes of current account would have been better after following any kind of fiscal rule after the crisis, but not before. When looking at the rest of the CEECs countries, it seems that for Bulgaria, Estonia and Hungary fiscal rules prove to benefit current account records but only for the years before the crisis. For Latvia, Lithuania, Poland and Romania the results are inconclusive, while for Slovak Republic when using fiscal rules the current account deteriorates.

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