

COMPOSITION AND DETERMINANTS OF FISCAL ADJUSTMENT'S SUCCESS IN THE EU27 CONTEXT

LAURA OBREJA BRAȘOVEANU

ABSTRACT. The current context brings new challenges posed by the decrease of public revenues, through lowering the tax base and the capacity to collect taxes, and by the inability to adjust the public expenditures. All countries face the challenges of fiscal adjustment. The aim of this paper is to identify the determinant factors of success for fiscal adjustment episodes in the UE 27 context. The considered factors are the need, the size and the composition of the fiscal adjustment. The result of the logit models concluded that significant fiscal adjustments lead to sustainable deficit reduction, while the composition of fiscal adjustments through policies based on public expenditure or revenues does not significantly influence the probability of success.

1. INTRODUCTION

Current context brings new challenges posed by the decrease of public revenues, through lowering the tax base and the capacity to collect taxes, and by the inability to adjust the public expenditures. Obviously they are cyclical components, whose size is determined by the economic cycle, so there is objective justification of the increased budget deficits, but fiscal policy should be adjusted so that deficits are kept within sustainable limits.

Thus arises the need for fiscal adjustment, which may consist in increasing the share in GDP of the budget revenues or in decreasing the share in GDP of the budget spending. For building a fiscal policy strategy there might be reviewed the following aspects: first, the relationship between the type of fiscal policy (relaxed or restricted) and the size and the structure of budget revenues and expenditures, because there are important asymmetries - relaxed fiscal policy is the result of an significant increase of expenditures, while restrictive policy is achieved mainly by increasing taxes, and secondly, the composition of the fiscal adjustment affects its likelihood of success, defined as the sustainability of budget deficit reduction process, and also affects the consequences on real economy, even on the decision of the electorate voting.

All countries face the challenges of fiscal adjustment. Fiscal adjustment is effective if it consists on a mixed measures to reduce expenditures, to improve revenues mobilization, to improve the resource allocation and efficiency. In the emerging countries, there are additional problems related to different conditions comparing with the developed countries: the magnitude of fiscal adjustment needed to stabilize the macroeconomic environment, the expenditure structure requires changes toward a more selective delivery or financing of public goods and services, revenue mobilization instruments must be transformed from direct to indirect tax structure, the weak institutional legacy system of management expenditures - Hagen, Harden (1996)

This paper, comparing with the previous studies, contains elements of originality by introducing new indicators relevant in explaining fiscal adjustment process and probability of succes

Received by the editors September 11, 2011. Accepted by the editors December 6, 2011.

Keywords: fiscal policy, fiscal adjustment, public revenues, public expenditures.

JEL Classification: H20, H30, H50, H62.

Laura OBREJA BRAȘOVEANU, Ph.D., is Professor in the Department of Finance, Bucharest Academy of Economic Studies. E-mail: laura_obreja@yahoo.com.

This paper is in final form and no version of it will be submitted for publication elsewhere.

for fiscal adjustment episodes. The empirical results sustain that the probability of success is determined by a complex set of factors: the size of the consolidation effort (significant adjustments should be more successful in supporting deficit reduction, while representing a signal change in regime, maintaining policy credibility and irreversibility), the composition of fiscal adjustment (adjustments based more on expenditure cuts are more likely to be sustainable in deficit reduction), the duration of fiscal adjustment (if fiscal adjustment is implemented in a longer period it would be more credible and low probability of reversibility; the adjustment is easier to bear if the adjustment burden is borne more periods).

The rest of the paper is structured as follows - section 2 aims to identify the key definitions for fiscal adjustment, for adjustment's success and analysis of empirical evidence on reducing the budget deficit. In Section 3 it is presented the empirical study on episodes of fiscal adjustment in the context of the EU27 during 1996-2009, identifying the composition and the determinants of success of fiscal adjustment.

2. LITERATURE REVIEW

Fiscal adjustment process represents a significant decrease of budget deficit.

To understand the phenomenon of fiscal adjustment, the classification of types of fiscal policy, the success and durability of the adjustment process, there are presented some of the important definitions in the literature.

DEFINITION 1 A

Alesina, Perotti (1995) define fiscal policy depending on the changes of the budget deficit (called fiscal impulse, denoted by FI).

Fiscal policy is defined as:

neutral if the FI is in the range (-0.5%; +0.5%),

relaxed, if FI is in the range (+0.5%;+1.5%),

very relaxed, if FI is greater than 1.5%,

restrictive or moderate adjustments, if FI is in the range (-1.5%; -0.5%),

very restrictive or strong adjustments, if FI is less than -1.5%.

For this definition, the demarcation interval is the result of a compromise between two requirements: on the one hand, there have to be taken some measures so that the policies characterized as very relaxed and very restrictive not to be influenced by cyclical factors, and, on the other hand, in order to give sufficient power to the tests performed, there must be a sufficient number of observations for each type of policy.

DEFINITION 1 B

Purfield (2003) defines fiscal policy depending on the changes of the budget primary balance.

A **very restrictive fiscal policy episode** is an episode of fiscal adjustment characterized by an improvement of budget primary balance by at least 1.5 percentage points of GDP in a year or at least 1.25 percentage points of GDP in at least two consecutive years.

There could manifest the "stop and go" behavior - strong adjustments can be followed by strong expansion and vice versa.

By implementing strong adjustment, governments generate economic and political costs to correct excessive budget deficits and public debt. There appears the question if the fiscal adjustment is successful in durable correction of the fiscal problems, so they must be isolated the episodes of strict fiscal policy that led to the consolidation of long-term budget of the episodes from that which were reversed shortly.

DEFINITION 2 A

Alesina, Perotti (1995) define the success of fiscal adjustment depending on the changes of the gross debt to GDP.

A **successful fiscal adjustment** in year t is defined as a very restrictive fiscal policy in year t which generates gross debt ratio to GDP in year $t + 3$ lower than in t with at least 5 percentage points of GDP.

DEFINITION 2 B

Alesina, Perotti (1996) define the success of fiscal adjustment depending on the changes of the cyclically adjusted primary deficit and on the changes on the debt to GDP ratio.

A successful fiscal adjustment is an episode of very restrictive fiscal policy that meet the following conditions: (i) within three years after the restrictive episodes, the cyclically adjusted primary deficit is on average 2% lower compared to last year of the restrictive fiscal policy, (ii) three years after the last year of the restrictive fiscal policy, the debt to GDP is 5% below the level registered last year of the restrictive fiscal policy.

DEFINITION 2 C

Purfield (2003) defines the success of fiscal adjustment depending on the changes of the general government balance.

An episode of fiscal adjustment is successful if the average of the general government balance after two years is at least 2 percentage points lower than in the two years preceding the adjustment.

This definition implies that the effects of a successful adjustment to the budget balance are sustainable after the end of the episode.

The success of a fiscal adjustment episode, the sustainability of the deficit reduction, is influenced by the a complex set of indicators, such as the size, the composition and the duration of the fiscal adjustment episodes.

McDermott, Wescott (1996) tested the impact of the fiscal adjustments size in the cases of successful and unsuccessful adjustment: the size of the adjustment is very important. Giavazzi, Pagano (1996), using a methodology based on estimating the consumption function, showed that significant and persistent fiscal adjustments are expansionary, while modest adjustments are not, due to credibility and wealth effects. Symansky, Bertolini, Razin (1995) studied the effects of fiscal adjustment in the G7 countries and demonstrated that adjustments have short-term costs by the decreased production, but generate long-term benefits.

Empirical studies regarding the fiscal adjustment in countries of the Organization for Economic Cooperation and Development (OECD) suggest that the size and the composition of fiscal policy have an important role in addressing fiscal imbalances. Alesina and Perotti (1995) consider that, although the majority of fiscal adjustment efforts are based on tax increases, successful adjustments are based more on current expenditures decrease. McDermott, Wescott (1996) conclude that the expenditures-based adjustment is more effective than raising taxes to reduce debt. Significant adjustments have a higher probability of success in reducing the debt ratio to GDP. Alesina, Ardagna (1998) emphasize the importance of the adjustment structure: adjustment based on reduction of transfers and public wages are more likely to succeed in reducing the primary structural balance.

Purfield (2003), using a sample of 25 countries (former Soviet Union - Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kyrgyz Republic, Moldova, Russian Federation, Turkmenistan, Ukraine, Uzbekistan), the Baltic countries (Estonia, Latvia, Lithuania), Eastern Europe (Albania, Bulgaria, Croatia, Czech Republic, Hungary, Poland, Romania, Slovakia, Slovenia) for the period 1992-2000, identifies episodes of fiscal adjustment in transition economies. The article seeks to answer the questions: differences in size, structure and duration of the fiscal adjustment have implications for its success?, The adjusted fiscal policy can be associated with the negative impact on growth?

Budget deficit reduction was generally achieved by reducing spending, revenue collection is still decreasing, which implies a greater effort. Cheasty, Davis (1996) and Gupta, Leruth, de Mello, Chakravarti (2001) demonstrated the inability of these countries to raise revenues and to decrease expenditures.

Purfield (2003) identifies factors that affect the likelihood of successful adjustment: **the size of the consolidation effort** (significant adjustments should be more successful in supporting deficit reduction, representing a change of regime signal, maintaining credibility and irreversibility of the policy), **the composition of the fiscal adjustment** (adjustment based

on expenditure cuts are more likely to be sustainable in deficit reduction process), **the duration of the fiscal adjustment** (if fiscal adjustment is implemented in a longer period it would be more credible and less likely to be reversible; even politically, the adjustment is easier to bear if the burden of adjustment is supported in several periods).

Regarding the effects of fiscal adjustment on the real economy, there are arguments for a negative effect. Recently, Alesina (2010) argues that an episode of fiscal adjustment is not a source of economic recession, as it eliminates the need for a stronger future adjustments.

Mulas-Granados (2004) examines the short-term impact of various fiscal adjustment strategies on economic growth and income distribution. The effects are conditional on the composition of the fiscal adjustment.

Alesina, Carloni, Lecce (2010) examine the impact of fiscal adjustment on voters decision. The study results do not confirm the hypothesis that those governments that make decisions for a significant and rapid decrease of the budget deficit are penalized by the electorate in future elections.

3. EMPIRICAL STUDY – FISCAL ADJUSTMENT IN UE27

In this section there are analyzed the fiscal policies applied in European Union for the period 1996-2009. There are identified the period of need for fiscal adjustment depending on the budget balance on GDP and the fiscal disciplines depending on the fiscal authorities' reaction in reducing the budget deficit. The composition of fiscal adjustment is classified as based more on expenditure cuts or based on revenue increases. Eventually, there is quantified the success of the fiscal adjustment depending on the level of budget deficit on GDP one year after the adjustment and there is estimated the impact of the determinant factors on the probability of success.

Notations for variables used are presented below:

balance = budget balance in GDP (*data source: AMECO*)

exp = public expenditures share in GDP (*data source: AMECO*)

rev = public revenues in GDP (*data source: AMECO*)

success = dummy variable for success if fiscal adjustment is successful, this success is defined by the condition that a year after adjustment the deficit remains is smaller by at least 1,5 pp comparing with a year before adjustment

need = dummy variable for the need of fiscal adjustment, need defined by the condition that the deficit is more than 3% of GDP in the previous year

adjustment_exp = dummy variable for fiscal adjustment achieved through greater public spending than the public revenue adjustment

size = size of fiscal adjustment, measured as the change in budget balance (delta balance)

The database consists on countries from European Union - UE27: AT, BE, BG, CY, CZ, DK, EE, FI, FR, DE, EL, HU, IE, IT, LV, LT, LU, MT, NL, PL, PT, RO, SK, SI, ES, SE, UK

In Table 1 there are values for the budget balance in EU-27 countries. There are serious problems of budgetary imbalances at the level of 2009, but also at the average values for the period 1996-2009.

As it can be seen in the clustering - Table 2, countries characterized by high levels of average budget deficit, but with significant fluctuations in the values registered, are Slovakia, Malta, Hungary and Greece. The highest values of standard deviation of the balance are recorded in Ireland and Bulgaria. Romania falls into cluster 2, with developed and less developed countries, with negative values of the average budget balance, but with small fluctuations between 1996-2009. Positive values of the average budget balance are registered in Luxembourg, Finland, Denmark, Sweden and Estonia.

In this study, fiscal policies are classified into five categories, depending on the changes in budget balance:

a - very relaxed fiscal policy - if the budget balance changes by more than -1.5 pp;

b - relaxed fiscal policy - if the budget balance changes with the values in the range (-1.5 pp, -0.5 pp);

c - neutral fiscal policy - if the budget balance changes with values in the range (-0.5 pp, 0.5 pp);

d - restrictive fiscal policy - if the budget balance changes with the values in the range (0.5 pp, 1.5 pp);

e - very restrictive fiscal policy - if the budget balance changes by more than 1.5 percentage points - in this article, these are the episodes of fiscal adjustment.

As a working hypothesis, it is considered that fiscal adjustment is necessary (marked in the following table with dummy variable denoted Need) in year t if the budget deficit exceeds 3% of GDP. Interestingly, in most cases where the deficit exceeds 3% of GDP, fiscal policy applied in the previous year was relaxed. In Table 4 there are recorded the periods with fiscal adjustment requires and the reaction of the tax authority, called fiscal discipline if fiscal policy is restrictive in the following year.

The most frequent need for fiscal adjustment episodes were recorded, in order of increasing number of periods, in the following countries: DE, UK (6 years), FR, LT (7 years), CY, RO (8 years), IT, SK (9 years), CZ (10 years), MT, PT (11 years), PL (12 years), EL, HU (14 years).

As it can be observed in previous table, there are episodes of fiscal adjustments without the situation that in the previous year budget deficit not exceeded the 3% - countries that have made such adjustments are: SE (4), LU (3), BG, DK, EE, FI, DE, IE (2), CY, CZ, LV, NL (1).

Fiscal policy has different degrees of adjustment, fiscal discipline is more present in countries that have high rate of adjustments/ the situation of needed adjustments: AT, BE, EE, FI, SE.

In Table 5 there are the records for the fiscal adjustment for clustering groups of countries identified by (i) and values of public revenue and expenditure changes.

The composition of the fiscal adjustment is showed in the next table – for each episodes, I marked with X in the row of d_{exp} if the adjustment is more based on expenditures reduction, or in the row of d_{rev} if the adjustment is more based on taxes increase.

In order to quantify the success of fiscal adjustment episodes, it is considered a successful dummy variable that takes value 1 if one year after the fiscal adjustment budget balance is greater than -3% of GDP. For the empirical test for estimating the determinants of probability of success there are used 68 observations representing episodes of fiscal adjustment - Table 7 contains the structure of this database.

In Table 8 there are summarized the results of logit model in order to identify the determinant factors of success for fiscal adjustment episodes – the need, the size and the composition of the fiscal adjustment.

$$success = c(1) + c(2) * adjustment_exp + c(3) * need + c(4) * size \quad (3.1)$$

As the results from Table 8 show, for fiscal adjustment in the EU27 during 1996 to 2009 the relevant factors for the probability of success are the need and size of fiscal adjustment.

4. CONCLUSIONS

This paper's objective is to identify the determinant factors of success for fiscal adjustment episodes in UE 27 context, for the period 1996-2009. Theory and previous empirical studies suggest that the probability of success for a fiscal adjustment episode is influenced by: (a) the size of the adjustment - significant fiscal adjustments lead to sustainable deficit reduction, because they represent a credible signal of commitment of the authorities to address budgetary imbalances, which could enhance their success; (b) the composition of the adjustment – there are recommended mixed measures to reduce expenditures, to improve revenues mobilization, to improve the resource allocation and efficiency; (c) the duration of fiscal adjustment - if fiscal adjustment is implemented in a longer period it would be more credible and low probability of reversibility; the adjustment is easier to bear if the adjustment burden is borne more periods.

This paper contains elements of originality by introducing new indicators relevant in explaining fiscal adjustment process and probability of success for fiscal adjustment episodes, such as fiscal discipline and need of fiscal adjustment.

The empirical results sustain that the probability of success is determined by a complex set of factors: the size of the consolidation effort (significant adjustments should be more successful in supporting deficit reduction, while representing a signal change in regime, maintaining policy credibility and irreversibility) and the need of fiscal adjustment (the necessity of applying an adjustment should significantly influence the credibility of the changes).

In this logit model, despite the previous theoretical and empirical research, the composition of fiscal adjustment is not relevant (adjustments based more on expenditure cuts should more likely be sustainable in deficit reduction).

Acknowledgement. *This work was cofinanced from the European Social Fund through Sectoral Operational Programme Human Resources Development 2007-2013, project number POS-DRU/89/1.5/S/59184 „Performance and excellence in postdoctoral research in Romanian economic science domain”.*

REFERENCES

- [1] Alesina, A. (2010) „Fiscal adjustment: lessons from recent history”, Ecofin, Madrid.
- [2] Alesina, A., Ardagna, S. (1998) „Tales of Fiscal Contraction”, Economic Policy, no. 27.
- [3] Alesina, A., Carloni, D., Lecce, G. (2010) „The Electoral Consequences of Large Fiscal Adjustment”, working paper.
- [4] Alesina, A., Perotti, R. (1995) „Fiscal Expansions and Adjustment in OECD Countries”, NBER working paper no. 5214.
- [5] Alesina, A., Perotti, R. (1996) „Fiscal Adjustment in OECD Countries: Composition and Macroeconomic Effects”, NBER working papers 5730.
- [6] Cheasty, A., Davis, J. (1996) „Fiscal Transition in Countries of the Former Soviet Union: an Interim Assessment”, IMF working paper 96/61.
- [7] Giavazzi, F., Pagano, M. (1996) „Non-Keynesian Effects of Fiscal Policy Changes: International Evidence and the Swedish Experience”, NBER working paper 5332.
- [8] Gupta, S., Leruth, L., de Mello, L., Chakravarti, S. (2001) „Transition Economies: How Appropriate is the Size and the Scope of Government”, IMF working paper 01/55.
- [9] Hagen, J., Harden, I. (1996) “Budget Processes and Commitment to Fiscal Discipline”, IMF working papers 96/78.
- [10] McDermott, C., Wescott, R. (1996) „An Empirical Analysis of Fiscal Adjustment”, IMF working paper 96/59.
- [11] Mulas-Granados, C. (2005) „Fiscal Adjustment and the Short-Term Trade-off between economic growth and equality”, Revista de Economía Publica, 172, pp 61-92.
- [12] Purfield, C. (2003) „Fiscal Adjustment in Transition Countries: Evidence from the 1990s”.
- [13] Symansky, S., Bertolini, L., Razin, A. (1995) "Fiscal Restructuring in the Group of Seven Major Industrial Countries in the 1990s: Macroeconomic Effects," IMF Working Papers 95/35.

APPENDIX

Table I: Public balance – 1996-2009 – UE27

country	1996	2009	average	CV
EL	-6,64	-15,59	-6,36	-0,50
HU	-4,37	-4,46	-5,90	-0,34
MT	-7,98	-3,71	-5,89	-0,43
SK	-9,91	-7,96	-5,64	-0,58
PL	-4,87	-7,35	-4,40	-0,33
PT	-4,54	-10,12	-4,12	-0,46
CZ	-3,32	-5,84	-4,06	-0,42
RO	-3,57	-8,52	-3,48	-0,58
LT	-3,23	-9,53	-3,36	-0,98
IT	-6,96	-5,30	-3,27	-0,47
FR	-4,03	-7,50	-3,18	-0,47
CY	-3,19	-5,97	-2,96	-0,90
UK	-4,26	-11,30	-2,55	-1,35
SI	-1,12	-5,96	-2,48	-0,58
DE	-3,33	-3,03	-2,15	-0,78
AT	-4,15	-4,14	-2,14	-0,62
LV	-0,44	-9,61	-1,96	-1,37
ES	-4,86	-11,13	-1,86	-1,83
BE	-4,02	-5,97	-1,34	-1,36
NL	-1,89	-5,46	-0,96	-1,94
BG	-10,07	-4,67	-0,44	-7,48
IE	-0,10	-14,28	-0,25	-19,34
EE	-0,35	-1,76	0,21	9,15
SE	-3,32	-0,95	0,61	3,40
DK	-2,03	-2,81	1,38	1,82
FI	-3,53	-2,88	2,22	1,37
LU	1,19	-0,91	2,30	0,99

Data source: AMECO

**Table II: Cluster analysis (i)
average and standard deviation of public balance**

	Final Cluster Centers			
	1	2	3	4
average_balance	-5,95	-2,77	-0,34	1,35
stdev_balance	2,74	2,11	4,06	2,37
Country	SK, MT, HU, EL	NL, BE, ES, LV FR, IT, LT, AT DE, SI, RO, CZ PT, PL, UK, CY	IE, BG	LU, FI, DK SE, EE

Table III: Cluster analysis (ii)
average values of public balance, expenditures, and revenues

	Final Cluster Centers			
	1	2	3	4
average_balance	-1,99	-4,72	0,26	-1,76
average_exp	47,47	43,79	53,68	38,02
average_rev	45,08	38,25	53,56	35,69
Countries	LU, NL, BE, AT, DE, SI, IT, HU	UK, CZ, PT, PL, SK, MT, EL	FI, DK, SE, FR	EE, IE, BG, ES LV, CY, LT, RO

Table IV: Identification of fiscal discipline
(a)

country	Cluster (i)	Cluster (ii)	1996	1997	1998	1999	2000	2001	2002
AT	2	1	1 e						
BE	2	1	1 e						
BG	3	4	1 e				0 e		
CY	2	4	1 a	1 d	1 c	1 e		a	1 a
CZ	2	2	1 c	1 b	1 d	1 c	1 a	1 b	1 c
DK	4	3							
EE	4	4	0 e		a	1 e			
FI	4	3	1 e	0 e		0 e			
FR	2	3	1 d	1 d				a	1 b
DE	2	1	1 d			0 e		b	1 c
EL	1	2	1 d	1 e	1 d	1 b	1 b	1 c	1 b
HU	1	1	1 b	1 a	1 e	1 e	1 b	1 a	1 e
IE	3	4	0 e			0 e			
IT	2	1	1 e	c	1 d			1 c	1 b
LV	2	4	0 e		a	1 d			
LT	2	4	1 a	1 e	1 c	c	1 c	1 e	
LU	4	1	0 e			0 e			
MT	1	2	1 c	1 a	1 e	1 e	1 c	1 d	1 a
NL	2	1				0 e			b
PL	2	2	1 c	1 c	1 e	b	1 a	1 c	1 b
PT	2	2	1 d	1 c	1 d		b	1 d	c
RO	2	4	1 b	1 d	1 b	1 c	1 d	1 d	
SK	1	2	1 e	1 d	1 a	1 a	1 e	1 a	1 e
SI	2	1			b	1 b	1 c	1 e	
ES	2	4	1 d	1 c	1 e				
SE	4	3	1 e	0 e		0 e			
UK	2	2	1 e						b

(b)

country	Cluster (i)	Cluster (ii)	2003	2004	2005	2006	2007	2008	2009
AT	2	1	a	1 e				a	1 c
BE	2	1						a	1 e
BG	3	4	0 e					a	1 d
CY	2	4	1 e	1 e		0 e		a	1 d
CZ	2	2	1 e	b	1 d	0 e		a	1 d
DK	4	3	0 e	0 e					
EE	4	4							0 e
FI	4	3							
FR	2	3	1 c	1 d			b	1 a	1 c
DE	2	1	1 c	1 c	1 e	0 e		a	1 c
EL	1	2	1 a	1 e	1 b	1 b	1 a	1 a	1 e
HU	1	1	1 d	1 a	1 b	1 e	1 d	1 b	1 c
IE	3	4					a	1 a	1 a
IT	2	1	1 c	1 b	1 d	1 e			1 d
LV	2	4						1 a	1 e
LT	2	4					a	1 a	1 e
LU	4	1				0 e			
MT	1	2	1 e	1 e			a	1 d	1 c
NL	2	1	1 d					a	1 c
PL	2	2	1 d	1 d	1 c	1 e		1 a	1 b
PT	2	2	1 c	1 a	1 e	1 d	1 c	1 a	1 d
RO	2	4					a	1 a	1 e
SK	1	2			c	1 d		a	1 c
SI	2	1						a	1 c
ES	2	4					a	1 a	1 e
SE	4	3	0 e	0 e					
UK	2	2	1 c	1 c	1 d		a	1 a	1 d

Table V: Episodes of fiscal adjustment within the clusters

Cluster	1	2	3	4
Countries	LU, NL, BE AT, HU, IT DE, SI	UK, CZ, PT, PL, EL SK, MT	FI, DK, SE, FR	EE, IE, BG, ES, RO, LT LV, CY
No. of episodes	4 (1997, 2000, 2007)	2 (1997, 1998, 1999, 2000, 2004, 2005, 2007)	2 (1997, 1998, 2000, 2004, 2005)	4 (1997)
	0 (1998, 2008, 2009)	1 (2001, 2003, 2006, 2010)	0 (1999, 2001, 2002, 2003, 2006, 2007, 2008, 2009, 2010)	1 (1998, 1999, 2001, 2002, 2005, 2007)
	1 (1999, 2001, 2002, 2003, 2005, 2010)	0 (2002, 2008, 2009)		3 (2000)
	2 (2006)			0 (2003, 2006, 2008, 2009)
				2 (2004)
				5 (2010)
No. of tight adjustment	20 (29%)	18 (26%)	10 (15%)	20 (29%)
Changes of expenditures	-1,84	-2,27	-2,18	-2,25
Changes of revenues	0,44	0,47	0,37	0,39

Table VI: The composition of fiscal adjustment – changes of public expenditures or revenues**(a)**

		1997	1998	1999	2000	2001	2002	2003	Average
AT	dexp drev	X				X			-2,21 -0,02
BE	dexp drev	X							-1,98 0,01
BG	dexp drev	X				X			-4,03 0,89
CY	dexp drev				X				-0,63 1,80
CZ	dexp drev								-1,72 0,94
DE	dexp drev				X				-2,08 0,06
DK	dexp drev								-1,14 1,35
EE	dexp drev	X			X				-2,91 -0,83
EL	dexp drev		X						-1,82 1,12
ES	dexp drev			X					-0,65 1,03
FI	dexp drev	X	X		X				-3,51 -0,10
FR	dexp drev								- -
HU	dexp drev			X	X			X	-1,85 0,80
IE	dexp drev	X			X				-2,64 -0,76

(b)

		2004	2005	2006	2007	2008	2009	2010	Average
AT	dexp drev		X						-2,21 -0,02
BE	dexp drev			X				X	-1,98 0,01
BG	dexp drev	X							-4,03 0,89
CY	dexp drev	X	X		X				-0,63 1,80
CZ	dexp drev	X			X				-1,72 0,94
DE	dexp drev			X	X				-2,08 0,06
DK	dexp drev	X	X						-1,14 1,35
EE	dexp drev							X	-2,91 -0,83
EL	dexp drev								-1,82 1,12
ES	dexp drev								-0,65 1,03
FI	dexp drev								-3,51 -0,10
FR	dexp drev								- -
HU	dexp drev				X				-1,85 0,80
IE	dexp drev								-2,64 -0,76

(c)

		1997	1998	1999	2000	2001	2002	2003	Average
IT	dexp drev	X							-1,53 1,28
LT	dexp drev		X				X		-4,15 -0,56
LU	dexp drev				X				-1,49 0,96
LV	dexp drev	X							-0,89 0,62
MT	dexp drev			X	X				-1,27 0,59
NL	dexp drev				X				-1,85 -0,29
PL	dexp drev			X					-1,65 0,23
PT	dexp drev								-1,25 0,98
RO	dexp drev								-0,85 0,42
SE	dexp drev	X	X		X				-1,80 0,25
SI	dexp drev						X		-1,23 0,34
SK	dexp drev	X				X		X	-5,81 -0,80
UK	dexp drev	X	X		X				-1,64 0,63

(d)

		2004	2005	2006	2007	2008	2009	2010	Average
IT	dexp drev				X				-1,53 1,28
LT	dexp drev							X	-4,15 -0,56
LU	dexp drev				X				-1,49 0,96
LV	dexp drev							X	-0,89 0,62
MT	dexp drev	X	X						-1,27 0,59
NL	dexp drev								-1,85 -0,29
PL	dexp drev				X				-1,65 0,23
PT	dexp drev			X					-1,25 0,98
RO	dexp drev							X	-0,85 0,42
SE	dexp drev	X	X						-1,80 0,25
SI	dexp drev								-1,23 0,34
SK	dexp drev								-5,81 -0,80
UK	dexp drev								-1,64 0,63

**Table VII: The composition of the fiscal adjustment
- through changes in public revenues or expenditures**

	No. of episodes	success	need	expenditure
Total	68	49 (72%)	44 (65%)	53 (78%)
success	49		36 (73%)	38 (77%)
unsuccess	19		8 (42%)	15 (79%)
need	44	36 (82%)		37 (84%)
unneed	24	13 (54%)		16 (66%)
expenditure	53	38 (72%)	37 (70%)	
revenue	15	11 (73%)	7 (47%)	

Table VIII: Testing the determinants of a successful fiscal adjustment

	Logit model 1	Logit model 2
intercept	-2.89*	-3.03**
adjustment_exp	-0.96	
need	1.86***	1.60**
size	1.57**	1.35**
McFadden R-squared	0.203695	0.184673
S.E. of regression	0.412364	0.415023
Prob(LR statistic)	0.000934	0.000588
Total obs	68	
Obs with Dep=0	19	
Obs with Dep=1	49	

*** 1% significance, ** 5% significance, * 10% significance