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How Successful Has the Stability and Growth Pact Been? An Empirical Analysis

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Summary: Prior to EMU, fiscal policy within the EU was disciplined by the threat of exclusion of the single currency; post-EMU, discipline has been exerted through the provisions of the Stability and Growth Pact. In this paper, we contrast the discipline induced by the two separate regimes on three specific criteria: the probability of violating the 3% deficit limit, the probability of commencing a budgetary consolidation, and the longevity of a budgetary consolidation once undertaken. We find that the run-up to EMU did lead to a marked increase in the probability of commencing consolidations. However, once inside EMU, this discipline gradually slipped – with the longevity of consolidations being reduced year on year, and the probability of violating the 3% limit rising year on year. By 2004, the cumulative slippage meant that the initial disciplinary benefits of joining the Euro were completely eroded. Growth accounting analysis reveals that the source of the problem was the reliance on growth to meet budgetary targets and a corresponding failure to build up adequate surpluses at the top of the cycle.

Zusammenfassung: Vor dem Beitritt zur EWU wurde die Fiskalpolitik durch den möglichen Ausschluss einer einzelnen Währung diszipliniert. Nach dem Beitritt erfolgt diese Disziplinierung durch den Stabilitäts- und Wachstumspakt. Im vorliegenden Aufsatz wird die in beiden Regimen ausgeübte Disziplinierung an drei verschiedenen Kriterien überprüft: der Wahrscheinlichkeit, das 3 %-Kriterium zu verletzen, der Wahrscheinlichkeit, eine Konsolidierung einzuleiten, sowie der Langlebigkeit einmal unternommener Konsolidierung. Im Vorlauf zur EWU stieg die Wahrscheinlichkeit, Konsolidierungen einzuleiten. Waren die Länder jedoch erst einmal aufgenommen, sank die Disziplin deutlich, die Nachhaltigkeit der Konsolidierung nahm ab, und die Wahrscheinlichkeit für die Verletzung des 3 %-Kriteriums stieg. Im Jahre 2004 waren die disziplinierenden Vorzüge des Beitritts zur EWU aufgebraucht. Die Analyse zeigt, dass die Quelle des Problems darin lag, auf Wachstumseffekte zur Konsolidierung gebaut und keine angemessenen Überschüsse in der Hochphase des Konjunkturzyklus erzielt zu haben.

1 Introduction

The need for fiscal discipline to ensure to the stability of the Euro has been a key consideration in shaping the institutional architecture of EMU. From an academic perspective, there was concern that excessive debts could create pressure on the monetary authorities to generate inflation, or bail-out countries in trouble, compromising the banks independence, and their remit to ensure price stability. This concern was mirrored by the general public. In countries such as Germany, the stability of currencies was seen to be due to fiscal discipline, and therefore, the public required reassurance, that the single currency would not be jeopardised by the indiscipline of one or more states.

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The convergence criteria of the Maastricht Treaty which governed entry to the single currency, required that government borrowing be less than 3% of GDP and that total government debt be less than 60% (or converging to that level at a satisfactory pace). The deficit stipulation enshrined in the article 104c of the treaty is ongoing, meaning that all EMU participants are theoretically bound to keep deficits below 3% of GDP. In the run-up to EMU, the enforcement of this rule was achieved through the threat of being excluded from the single currency; since the currencies launch, this requirement has been enforced through the strictures of the Stability and Growth Pact, which specifies the disciplinary process and possible eventual punishment of countries who have exceeded the 3% limit.

In a historical perspective, the run-up to EMU was characterized as a period of general consolidation, with many countries engaging tough measures to ensure their public finances met the Maastricht criteria. Since the launch of the single currency however, there has been much concern, both academic and popular, about the possible deterioriation of public finances.

Our goal in this paper is to provide an account of fiscal discipline which is narrative, quantitative and comparative. *Narrative*, in the sense that we aim to describe what characterise what happened in Europe over the period 1991–2003; *quantitative* in the sense that we wish to put place a numerical value on the trends, as opposed to conducting a purely qualitative analysis; and lastly, *comparative***,** because we wish to explicitly compare the pre-EMU epoch, with the period since the launch of the single currency.

We do this by looking at three particular indicators. First, we consider the probability of undertaking a fiscal consolidation, second we examine the longevity of consolidations once undertaken, and third, we examine the probability of a deficit violating the 3% reference value, which was a feature of both epochs. In each case, we aim to control for all *economic* factors which might affect fiscal policy at any given time. We assume that the behaviour which cannot be explained by these economic factors but which is picked up by time specific variables is due to the effects of the institutional structure prevalent at this time.[1] We then examine the SGP era in more detail by analysing fiscal policy, year by year in EU members over the period 1999–2002. The final part of the article is given to a discussion of our results, and their implications for policy.

Our research suggests that the SGP has largely failed to discipline governments. The bulk of the budgetary improvements seen in Europe were achieved in the run-up to EMU, as part of a drive to meet the Maastricht criteria, rather than after the launch of the Euro. Since 1999 there was a gradual slippage of discipline, such that by the time of the de facto abandonment of the SGP in November 2003, the was already largely dead as a means of disciplining governments.

2 Budgetary Consolidation

In this section we analyse both the likelihood of starting a fiscal consolidation, and the factors affecting its longevity. We do the former by means of a *probit regression,* a statisti-

1 For a more detailed and technical analysis, see *Fiscal Policy in the EU: An Evidence Based Analysis*, by Hughes Hallett, Lewis and von Hagen (2004), from which the quantitative analysis in this paper is taken.

cal technique which enables us to estimate the probability of a country commencing a consolidation, in a given year. We include various economic variables, alongside variables which capture the institutional structure, to come up with a variable between 0 and 1 which shows the probability of commencing a consolidation. Longevity of consolidations is done using *hazard rate analysis*. This predicts the probability of a consolidation ending in a given year. We include similar variables to the first case, to come up with an equation which describes the various factors governing the probability of a consolidation ending.

In each case we conduct the analysis in three forms – using levels of variables, lags of the variables, and the change (first difference) of each variable. The levels regressions are intended to show the basic impact of a variable on the probability of a consolidation; but lagged regressions are also included to take into account the fact that policy responses to a given situation may be delayed due to information problems, implementation problems or for other reasons. Rates of change are considered because much economic theory says that the rate of change of variables such as economic growth, may be more important in determining the solvency of public finances than their levels.

For the purposes of this analysis, we use the following definition of "fiscal consolidation" taken from von Hagen et al (2002). A fiscal consolidation is defined as an episode in which the governments budget balance (after allowing for the influence of the economic cycle), at least 1.25% of cyclically adjusted GDP in two consecutive years; *or* if the change exceeds 1.5% in one year, but was positive in both the preceding and following year. A consolidation episode is said to be "ongoing" for as long as the budget balance stands at no less than 75% of the balance in the first year of the consolidation episode.

2.1 The Probability of Commencing a Consolidation

Looking at data from 1960–2002 we can consider the period between the signing of Maastricht Treaty and the start of EMU in historical perspective (Table 1). We find that the run-up to EMU (1991–1998) was indeed characterised by a markedly higher probability of commencing a consolidation. This backs up the view that one benefit of the process of monetary union was that it led to a significant improvement in public finances. This is also reflected in an analysis of the period 1992–2002, as shown in Table 2. Interestingly, we find that during the period 1999–2002, countries were actually *less* likely to commence a consolidation than in the 1960–2001 period.

In each regression we allow for the possible effects of initial debt ratios, economic conditions and other factors- therefore it cannot be argued that the reduced probability of commencing a consolidation simply reflects a harsher economic climate in the late 1990s, or that member states had done the hard work already. If we conduct our analysis using data from 1991–2002, we find an even more marked contrast between the two epochs, as the size of the "Maastricht Effect" doubles.

Monetary policy has no role in explaining the likelihood of consolidation in this regression; and neither does the EU output gap, or the EU's general fiscal stance. However, the negative co-efficient on the SGP dummy demonstrates that the post 1998 period is still associated with a lower probability of starting to consolidate, suggesting that incentives were weaker once EMU had started. In both this and the previous section we see that the post-1999

Table 1

Initial Conditions for Commencing a Consolidation
1960–2002

Variable	Levels		Lags		First Difference	
Debt Ratio	0.003	(1.57)	0.0020	(0.45)	–0.042	(–2.16)**
Cyc Adj Deficit	0.066	(3.16)**	–0.1240	(–4.69)***	Not included	
Dom. Output Gap	0.037	(1.08)	0.0970	(1.98)**	–0.121	(–2.64)***
EU Output Gap	–0.029	(–0.40)	–0.1470	(–1.13)	–0.004	(0.963)
FSEU	–0.040	(–3.62)***	0.0040	(0.30)	0.027	(3.08)***
SGP	–0.533	(2.15)**	–0.7050	(–0.40)	–0.502	(–2.25)**
Maastricht	0.082	(0.184)	0.4770	(3.04)***	0.203	(1.36)
Real Interest Rate	–0.031	(–1.52)	0.0312	(1.32)	–0.003	(–0.07)
Pseudo R^2		**0.09**		**0.10**		**0.07**

Numbers in parentheses are t ratios.
First Difference of cyclically adjusted deficit is excluded because of close collinearity with definition of consolidation.
*, **, *** indicate that the co-efficient is significantly different from zero at the 1%, 5% and 10% significance levels, respectively.

Sources: European Commission: Statistical Annex of European Economy, Autumn 2003; authors' own calculations.

period was one of less consolidation, suggesting that the SGP failed to encourage governments to undertake necessary fiscal consolidations.

Splitting up the sample between those countries who were committed to joining the single currency – the "Ins"– and the UK, Denmark and Sweden who were not – the "Outs"– gives further support for the "Maastricht Effect", as shown in Table 3. First, we find that the increased likelihood of consolidations between 1991 and 1998 only shows up for the "Ins". Second, by contrast for the "Outs", economic factors explain far more than for the "Ins"–

Table 2

Initial Conditions for Commencing a Consolidation
1992–2002

Variable	Levels		Lags		First Difference	
Debt Ratio	–0.007	(–2.55)**	0.0070	(1.42)	–0.069	(–1.96)**
Cyc Adj Deficit	0.141	(3.99)***	–0.1390	(–2.20)**	Not included	
Dom. Output Gap	0.128	(1.98)	0.0680	(1.24)	–0.074	(–0.59)
EU Output Gap	0.895	(–0.43)	–0.1710	(–0.77)	–0.072	(–0.35)
FSEU	0.451	(1.03)	–0.0600	(–1.40)	0.048	(1.89)*
SGP	–0.695	(–1.07)	–0.8540	(–2.25)**	–0.682	(–2.24)**
Real Interest Rate	0.049	(0.51)	–0.0360	(–0.74)	0.035	(0.69)
Pseudo R^2		**0.1604**		**0.1392**		**0.1501**

Numbers in parentheses are t ratios.
First Difference of cyclically adjusted deficit is excluded because of close collinearity with definition of consolidation.
*, **, *** indicate that the co-efficient is significantly different from zero at the 1%, 5% and 10% significance levels, respectively.

Sources: European Commission: Statistical Annex of European Economy, Autumn 2003; authors' own calculations.

Table 3

EMU Participants vs. Non-Participants
1992–2002

Variable	Levels		Lags		First Difference	
	INS	OUTS	INS	OUTS	INS	OUTS
Debt Ratio	–0.007**	–0.029	0.015**	0.029	–0.617**	–0.151
Cyc Adj Deficit	0.142	0.106	–0.305**	–0.290***	Not included	
Dom. Output Gap	0.112	0.627	–0.003	0.527***	–0.986	0.411***
EU Output Gap	–0.112	–0.251	0.043	–0.742	–0.122	–0.397
FSEU	0.034	0.151	–0.027	–0.185	0.045	0.106***
SGP	–0.805	–0.827	–0.918**	–0.429	–0.643**	–0.398
Real Interest Rate	0.021	0.246	–0.098	0.046	–0.179	0.252***
Pseudo R^2	**0.1486**	**0.3170**	**0.2043**	**0.2454**	**0.1629**	**0.2515**

Numbers reported are regression co-efficients.
First difference of cyclically adjusted deficit is excluded because of close collinearity with definition of consolidation.
*****, ******, ******* indicate that the co-efficient is significantly different from zero at the 1%, 5% and 10% significance levels, respectively.

Sources: European Commission: Statistical Annex of European Economy, Autumn 2003; authors' own calculations.

suggesting that the drive for consolidation was predominantly driven by the political will to join the single currency.

2.2 The Longevity of Consolidations

Starting a consolidation is one thing, but its success is also dependent on how long it persists for. In this section, we pick out those periods in which a consolidation is ongoing, and consider the factors which affect the probability of it ending.

In this section, we test (and find support) for, more complicated time effects than a simple step change between the two epochs. We allow for the possibility of a time trend effect, meaning that the change in fiscal discipline may be declining/increasing year on year. Results are presented in Table 4.

Our results indicate that, in all cases, there is "consolidation fatigue"– meaning that (other things being equal), the longer a consolidation has been ongoing, the more likely it is to end. Interestingly, the results also suggest relatively little role for economic factors once a consolidation has been started. Only the first difference in the output gap appears to have a significant effect – indicating that a sudden fall in output tends to hasten the end of a consolidation spell (i.e. the hazard rate rises).

Comparing the different epochs, we find that in the run-up to EMU there was no increased persistence of consolidations. Thus the entire fiscal consolidation observed in this period, was due to more consolidations, rather than longer consolidation spells. The situation after the launch of the single currency is a little more complex. This is shown graphically in Figure 1.

Table 4

Accompanying Factors and Consolidation Hazards

Variable	Levels		Lags		First Difference	
Constant	–3.104	(–9.23)***	–3.077	(–9.45)***	–3.359	(–12.77)***
Debt Ratio	–0.002	(–0.49)	–0.003	(–0.72)	0.039	(1.63)
Dom. Output Gap	0.055	(1.00)	–0.022	(–0.45)	–0.173	(1.88)*
EU Output Gap	–0.079	(–0.73)	–0.094	(0.80)	–0.162	(–1.31)
FSEU	–0.022	(–1.55)	0.002	(0.23)	–0.015	(–1.41)
Real Interest Rate	–0.051	(–1.32)	–0.049	(–1.43)	–0.005	(–0.11)
Maas	0.641	(–1.32)	0.468	(0.65)	0.112	(0.14)
Pre-EMU trend	–0.192	(–1.01)	–0.166	(–0.91)	–0.133	(–0.65)
SGP	–1.596	(–2.49)**	–1.502	(–2.23)**	–1.53	(–2.54)**
Post-EMU trend	0.441	(2.79)***	0.449	(2.51)**	0.499	(3.16)***
ρ	2.490	(11.27)***	2.480	(12.75**)	2.410	(11.63)***
Chi-Square	**20.87****		**16.54***		**26.99****	

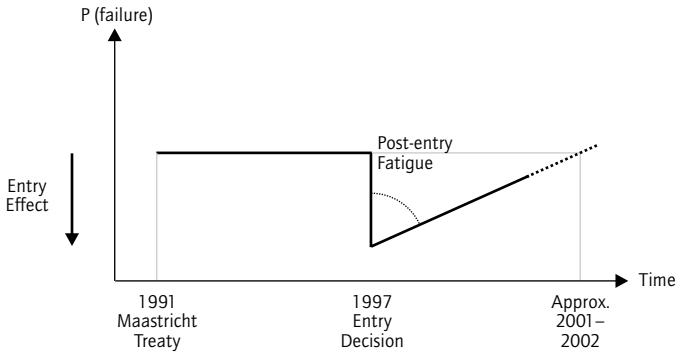
Numbers in parentheses are t ratios.
The depedent variable is the probability that the current period is the last in this consolidation.
*, **, *** indicate that the co-efficient is significantly different from zero at the 1%, 5% and 10% significance levels, respectively.

Sources: European Commission: Statistical Annex of European Economy, Autumn 2003; authors' own calculations.

We find that of the consolidations that were ongoing at the time, there was a sudden boost to their longevity in 1998 coinciding with the decision on whether each country had made the Maastricht Criteria. This is consistent with the view that countries made determined efforts to get under the 3% limit at the moment the criteria were assessed. However, following the entry decision, we see a gradual unwinding of this effect. Comparing the size of the parameters, we are able to calculate how many years it would take for the post-1997 slippage to have completely eroded the one-off step effect. We find that within four or five years – i.e. by 2001–2002 – fiscal consolidations are no more longer lived than they were prior to the EMU process. In other words, by 2003 the SGP exerted no significant effect on the longevity of consolidations.

Figure 1

The Maastricht Effect and Post-Entry Fatigue



Source: Calculations in Table 4.

2.3 Small versus Large Countries

The issue of country size has attracted considerable attention (and acrimony) in the debate on fiscal discipline. In particular, the issue of France and Germany's fiscal performance has led to criticism from some quarters that larger countries, those with more political influence. Small countries for their part, often feel that they have made more effort to act with discipline but suffer because they have little control over their own fiscal base.

Tables 5 and 6 show the size of fiscal consolidations achieved in big and small states in the EU over the period 1992–1997 and 1997–2002.

Several comments apply. First, the increase in debt in the earlier 1990s is mainly driven by increasing public sector debt ratios in the five larger states (France, Germany, the UK, Italy and Spain). But the reductions post-1997 clearly come from the smaller states (Belgium, Denmark, Finland, Greece Ireland and Italy).

Second, the intermediate states have behaved more like small states, suggesting that there is a clear contrast in fiscal behaviour between larger countries and smaller countries. Fiscal restraint is clearly more effective in smaller states. The explanation for this is that, with fiscal policy being conducted at the national level, the effectiveness of any fiscal consolidation programme must depend on peer pressure and on the possibility that excessive deficit countries might be excluded from future decision making. In the SGP, where fines are administered by a council in which sinners sit in judgement on sinners, larger countries may think that they are too large to be allowed to fail – or that it would cost the others too much if they did fail. In that case, they would be immune from such pressures; and they will tend to flout

Table 5

Country Debt Ratios in EU Member States, 1992–1997

As % of GDP

	Change in Debt Ratio
All EU countries	**15.8**
Small countries	3.3
Intermediate countries	4.1
Large countries	18.1

Large countries are: France, Germany, Italy, UK and Spain.
Intermediate countries are: Austria, Belgium, Netherlands and Sweden.
Small countries are: Denmark, Greece, Ireland, Finland, Luxembourg and Portugal.

Source: OECD Economic Outlook.

Table 6

Country Size and Average Fiscal Stance, 1997–2002

In %

	Average Deficit	Change in Debt Ratio
All EU countries	**–0.1**	**–10.3**
Small countries	+1.0	–10.6
Intermediate countries	+0.0	–13.0
Large countries	–1.5	–7.7

+ in the deficit column denotes a surplus.

Source: OECD Economic Outlook.

the rules when smaller countries cannot. Similarly all countries may fear that they will be next in line for sanctions when those judgements are made, and will not push for sanctions in the current case. In addition, smaller countries may fear that they have more to lose from the spillovers caused by larger neighbours being pushed further into recession by sanctions imposed on bad behaviour.

Third, and most important, this finding has the awkward implication that fiscal discipline is most effective in the smaller states where it matters least. A fiscal or a sustainability crisis in the smaller EU states representing just 8–20% of the total EU GDP is not likely to threaten the economic stability of the whole zone or its currency. However, a sustainability crisis in one of the larger states certainly could. But here the fiscal restraints appear to have been much less effective, both in getting consolidations going and in the size of their achievements.

3 Fiscal Policy and the 3% Deficit Limit

We now consider fiscal policy in terms of the 3% deficit yardstick, specifically the likelihood of budget deficits breaching the 3% limit. Whilst the SGP does not prohibit deficits in excess of 3%, the 3% limit does provide a trigger for the so called "Excessive Deficit Procedure", designed to prevent unsustainable fiscal policies. In this way, it provides a useful benchmark for proxying fiscal health, since it embodies a key objective of the current institutional framework. In addition, we may compare the two different epochs to evaluate their success at enforcing the same 3% limit. The regression results are presented in Table 7.

We observe that a high debt ratio increases the probability of violating the 3% limit in all three regressions. Conversely, a (cyclically adjusted) budget surplus reduces the probability

Table 7

Factors Affecting 3% Budget Violation
1960–2002

Variable	Levels		Lag		First Difference	
Debt Ratio	0.065	(5.43)***	0.034	(6.46)***	0.1760	(5.31)***
CA. Bud Bal	–0.870	(–6.13)***	–0.527	(–7.32)***	0.0231	(0.49)
Dom. Output Gap	–0.394	(–4.02)***	–0.227	(–3.65)***	0.0800	(1.87)*
EU Output Gap	0.110	(0.67)	–0.018	(–0.13)	0.0540	(0.84)
FSEU	0.040	(3.42)***	–0.009	(–0.64)	0.0090	(1.72)*
Real Interest Rate	0.047	(0.97)	–0.009	(–0.24)	–0.0040	(–0.16)
Maastricht	–0.064	(0.16)	1.126	(2.64)***	0.4390	(0.99)
Pre-EMU Trend	–0.793	(–1.00)	–0.292	(–2.97)***	0.0160	(0.843)
SGP	–3.250	(–6.04)***	–3.130	(–5.09)***	–2.780	(–3.85)***
Post-EMU Trend	0.385	(3.19)***	0.448	(3.40)***	0.4190	(–3.00)***
Pseudo R^2	**0.7126**		**0.5931**		**0.3039**	

Numbers reported are regression co-efficients, numbers in parentheses are t ratios.
The dependent variable is now the probability of violating the SGP's 3% deficit limit in the current period.
, **, ** indicate that the co-efficient is significantly different from zero at the 1%, 5% and 10% significance levels, respectively.

Sources: European Commission: Statistical Annex of European Economy, Autumn 2003; authors' own calculations.

Table 8

Factors Affecting 3% Budget Violation: EMU Participants
1991–2002

Variable	Levels		Lags		First Difference	
Debt Ratio	0.065	(5.43)***	0.034	(6.46)***	0.1760	(5.31)***
Debt Ratio	0.126	(4.42)***	0.022	(2.32)**	0.359	(2.94)***
CA. Bud Bal	–2.249	(–5.26)***	–0.583	(–4.44)***	–0.366	(–3.03)***
Dom. Output Gap	–1.061	(–4.59)***	–0.199	(–1.84)*	–0.201	(–1.66)*
EU Output Gap	0.635	(1.72)*	–0.214	(–0.85)	0.802	(1.65)*
FSEU	0.093	(2.30)**	–0.072	(–2.85)***	0.072	(4.22)***
Real Interest Rate	0.187	(1.47)	0.206	(3.08)***	0.287	(1.92)*
Pre-EMU Trend	0.002	(0.01)	0.154	(0.74)	0.163	(1.20)
SGP	–3.589	(–3.15)**	–3.023	(–2.95)***	–6.286	(–3.18)***
Post-EMU Trend	0.350	(1.31)	0.586	(3.68)***	1.212	(4.31)***
Pseudo R^2	**0.8242**		**0.5851**		**0.6606**	

Numbers reported are regression co-efficients, numbers in parentheses are t ratios.
*****, ******, ******* indicate that the co-efficient is significantly different from zero at the 1%, 5% and 10% significance levels, respectively.

Sources: European Commission: Statistical Annex of European Economy, Autumn 2003; authors' own calculaitons.

of a violation, as does a positive domestic output gap. But a (cyclically adjusted) deficit increases it. Where both the deficit and output gap effects are significant, we find that a 1% improvement in the cyclically adjusted budget balance has roughly twice the effect of an increase of 1% domestic output gap. Monetary policy, as proxied by the real interest rate appears to be an insignificant factor in each regression.

The analysis of time specific factors tells a similar story in each of the three regressions. The onset of the stability pact appears to reduce the probability of violating the 3% limit, but the post-1998 time trend suggests that in each subsequent year (beyond 1998), there is a progressively increasing tendency to violate the 3% limit. As in Table 4, these results are consistent with the view that countries made a concerted effort to get over the 3% hurdle in order to be accepted into the single currency, but since then discipline has gradually weakened. It is also instructive to compare these results with those obtained from the 1992–2002 period (see Table 8).

For both sample periods, the debt ratio increases the probability of violation; and a high cyclically adjusted budget deficit reduces the probability of a violation as does a high domestic output gap. We also find that in the latter period, the size of these coefficients has changed, with each taking a higher value. In particular, tighter monetary policy now appears to have a positive effect on violation, unlike in the whole 1960–2002 period as a whole. So once inside EMU, tight monetary policies could trigger excessive deficits, though it is not clear from this analysis whether this is because tighter money may induce a recession, or because tighter money triggers a fiscal response to ward off these recessions. The point to make here is that this interaction with monetary policy *increases* in the Post-Maastricht era (compare Tables 7 and 8), and is *only* significant for its potential for causing violations of the SGP.

We see the same effect emerging from the Stability Pact, as we did for the Maastricht effect in Table 4 – namely that the initial effect (reducing probability of violating 3% limit) is offset by a time-trend running in the opposite direction. Comparing co-efficient sizes, our analysis suggests that within five years – that is from 2004 – the disciplinary benefits of the SGP will have worn off entirely.

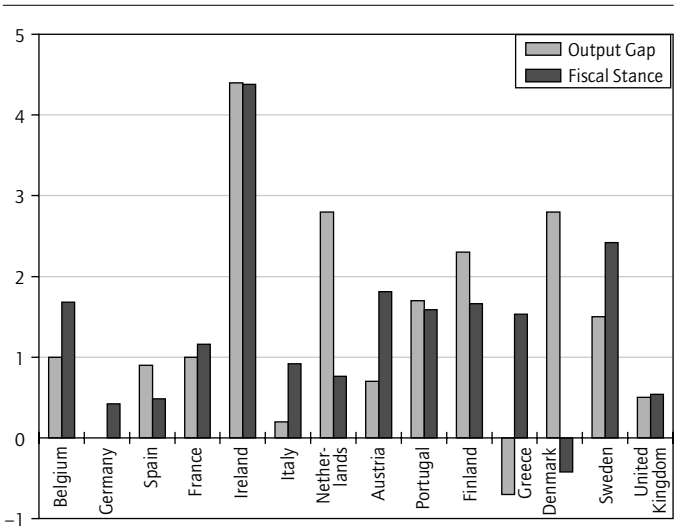
4 Fiscal Policy Year by Year since 1999

The observed slippage of fiscal discipline can be seen more clearly when one looks at what governments actually did with fiscal policy over the SGP period. To understand this, we construct a counterfactual measure of fiscal policy, which tells us what the budget deficit would have been, given the observed economic growth, had the government followed a "neutral" fiscal policy. We define this neutral fiscal policy to be holding government expenditures constant in real terms, and keeping the average tax rate constant, so that actual tax revenue (tax rate multiplied by GDP) will vary with economic growth. Taking the difference between this counterfactual measure, and the actual size of budget deficit gives us a measure of whether the government was (after allowing for economic growth) following a more loose, or more tight fiscal policy than the previous year. A positive number indicates an expansionary fiscal policy, a negative number a contractionary one. We graph this measure alongside the output gap, a measure of whether the economy was at the top of the cycle (indicated by a positive sign) or in recession (a negative sign), in Figures 2 and 3.

In 1999, most countries were in the boom phase of the cycle. With the exception of Denmark, all countries were expanding rather than contracting fiscal policy. This has the effect of reducing their surpluses or pushing their deficits closer to the 3% limit. Since government finances typically worsen as the economy moves into recession, expanding in the upswing, means that governments have less room for maneouvre in downturns.

Figure 2

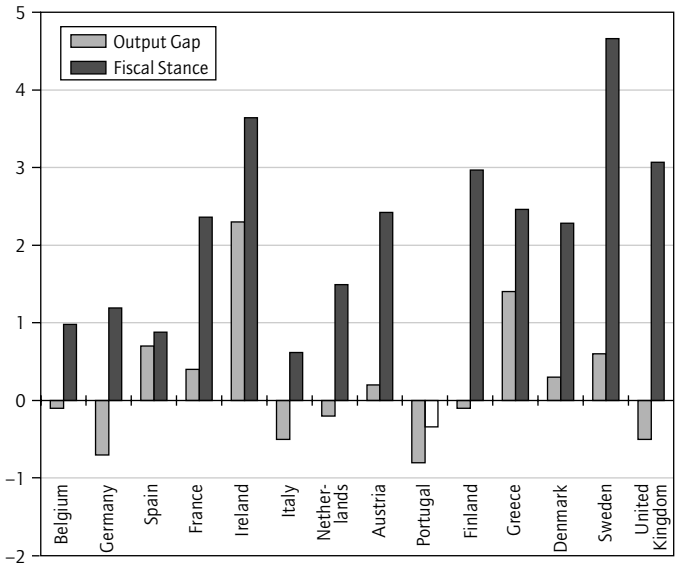
Output Gap and Fiscal Stance in 1999
In % of GDP



Sources: European Commission; own calculations.

Figure 3

Output Gap and Fiscal Stance in 2002
In % of GDP



Sources: European Commission; own calculations.

By 2002, output gaps were generally close to zero for all countries, yet fiscal policy remained expansionary, further eroding room for manouvre. Yet by the end of 2002, only a handful of countries had entered recession, and even then, only a modest recession. Theory would suggest that once the European economy hit the bottom of the cycle, many countries would face difficulty in complying with the 3% limit. And this is exactly what has been observed in 2003, and most recently in 2004, when six of the twelve Eurozone participants ran deficits in excess of 3%.

5 Conclusions and Discussion

In summary, our results suggest that fiscal discipline is often driven by political rather than economic considerations. We find that political factors play a large role in determining the observed fiscal performance of European countries over the sample period. The run-up to EMU was characterized by an increased likelihood of consolidations, though those consolidations were no more likely to persist. The persistence effect only shows up from 1998 onwards, suggesting there was a concerted effort to ensure compliance in the year when the entry decision was taken. After 1997, we find a gradual erosion of the longevity benefits. Similarly, we find a sudden drop in the probability of violating the 3% limit at the time entry decision, but that this effect was gradually eroded over time. Our results do suggest a distinction between larger and smaller countries, with greater fiscal discipline being achieved in smaller countries.

Taken together, these results imply that following the launch of the Euro, there was a gradual erosion of fiscal discipline. Our results indicate that by the time of its *de facto* suspension

in 2003, it was *already* a dead duck with fiscal discipline no different to the pre-Maastricht era in which no supranational constraints existed.

These results provide empirical support for the widely held view that the SGP has failed to discipline governments. What they add, is the fact even prior to the well publicised deficit problems experienced in 2004, the SGP had, in terms of our indicators, no disciplining effect relative to the pre-1991 benchmark, suggesting it had already lost any influence by that stage.

At worst, one could argue that the SGP was essentially powerless to prevent countries returning to their pre-1991 fiscal ways. At best, it slowed the loss of discipline after member states were safely inside the Euro.

Since our analysis deals only with the binary cases of deficits being either greater than, or less than 3% of GDP, it could be argued that prior to 1991, breaches of the 3% limit were much larger and thus that SGP has generated less severe (if not fewer) budget deficits. Indeed, it seems likely that deficits way in excess of 3% would not be tolerated under the SGP regime. This may be true, but it should be borne in mind that one of the stated goals of the SGP, which is to ensure that member states cyclically adjusted budget balances are, in the medium term at least, "close to surplus". Analysis by Fatás et al (2004) demonstrated that with exception of Finland and Ireland, all EMU participants had exceeded their medium term (i.e. cyclically adjusted) budget target.[2] This means that the avoidance of large budget deficits happened at the same time as countries were exceeding medium term targets. What success there was, fell well short of the stated aims of the SGP.

In illustrating the fact that the SGP has failed to discipline governments, the comparison between the SGP era and the run up to EMU is particularly instructive, since in both cases, governments were aiming at a similar target, namely a budget deficit of less than 3% of GDP.[3] However, the sanctions they faced for failure to comply were quite different, providing us with a interesting comparison of different enforcement structures. Clearly, the threat of being excluded from EMU was a much stronger disciplining factor than the threat of fines and other procedures under the SGP. These results lend empirical support to the view that enforcement that relies on peer pressure, and in which peers must judge each other, are less effective. This could reflect political pressures, and the fact that punishment may not be a credible strategy for EMU members, since it a tightening of fiscal policy in one country can have a knock-on effect of contracting demand in their neighbours. In both cases, these factors are likely vary with country size, with larger countries more likely to escape punishment – something that is confirmed by our empirical results on fiscal discipline across different countries.

Our results on the probability of commencing a consolidation also suggest the SGP era has been ineffective at encouraging countries to take remedial action, or at least no more effective than the pre-1991 epoch in which there were no formal institutional constraints. This may well reflect the retrospective or *backward-looking* nature of the SGP. Gros et al. (2004)

2 In many cases the targets were not zero. Many countries were even permitted small budget deficits (1–1.5%) of GDP as a transitionary phase en route to eventual budget balance.
3 In fact, one might argue that the run up to EMU was a less stringent target, since governments were only required to meet the criteria at the point of assessment in 1997, rather than in every year across the whole period.

point out that imposing sanctions on member states requires two distinct first phases. First, the country must be observed to have an excessive deficit, and remedial action recommended. Second, sanctions may only be applied if the country is deemed to have failed to have implemented these measures. This two step process means that, in practice a country would have to have been in deficit for two years before any action can even be considered by other member states. The early warning or *forward-looking* aspects of the SGP appear to have been ineffective, judging by the estimated probabilities of violating the 3% limit.

This means, as section 4 showed, that the system is largely powerless to prevent expansionary policies during good periods, and so the constraint only bites during recessions. Thus any corrective action must take place at the worst possible moment economically and politically. Economically speaking instead of contracting at the top of the cycle and thus stabilising the economy, the contraction reduces output when output is already too low. Politically too, it is harder for governments to undertake such measures at time when they are already likely to be under political pressure, and harder for neighbouring countries to enforce sanctions when negative spillovers may deepen their own recessions and/or create knock-on budgetary problems in neighbouring countries.

Because the SGP only focuses its calls for action on recession periods, it is perhaps not surprising that ECOFIN has decided in the main to wait for growth to pick up, rather than rely on fiscal consolidation to improve public finances, with the effect that fiscal policy is only weakly disciplined.

In summary, we find empirical support for the claim that the SGP has largely failed to discipline governments. The bulk of the gains from European Integration to fiscal discipline accrued during the run-up to EMU. The SGP coincided with a slippage in fiscal discipline back to earlier levels, to the point that by the time of its *de facto* abandonment in late 2003, it was essentially already impotent as a means of restraining fiscal policy.

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