Universidade de Aveiro
Departamento de Economia, Gestão e Engenharia Industrial

Documentos de Trabalho em Economia
Working Papers in Economics

Área Científica de Economia
E/nº 31/2005

Has the Stability and Growth Pact stabilised? Evidence from a panel of 12 European countries and some implications for the reform of the Pact*

Carlos José Fonseca Marinheiro

*This paper was presented by the author at the University of Aveiro in the seminar "*Integração Monetária e Política Orçamental na UE*" on 20 May 2005.

Submission of Papers for Publication (Para submissão de artigos para publicação): Prof. Francisco Torres (ftorres@egi.ua.pt). Universidade de Aveiro, DEGEI, Economia, Campus Universitário de Santiago. 3810-193 Aveiro. Portugal.

Has the Stability and Growth Pact stabilised?
Evidence from a panel of 12 European countries and some implications for the reform of the Pact

Carlos José Fonseca Marinheiro[*]
Faculdade de Economia and GEMF[†]
Universidade de Coimbra

marinheiro@fe.uc.pt

May 2005

Abstract

Ever since its inception EMU has been subject to controversy. The fiscal policy rules embedded in the Treaty on European Union, and clarified in the Stability and Growth Pact (SGP), are probably the most contentious. The SGP is being accused of being too rigid and of forcing pro-cyclicality in fiscal policy. We test the impact of the SGP rules on the cyclical properties of fiscal policy for a panel of 12 European countries. We conclude that contrary to what might have been expected the euro fiscal rules have reinforced the counter-cyclicality of fiscal policy. However, the results also show that the SGP is not being applied symmetrically over the cycle, leading to insufficient fiscal consolidation during economic upswings. This explains the recent difficulties of Portugal, Germany and France in complying with SGP requirements. Based on these conclusions we argue for the creation of independent national technical committees that would define an appropriate deficit target on an annual basis.

Keywords: Fiscal policy, stabilisation, EMU, Stability and Growth Pact reform.
JEL codes: E62, H62

---

[*] An earlier version of this paper is available as a CESifo Working Paper no. 1411, February 2005 and GEMF working paper number 2005-02. I was presented at the 4th Annual Meeting of the EEFS held at the University of Coimbra, Faculty of Economics on the 20th May 2005, and at the University of Aveiro, department of Economics, on the 20th May 2005. *Correspondence* to Faculdade de Economia, Universidade de Coimbra, Av. Dias da Silva, 165, 3004-512 Coimbra, Portugal. E-mail: marinheiro@fe.uc.pt. URL: http://www4.fe.uc.pt/carlosm.

[†] GEMF – Grupo de Estudos Monetários e Financeiros.

I. Introduction

The completion of EMU in Europe, with the introduction of the single currency – the euro- in 1999 has greatly affected the conduct of economic policy in the twelve participating member states. The only traditional short-term macroeconomic instrument that remains in the control of national authorities is fiscal policy. Consequently, fiscal policy has gained new responsibilities with EMU, but at the same time the Stability and Growth Pact (SGP) constrains it operation. Fiscal policy must now provide output smoothing, especially the smoothing of asymmetric shocks, and contribute to attaining price stability and external balance. These new objectives are particularly important for the case of small countries out of synchrony with the rest of the monetary union and require a flexible fiscal policy. This paper therefore aims at evaluating the actual cyclical properties of fiscal policy and its implications for the ongoing debate on the reform of the SGP.

It has been argued that the fiscal rules imposed by the SGP lead to the need to override the working of the automatic fiscal stabilisers, resulting in a pro-cyclical fiscal policy. This paper evaluates such claim using empirical evidence drawn from a panel of 12 European countries for the period 1980-2003. Section II reviews the economics of fiscal policy in Economic and Monetary Union (EMU). It briefly reviews the role of fiscal policy in the EMU setup. Section III presents the empirical evidence regarding the cyclical responsiveness of fiscal policy to the cycle. The evidence is based on a panel data analysis and distinguishes the overall reaction of the budget from discretionary actions. Based on the conclusions of the empirical results, section IV takes the early non-SGP compliant countries (Portugal, Germany, and France) as case-studies, and tries to find out whether the exceeding of the 3% threshold for the deficit was due to an asymmetric enforcement of SGP rules over the cycle. Section V derives some implications for the ongoing debate on the reform of the SGP rules. The conclusions are discussed in Section VI.

II. Fiscal Policy in EMU

In a traditional Keynesian framework different short-term objectives are achieved by making use of different instruments: fiscal policy is responsible for the stabilisation of the business cycle; monetary policy tries to maintain price stability and might also help to stabilise the business cycle; and the exchange rate policy helps to stabilise external balance. Since the last two instruments have been lost in euro-area countries, fiscal policy obligations have increased. For euro-area countries, fiscal policy has to achieve three objectives: a) the stabilisation of the business cycle, especially the stabilisation of asymmetric demand shocks; b) help to stabilise inflation, especially in small countries which are out of synchrony with the rest of the monetary union; and, c) the attainment of external balance.

Compared with the pre-EMU situation, fiscal policy now plays an extended role in the smoothing of output shocks, particularly idiosyncratic demand shocks. Even if the ECB pursues some degree of output smoothing, the single monetary policy could not be used to smooth asymmetric shocks.[1] Consequently, most of the short-term stabilisation effort relies on fiscal policy. Moreover, comparing the euro-area with other successful currency unions, namely, with the USA, we can say that *fiscal policy is particularly relevant for the smoothing of shocks in the euro-area as this latter currency area lacks most of the usual responses to asymmetric shocks*, that is, labour mobility within the area, flexibility of wages and prices, and finally some sort of insurance mechanism, like an automatic mechanism for transferring fiscal resources to the affected country(ies)/region(s).

Negative demand shocks cause a fall in both the output gap and inflation. When there is a symmetric demand shock which affects the entire euro-area, both the centralised monetary policy and the automatic fiscal stabilisers could be used to smooth it out. However, the common monetary policy cannot be used to smooth out asymmetric shocks. The monetary policy only reacts when there is a change in the euro-area inflation and output gap. If the shock only affects (a small) part of the area, the aggregate statistics do not change (much), and so the ECB does not react. This is particularly true for the case of the *small countries* of the euro-area. For example, a 1% fall in the German GDP has a much larger impact in the euro-area aggregate than a 1% drop in the Portuguese GDP. Thus a small country that is out of synchrony with the rest of the monetary union suffers from the perverse effects of the single monetary policy: its inflation rate and output gap decline, but as the aggregate euro-area figures do not change, the ECB does not adjust its monetary policy. As a result, a small country affected by a negative asymmetric demand shock faces an interest rate that is higher than it would be if it were a country large enough to influence the monetary union average.[2] Such shocks must therefore be smoothed by the operation of fiscal policy, and by an increase in net exports. Fiscal policy is therefore more important than before, when there were national monetary policies, particularly for small countries.[3]

[1] Under Article 2 of the ECB Statutes, "without prejudice to the objective of price stability" the ECB supports the general economic objectives of the European Community, namely the goal of a high level of employment. So only if it does not endanger the primary objective of price stability could the ECB pursue the stabilisation of the euro-area output gap.

[2] This non-responsiveness of the interest rate increases the real burden of public debt for highly indebted countries.

[3] See Marinheiro (2003) for further details.

III.Empirical evidence on the effective cyclical properties of fiscal policy

The importance of fiscal policy as a counter-cyclical stabilisation means that it makes sense to see whether fiscal policy has in fact been used in Europe with such considerations in mind. It is also very interesting to find out whether the start of EMU has signalled a shift of fiscal policy towards a more counter-cyclical instrument. For this we will empirically test whether the budget balance has reacted positively to the output gap.

A. The empirical specification

If fiscal policy were being used as a pure counter-cyclical instrument to dampen the amplitude of the business cycle, that is if the automatic stabilisers are allowed to work freely over the cycle, we should observe a deterioration of the budget balance during recessions and an improvement during upturns. This implies a positive reaction of the budget balance to the output gap, defined as the difference between current and potential output as a fraction of potential output. However, the working of the automatic stabilisers could be counteracted (or reinforced) by discretionary fiscal policy measures.[4] It is therefore interesting to observe how fiscal policy has been used in practice, and assess the impact of the working of the SGP provisions. We will also assess whether fiscal policy is asymmetric over the cycle, being more relaxed downswings than it is tightened in upswings.

We will try to answer these questions using a panel data econometric approach for 12 European Union countries over the period 1980-2003, estimating the reaction of the fiscal variables to the business cycle, distinguishing automatic reactions from discretionary changes. In practice there are several difficulties in disentangling the automatic fiscal policy variations from discretionary actions. Here we will use the change in cyclically adjusted data as a proxy for discretionary actions.[5] The source of data (including the cyclically adjusted data and the output gap estimate) is the European Commission (2004), and is available in the AMECO database (30-04-2004 version).

Our basis regression for the overall fiscal policy reaction to cycle is

$$\Delta B.Bal_{it} = \alpha_i + \beta.\Delta GAP_{it} + e_{it} \qquad (1)$$

[4] For a discussion about the usefulness and desirability of discretionary fiscal policy, see the excellent surveys by Andersen (2001) and Auerbach (2002).

[5] This is the usual practice according to the literature. The use of primary balance instead of the overall budget balance is motivated by the fact that interest payments are not under the control of the fiscal authorities, but simply reflect the evolution of the interest rate and the past accumulation of budget deficits.

and for discretionary fiscal policy reactions

$$\Delta \mathrm{Prim.Bal}_{it}^{CA} = \alpha_i + \beta.\Delta \mathrm{GAP}_{it} + e_{it} \quad (2)$$

Where $B.Bal_{it}$ denotes the budget balance divided by potential output, for country *i* in period *t;* $Prim.Bal^{CA}$ stands for the cyclically adjusted primary balance as a fraction of potential output, and GAP_t the output gap defined as the difference between current and potential output, divided by potential output.[6] Δ is the difference operator. The parameter β gives an index of how cyclical fiscal policy has been in the past. This basis specification is adapted from specifications used by Wyplosz (2002), Auerbach (2002), and Pina (2004).[7] Following the practice used in this recent literature we will augment those specifications by including the lagged debt ratio. This allows to control for sustainability considerations in the conduct of fiscal policy. We will also estimate similar regressions using public expenditure, and public revenues as dependent variables.

The parameter β gives an index of how cyclical fiscal policy has been in the past. If fiscal policy has been counter-cyclical we would expect expenditure to decline, revenues to increase, and as a result the budget balance also increases when the output gap increases, that is when the economy is in growing. Hence we would expect to find a negative β coefficient in the expenditure equation, and positive coefficients in both the expenditure and the budget balance regressions. To test for asymmetry and for the impact of the introduction of the euro, we will follow Wyplosz (2002) and add adequate interaction terms between the output gap and time dummy variables. To test for asymmetry the gap variable will be interacted with a dummy variable that takes the value 1 when the output gap declines (i.e. in downswings) and 0 otherwise. This allows the gap variable to enter separately when the gap is declining. If in fact fiscal policy is more relaxed in downswings, meaning it has a stronger counter-cyclical reaction to downswings than to upswings, the interacted gap variable has the same sign as the gap itself. To test for the impact of the euro on the cyclical responsiveness of fiscal policy the output gap will be interacted with a dummy variable that takes the value 1 for the period 1999-2003.

[6] Potential output is used as a deflator of all variables, instead of actual output, to reduce endogeneity problems and to minimize the influence of current GDP on the evolution of the fiscal ratios. See Bayoumi and Masson (1995) for a similar use.

[7] An alternative specification is proposed by Lane (2003). See also Galí and Perotti (2003).

B. Empirical results

Table 1 and Table 2 present the results for the unadjusted fiscal variables and for the cyclically adjusted variables, respectively. Results are obtained allowing for different intercepts for each country using a fixed effects (LSDV) estimator. When using fixed effects, the inference is conditional on the particular set of countries and for the specific time periods observed.[8] This is precisely our objective. Another possibility would be to estimate the model using random effects. This would avoid the loss of degrees of freedom implied by the use of fixed effects, and the inference would pertain to the large population from which the sample is drawn. However, this technique is only appropriate if we are drawing the N individuals randomly from a large population. Thus, it is necessary to have a panel representative of the whole population for which we are trying to make inferences. As our population of EU-15 countries is (almost) entirely represented in the sample of 12 European countries, it makes no econometric sense to use a random effects estimator. In short, and in this case, econometric theory clearly points to the use of the fixed effects model.

Column (1) of Table 1 shows the baseline equation for the overall budget balance. According to the estimates *the overall budget balance is counter-cyclical*: an increase of 1 percentage point (p.p.) in the output gap leads to an increase of 0.38 p.p. in the budget balance as a percentage of potential output. Column (2) adds lagged debt ratio as an independent variable. Lagged debt is statistically significant and positive, which implies that sustainability considerations enter the budget process in European Union countries. This effect is always statistically significant in all the different regressions. The output gap coefficient remains statistically significant and barely unchanged with the introduction of this control. Next, in columns (3) and (4), we use appropriate interaction variables to distinguish the cyclical reaction of the budget balance in different sub-periods related to the introduction of the single currency. Phase I of EMU has started in 1992, with the signing of the Maastrich Treaty which imposes a reference value for the deficit. However, in our view it was only in 1995 that most European countries really started the convergence to the 3% limit for the deficit. Hence, we subdivide the run-up period into two sub-periods: 1992-1994 and

[8] See Baltagi (2001).

1995-1999.[9] It might be expected that the convergence criteria would have led to a less counter-cyclical use of fiscal policy. However, our results do not confirm that claim: the estimated coefficients are positive, but not statistically significant. In fact, when disaggregating the deficit variation into its expenditure and revenue components (last two columns), we can see that expenditure has become countercyclical in the 1995-98 period, but the counter-cyclical properties of revenues fell in the same period. As a result the run up to the single currency had a neutral impact on the counter-cyclical properties of fiscal policy.

Table 1- Sensitivity to cyclical conditions - 12 EU countries 1980-2003

Dependent:	Δ Budg. Balance						ΔRev	ΔExp
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
GAP	0.383	0.315	0.238	0.271	0.078	0.05	0.407	0.357
	(3.24)	(2.8)	(1.73)	(2.24)	(0.68)	(0.44)	(3.92)	(1.91)
D92-94*GAP	-	-	0.14	-	-	-	-	-
			(1.25)					
D95-98*GAP	-	-	0.16	0.145	-	0.206	-0.218	-0.421
			(1.01)	(0.93)		(1.71)	(1.26)	(3.07)
D99-03*GAP	-	-	0.346	0.312	-	0.409	-0.033	-0.441
			(1.74)	(1.64)		(1.34)	(0.2)	(1.92)
GAP*Downswing	-	-	-	-	0.416	0.421	-0.231	-0.654
					(1.97)	(1.99)	(1.58)	(2.26)
D95-98*GAP*	-	-	-	-	0.047	-0.237	-0.173	0.055
Downswing					(0.09)	(0.56)	(0.43)	(0.11)
D99-03*GAP*	-	-	-	-	0.274	-0.158	0.448	0.605
Downswing					(1.51)	(0.53)	(2.22)	(2.34)
Lagged debt	-	0.033	0.033	0.032	0.031	0.03	-0.006	-0.036
		(7.91)	(8.51)	(8.38)	(7.13)	(6.8)	(1.32)	(9.7)
R^2	0.16	0.239	0.252	0.25	0.261	0.267	0.259	0.304
Wald test joint	10.48	98.52	190.2	103.8	150.5	742.1	42.37	437.1
	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
AR1 test	0.35	-0.65	-0.49	-0.54	-0.86	-0.67	-0.54	-0.09
	(0.73)	(0.52)	(0.63)	(0.59)	(0.39)	(0.0)	(0.59)	(0.93)

Notes: In parentheses absolute T-stats (based on robust standard errors) for coefficients and p-values for tests. Estimation method is Least Squared Dummy Variables (LSDV), also known as fixed effects estimator, for a panel of 12 European Union member countries over the period 1980-2003: Austria, Belgium, Denmark, Finland, France,

[9] Phase II of EMU started only in 1994, and it was clear to participants that phase III would only start on the date limit imposed by Article 121 of the Treaty (1999).

Germany, Ireland, Italy, Netherlands, Portugal, Greece and UK. Countries were selected according to data availability. Observations start in 1986 for Ireland, and in 1988 for Greece. The source of data is the AMECO database, Autumn 2004 version. PCGIVE based calculations including a constant term (omitted). The AR1 test is asymptotically distributed as N(0,1) under the null of no first order serial correlation. A counter-cyclical fiscal policy implies $\beta_{BBAL} > 0$, $\beta_{REV} > 0$, and $\beta_{EXP} < 0$.

In order to assess the impact of the introduction of the euro, we interacted the gap variable with a dummy for the 1999-2003 period. The coefficient of the interacted gap is positive but is not statistically significant. Hence, it appears that the EMU policy rules have reinforced the counter-cyclical properties of fiscal policy. Such reinforcement appears to be due to a positive impact of such rules on the counter-cyclicality of expenditure. Conversely, the introduction of the euro appears to have no impact on the cyclical properties of public revenues. The overall cyclical reaction of fiscal policy in the euro period would be obtained by adding the gap coefficient to the interacted gap coefficient. However, as the time series dimension of the euro-period sample is still relatively small and the goodness of fit is not high, we decided to test the impact of the euro directly, in a separate regression distinguishing only the pre from the post-euro period. A more definitive conclusion will thus be based on the analysis of those results, shown in Table 3, below.

Column (5) tests for asymmetry in the reaction of fiscal policy. If fiscal policy is more counter-cyclical in downswings than it is in upswings, leading to a non-balanced budget balance over the cycle, we should observe that the interacted gap is of the same sign as the gap itself. Our results suggest that this has been the case for European countries both in the overall period and in the different sub-periods considered. Fiscal policy tends to be more counter-cyclical in downswings than it is in upswings. Column (6) presents all the different effects in the same regression.

Table 2- Sensitivity of CA measures to cyclical conditions -12 EU countries 1980-2003

Dependent:	*Δ CA Primary Balance*						*ΔCA Rev*	*ΔCA Pr.Exp*
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
ΔGAP	-0.109	-0.14	-0.179	-0.161	-0.261	-0.25	0.163	0.409
	(1.93)	(2.7)	(2.69)	(3.08)	(4.69)	(4.74)	(0.97)	(2.65)
D92-94*ΔGAP	-	-	0.076	-	-	-	-	-
			(0.45)					
D95-98*ΔGAP	-	-	0.006	-0.002	-	-0.043	-0.28	-0.234
			(0.05)	(0.01)		(0.42)	(1.57)	(1.46)
D99-03*ΔGAP	-	-	0.202	0.184	-	-0.215	-0.096	0.125
			(1.49)	(1.31)		(0.71)	(0.55)	(0.59)
ΔGAP*Downswing	-	-	-	-	0.179	0.178	-0.396	-0.569
					(1.52)	(1.57)	(1.7)	(2.6)
D95-98*ΔGAP* Downswing	-	-	-	-	-0.119	-0.045	-0.286	-0.204
					(0.26)	(0.1)	(0.71)	(0.4)
D99-03*ΔGAP* Downswing	-	-	-	-	0.378	0.602	0.484	-0.133
					(2.55)	(1.76)	(2.44)	(0.43)
Lagged debt	-	0.015	0.015	0.015	0.014	0.014	-0.007	-0.021
		(3.72)	(3.53)	(3.59)	(1.21)	(4.21)	(1.76)	(7.19)
R^2	0.025	0.049	0.055	0.054	0.066	0.068	0.15	0.205
Wald test joint	3.71	14.19	40.99	41.04	70.67	90.71	36.11	123.9
	(0.05)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)
AR1 test	-0.49	-0.56	-0.5	-0.53	-0.7	-0.83	-0.73	0.352
	(0.62)	(0.58)	(0.62)	(0.6)	(0.49)	(0.41)	(0.47)	(0.73)

Notes: See Table 1. Pr. Exp. stands for primary expenditures. A counter-cyclical fiscal policy implies $\beta_{BBAL} > 0$, $\beta_{REV} > 0$, and $\beta_{EXP} < 0$.

Table 2 shows the estimated results for the discretionary fiscal policy changes. It has exactly the same structure as Table 1, which we have just discussed. Overall discretionary fiscal policy was pro-cyclical in the 1980-2003 period. This pro-cyclicality is mostly due to the strong pro-cyclical behaviour of primary expenditure. With regard to asymmetry over the cycle, and especially for the period after 1999, asymmetric behaviour is also observed. For that period, according to column (5) estimates, during upswings the deficit increases by 0.26 times the change in gap, and in downswings the deficit increases as well, by 0.3 times the absolute change in the gap. Thus, in general, discretionary fiscal policy is pro-cyclical in upswings and counter-cyclical in downswings.

With regard to the impact of the euro the results are not very clear since the coefficients are of the opposite sign of the gap variable, but not statistically significant. We will therefore base our conclusions on the results of Table 3.

Table 3- Impact of the introduction of the euro -12 EU countries 1980-2003

Dependent:	*Δ Budg. Balance*		*Δ CA Primary Balance*	
	(1)	(2)	(3)	(4)
ΔGAP	-	0.078	-	-0.268
		(0.71)		(4.17)
D80-98*ΔGAP	0.28	-	-0.161	-
	(2.46)		(3.36)	
D99-03*ΔGAP	0.585	-	0.023	-
	(2.87)		(0.15)	
D80-98* ΔGAP*Downswing	-	0.415	-	0.239
		(1.98)		(1.65)
D99-03* ΔGAP*Downswing	-	0.689	-	0.361
		(1.98)		(1.52)
Lagged debt	0.033	0.031	0.015	0.029
	(8.08)	(7.28)	(3.91)	(7.34)
R^2	0.248	0.261	0.054	0.123
Wald test joint	99.62	123.1	40.25	88.31
	(0.0)	(0.0)	(0.0)	(0.0)
AR1 test	-0.48	-0.87	-0.53	-1.33
	(0.63)	(0.39)	(0.60)	(0.18)

Notes: See Table 1. A counter-cyclical fiscal policy implies $\beta_{BBAL} > 0$, $\beta_{REV} > 0$, and $\beta_{EXP} < 0$.

Table 3 tests explicitly, and in isolation, the impact of the euro on the cyclical properties of fiscal policy and on the asymmetry of its use over the cycle. As shown in column (1) the overall reaction of the budget balance to the cycle has increased from 0.28 in the 1980-1998 period to 0.585 in the post 1999 period. Consequently, it appears that the EMU rules have reinforced the counter-cyclical properties of fiscal policy, confirming the results in Table 1. This reinforcement is due to a change in the behaviour of discretionary fiscal policy, which has evolved from a clear pro-cyclical behaviour in the period pre-EMU to a broadly neutral cyclical behaviour in the euro period.

The asymmetric reaction of fiscal policy to the business cycle in the 1980-1998 period appears to have been reinforced in the EMU period. This implies that fiscal policy is now more responsive to cyclical downswings than before. Contrary to what might have been expected, discretionary fiscal policy is found to be neutral to counter-cyclical in downturns in the 1999-2003 period.[10] Using a different methodology and data sample, we reach a similar

[10] The conclusion of neutral fiscal stance is due to the non-statistically significant positive coefficient on the interacted gap for the 1999-2003 period.

conclusion to the OECD (2003). Yet our results imply, too, that the SGP provisions are not being enforced symmetrically over the cycle, which is the main source of concern with its formulation, as argued below.

All in all, it appears that the SGP has helped to reinforce the cyclical properties of fiscal policy, leading to greater stabilisation of cyclical fluctuations. However, some care is needed when interpreting these results, as they are based on a very short time period that is less than a full business cycle.[11] Moreover, the results are a panel basis estimation, meaning they are valid for the overall ensemble of countries, but not necessarily to each of them individually. Table 4 presents a summary of our main conclusions so far.

Table 4- Summary table

	Overall	*Euro period 1999-2003*	*Euro period in downswings*
Overall F. P.	Counter	Counter	Counter
Discretionary F. P.	Pro	Neutral	Neutral

Notes: See text for details. Counter refers to a counter-cyclical behaviour, and "pro" to a pro-cyclical behaviour of fiscal policy. The conclusions for the euro period are derived from the results in Table 3.

IV. What went wrong in SGP non-compliant countries?

If according to our results, EMU fiscal rules did not lead to a pro-cyclical fiscal policy how did Portugal, Germany, France and Greece find themselves in an excessive deficit position? According to our previous results, the most probable cause lies in the asymmetry of the use of fiscal policy over the cycle. If, in fact, the deficit is not substantially reduced during upswings, when in downswings there is no room for the full working of automatic stabilisers without breaching the 3% reference for the deficit. As discretionary fiscal policy was not used to counteract the working of the automatic stabilisers, but evolved to a neutral stance after the introduction of the euro, the reference value was violated in countries that did not sufficiently reduced the deficit during the last upswing.

In order to find out whether our conjecture describes the reality properly we collected data on the change in the fiscal variables (expressed as ratios to GDP) during the four years of economic upswing before the start of the excessive deficit procedure. [12] The results are shown in Table 6. Table 5 summarizes the ongoing excessive deficit procedures for EU15 member states. The excessive deficit procedure was initiated for five euro-area countries, and

[11] The results are based on a total of 60 observations of which 37 are downswings.

[12] Besides the three countries mentioned in the text, Greece has also been in violation of SGP dispositions since at least 2000. But this was only known in 2004, after a major statistical revision. As Greece's data is still subject to further revisions we chose not to analyse it.

come to abrogation in Portugal. Italy received an early warning that was refused by the European Council. Germany and France did not follow the Council decisions.

Table 5- Ongoing excessive deficit procedures for EU15 countries

	Commission report	*Council decision*	*Abrogation*	*Budget deficit (%GDP)*					
				Year t	t-1	t	t+1	t+2	Δ% GDP_t
Portugal	24/09/2002	5/11/2002	11/05/2004	2001	2.8	4.4	2.7	2.8	1.6
Germany	19/11/2002	21/01/2003	-	2002	2.8	3.7	3.8	3.9	0.1
France	02/04/2003	03/06/2003	-	2002	1.5	3.2	4.1	3.7	1.2
NL	28/04/2004	02/06/2004	-	2003	1.9	3.2	2.9	2.4	-0.9
UK[a)]	28/04/2004	-	a)	2003	1.7	3.3	2.8	2.6	2.2
Italy[b)]	28/04/2004	b)	b)	2004	2.4	3.0	3.0	3.6	1.3
Greece	15/05/2004	05/07/2004	-	2000 c)	3.4	4.1	3.7	3.7	4.5

Notes: Dates in the format dd/mm/yy. a) Commission considered the excess over the reference value "likely to be small and temporary", hence not prefiguring an excessive deficit. b) For Italy the Commission proposed an early warning that was closed by the Council in 5/7/2004. c) As noted before, the Greek excessive deficit in 2000 was only noticed in 2004 following a revised notification of deficit and debt data for 2003. According to the Eurostat report of 22/11/2004, Greece has never fulfilled the convergence criteria for entering the euro. The numbers presented in the table are still subject to further upward revisions. Values for 2004 are Commission forecasts.

Table 6- Evolution of fiscal variables in "good times"- GDP ratios

	1997-2000 Accumulated change in:									
	Raw data					*Cyclically adjusted data*				
	B. Bal	Prim. Bal.	Rev.	Prim. Exp.	Interest	B. Bal.	Prim. Bal	Rev	Prim. Exp.	Highest B. Bal.
Portugal	0.8	-0.3	1.1	1.4	-1.0	-0.7	-1.7	0.0	1.8	-3.4 [a)]
Germany	4.0	3.8	0.5	-3.3	-0.3	0.4	0.2	-0.6	-0.8	-1.3 [b)]
France	1.6	1.2	-0.7	-1.8	-0.5	0.1	-0.4	-1.9	-1.5	-2.0 [b)]

Notes: "Good times" are defined as years in which the change in the gap is positive. In both France and Germany there is a deterioration of the output gap in the year before the breach of the 3% threshold for the deficit. a) 1997; b) 1999. Source: AMECO, Autumn 2004.

As shown in Table 6, the three early non-compliant countries present some different immediate reasons for breaching the 3% threshold, but a somewhat common pattern in the cyclically adjusted budget balance: none of them was able to reach a balanced fiscal stance during the last upswing. In contrast, other European countries were able to reach balance or even show a surplus in the cyclically adjusted budget balance in the early 2000s.[13] The list of countries that present a surplus include all the Nordic countries, which are characterised by having large automatic fiscal stabilisers. It thus seems that the three first countries to show

[13] According to the Commission's estimates other countries reach a balanced or had a surplus fiscal stance in the following years: Austria in 2001; Belgium in 2001-2004; Denmark in 2000-2004; Finland in 2000-2004; Ireland in 2000 & 2003; the UK in 2000-2001; Spain in 2002-2004; and Sweden in 2000-2004.

an excessive deficit have not created enough room for the working of automatic fiscal stabilisers in downswings without causing the deficit to soar above the 3% limit.

With regard to the particular circumstances of each country, Portugal presents the smallest reduction in the deficit of all three countries considered, which is only explained by the reduction in interest outlays. It is the only one of the three countries that increased primary expenditure. Of the three, Germany shows the greatest improvement in the budget balance. However, the cyclically adjusted improvement in budget balance is just 0.4% of GDP and there is a discretionary reduction in tax revenue. The breaching of the 3% deficit limit in 2002 is mostly explained by a discretionary reduction in the tax revenue, in an attempt to counteract the slowdown of the economy. The French 3.2% deficit in 2002 appears to be the result of important discretionary tax cuts, not accompanied by a sufficient cut in spending (the cyclically adjusted budget revenue fell by 1.9% of GDP in the 1997-2000 period).

In short, all three countries failed to move into a balanced fiscal stance during the last economic expansion, which led to a violation of the SGP's rules during the subsequent downswing in activity. These case studies thus clearly illustrate our earlier conclusion that the SGP rules are not being effectively enforced symmetrically over the cycle. Based on these results we will now derive some implications for the ongoing discussion regarding the reform of the SGP.

V. Some implications for the reform of the SGP

The SGP has been controversial ever since its creation. However, the criticism over its usefulness became more intense in 2002 when four euro-area economies, namely Germany, Portugal, France and Italy, had difficulties in meeting the SGP requirements. The difficulties of the two large euro-area countries in coping with the SGP requirements have also increased the political debate on the need to reform the SGP. Buti, Eijffinger *et al.* (2003) present the latest comprehensive European Commission's defence on the need for just minor upgrading in the SGP provisions. Based on our previous analysis of the cyclical properties of fiscal policy we will offer some suggestions for improving the SGP provisions.

We will not address the main issue of the appropriateness of using an annual deficit ceiling to attain the long-term debt sustainability. Instead, we will focus our attention on the fact that the SGP works asymmetrically over the business cycle. The Pact enforces (at least for small countries) the 3% deficit ceiling in downturns but does nothing to prevent a pro-cyclical deficit bias (increase in expenditure and tax cuts) during economic upswings. This in turns leaves no room for manoeuvre for the automatic stabilisers to operate during the

periods of slow or negative growth that might follow. Consequently, in order not to breach the 3% deficit ceiling, governments that have previously opted for a pro-cyclical behaviour must continue to follow a pro-cyclical fiscal policy retrenchment during recessions, counteracting the working of the automatic stabilisers and extending the length of the periods of slow growth. Recent events in Portugal are a good example of such behaviour.

To prevent the SGP from giving a wrong incentive for (some) countries to continue to pursue pro-cyclical fiscal policies, the SGP rules must be made symmetric over the cycle, binding both in upswings and downturns. To accomplish this, it is necessary to "force" governments to cut deficits during economic upswings, resisting tax cuts and expenditure increases when the economy is growing. This clearly requires that the yearly definition of the appropriate deficit target is made by an independent technical body. There are however several practical difficulties involved:

a) First, such an exercise implicitly requires the calculation of the cyclically adjusted budget balances (fiscal stance). This calculation is not straightforward. Firstly, it requires several assumptions on the elasticity of the budget variables to the cycle.[14] Secondly, it requires the correct estimation of the precise phase of the business cycle that the economy is in. Due to the known limitations of the widely used filters, such as the end-point bias of the Hodrick-Prescott filter, the calculation of the output gap for the current year is subject to very important revisions when new data becomes available. So this technical difficulty of properly identifying the actual position of the business cycle, makes it difficult to set a concrete deficit target on an annual basis. Nevertheless, such calculations do give an important sign of the road to follow.

b) In order to "politically force" governments to comply with such technical budget deficit targets, the calculation must be done by an independent and technically credible body. Possible candidates are the European Commission or the creation of independent (technical) fiscal policy councils at national level. The subsidiarity principle and political resistance to increasing the Commission's powers, makes it politically more viable to grant such powers to independent national councils. See for instance the recent proposals for "National Fiscal Councils" by Eichengreen, Hausman *et al.* (1999), "Fiscal Policy Committees" by Wyplosz (2002) or a "Wise Persons Committee" by Pina (2004). The proposals differ in the amount of fiscal power delegated to the committees, but they agree on the mandate for ensuring debt sustainability.

c) The enforcement of such targets is a clear political problem. Traditionally the tax and spending power is in the jurisdiction of national Parliaments. Political agents will resist anything that might limit their ability to influence the political business cycle, making the enforcement of such arrangement a very delicate issue. Then again, a "name and shame"

[14] See Van Den Noord (2002) for a discussion on the limitation of OECD calculations.

strategy by the independent technical councils relative to undisciplined governments will certainly make fiscal policy work better than in current arrangements.

To sum up, it is very difficult to remove political considerations from the operation of fiscal policy, which is the only macroeconomic instrument still in the control of national governments. It is not politically conceivable that fiscal policy will be delegated to an independent institution, mimicking the (successful) conduct of monetary policy in the recent years. However, from an economic point of view it is desirable that fiscal policy should work as a counter-cyclical device, smoothing output fluctuations, especially the fluctuations due to asymmetric demand shocks. Therefore, it is necessary that fiscal policy works symmetrically over the cycle, decreasing the budget balance (increasing the deficit) during "bad times" and increasing it during "good times". Put differently, room has to be created for manoeuvre so that the automatic fiscal stabilisers can work freely over the full business cycle. To increase the probability of such an outcome, a deficit target based on these technical considerations should be announced by an independent trusted body, and this should be incorporated in the next reform of the SGP.

VI. Concluding remarks

We have analysed the cyclical properties of fiscal policy for a panel of 12 European Union countries over the period 1980-2003. We conclude that the overall budget balance has been counter-cyclical. In contrast, discretionary fiscal policy is found to be pro-cyclical, reducing the effectiveness of the automatic stabilisers at smoothing output fluctuations.

We conclude that the operation of the fiscal rules of the EMU, namely, the SGP provisions, has improved the counter-cyclical properties of fiscal policy, especially during downswings in economic activity.[15] In the period following the introduction of the euro, discretionary fiscal policy has ceased to be pro-cyclical, reinforcing the counter-cyclical behaviour of fiscal policy. This is an interesting result that goes against what might have been expected. However, we should point out that some care is needed in the interpretation of this result, since the time period is still short. Moreover, the validity of this result for the ensemble of the 12 countries examined does not imply its validity in each of them individually.

All in all, EMU fiscal rules had a positive impact on the counter-cyclical properties of fiscal policy. However, our results also show that such rules are not being symmetrically applied over the cycle. This means that fiscal policy is more expansive in downswings than it is tightened in upswings. This is a serious reason for concern because this behaviour leads to

[15] This conclusion is in line with those of Galí and Perotti (2003).

an insufficient deficit reduction in "good times", thus failing to create room for the full operation of automatic stabilisers in "bad times", unless countries do not comply with the 3% deficit ceiling or resort to one-off measures. The case studies of Portugal, Germany and France illustrate our concern. In our view, the breaching of the deficit limit by these countries was the result of an insufficient improvement in the fiscal stance during the previous economic upswing: unlike other countries, none of these three countries reached a balanced fiscal stance in the early 2000s.

Based on the above conclusions, we have derived implications for the ongoing debate on the reform of the SGP. We argue that special attention should be given to making the SGP rules symmetric over the cycle, binding in both upswings and downturns. In order to achieve such an outcome we favour the creation of independent (technical) fiscal policy councils at national level that would set the appropriate deficit targets on an annual basis. The purpose would be to ensure debt sustainability, while simultaneously permitting the symmetric behaviour of fiscal policy over the cycle, creating room for the operation of the automatic fiscal stabilisers.

References

ANDERSEN, T. M. (2001), "Stabilization Policy", *University of Aarhus, unpublished manuscript*, June.

AUERBACH, A. J. (2002), "Is There a Role for Discretionary Fiscal Policy?" *NBER Working Paper*, No. 9306.

BALTAGI, B. H. (2001), *Econometric Analysis of Panel Data*, 2nd edition, Chichester: Wiley & Sons.

BAYOUMI, T. and P. R. MASSON (1995), "Fiscal Flows in the United States and Canada: lessons for monetary union in Europe", *European Economic Review*, 39, 253-274.

BUTI, M., S. EIJFFINGER and D. FRANCO (2003), "Revisiting the Stability and Growth Pact: grand design or internal adjustment", *European Economy, European Commission Economic Papers*, No. 180, January.

EICHENGREEN, B., R. HAUSMAN and J. VON HAGEN (1999), "Reforming Budgetary Institutions in Latin America: the case for a National Fiscal Council", *Open Economies Review*, 10, 415-442.

EUROPEAN COMMISSION (2004), "Cyclical Adjustment of Budget Balances", *ECFIN/175/2004-EN*, Autumn. http://europa.eu.int/comm/economy_finance/index_en.htm.

GALÍ, J. and R. PEROTTI (2003), "Fiscal policy and monetary integration in Europe", *Economic Policy*, 37, October, 533-572.

LANE, P. R. (2003), "The Cyclical Behaviour of Fiscal Policy: evidence from the OECD", *Journal of Public Economics*, 87(12), 2661-2675.

MARINHEIRO, C. (2003), *EMU and Fiscal Stabilisation Policy: the case of small countries*, Ph.D. dissertation, No. 179, Leuven: Katholieke Universiteit Leuven.

OECD (2003), "Fiscal Stance Over the Cycle: the role of debt, institutions, and budget constraints", *OECD Economic Outlook*, 74(Chapter IV), December.

PINA, Á. (2004), *Fiscal Policy in Portugal: Discipline, Cyclicality and the Scope for Expenditure Rules*, proceedings of the 2nd Conference on Portuguese Economic Development in the European Context, held by the Bank of Portugal in Lisbon, 11-12 March 2004, forthcoming.

VAN DEN NOORD, P. (2002), "Automatic Stabilisers in the 1990s and Beyond" *in* M. Buti, J. von Hagen and C. Martinez-Mongay (eds.), *The Behaviour of Fiscal Authorities*, Palgrave, Chapter 8.

WYPLOSZ, C. (2002), "Fiscal Discipline in EMU: Rules or Institutions?" *Paper prepared for the April 16, 2002 meeting of the Group of Economic Analysis of the European Commission*. http://heiwww.unige.ch/~wyplosz/.