



EUROPEAN CENTRAL BANK

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NO. 9 / FEBRUARY 2004

**FISCAL  
ADJUSTMENT  
BETWEEN  
1991 AND 2002:  
STYLISTED FACTS  
AND POLICY  
IMPLICATIONS**

by Maria Gabriella Briotti





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# FISCAL ADJUSTMENT BETWEEN 1991 AND 2002: STYLISED FACTS AND POLICY IMPLICATIONS

by Maria Gabriella Briotti<sup>1</sup>

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<sup>1</sup> The author works in the Fiscal Policies Division of the European Central Bank. The source of the data used in this paper is the European Commission, with further estimates by the author. The author would like to thank Vitor Gaspar, José Marin Arcas and Ludger Schuknecht for commenting extensively on the paper and two anonymous referees for providing helpful suggestions. She would also like to thank colleagues from the Fiscal Policies Division of the ECB, in particular Nicola Giammarioli and Guido Wolswijk, and participants at the 5th International Workshop on European Economy, CEDIN, Lisbon, November 2002, for their useful comments. The paper has benefited from valuable discussions with Giuseppe Bertola and Jürgen von Hagen, and from the teaching of Albert Ando, to whom the author is indebted. Special thanks go to Anna Foden for her editing work and for preparing tables and charts and to Gerhard Schwab for assistance on fiscal data. The views expressed in this paper are those of the author and do not necessarily reflect those of the ECB.

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## CONTENTS

Abstract	4
1 Introduction	5
2 The rationale for fiscal rules in EMU	6
3 Consolidation and convergence in EMU	8
3.1 Declining deficit and debt ratios in the 1990s	8
3.2 A more restrictive fiscal stance in the run-up to EMU	11
3.3 Convergence of revenue and expenditure ratios towards EU averages	13
3.4 Mixed pattern of capital expenditure across countries	18
4 Patterns of budgetary adjustment in the 1990s	19
4.1 Tax increases played a major role in consolidation in the euro area	19
4.2 Revenue-based adjustments preceded expenditure-based adjustments	20
4.3 Tax reforms between 1998 and 2002 insufficiently financed by expenditure cuts	23
4.4 Discretionary fiscal policy and economic conditions	24
4.5 Consolidation fatigue or a missed opportunity?	26
5 The macroeconomics of fiscal consolidation	29
5.1 Overview	29
5.2 Empirical studies of episodes of fiscal consolidation: some references	30
6 Summary and conclusions	33
References	35

## ABSTRACT

This paper aims to assess whether the implementation of the European Union (EU) framework of fiscal rules has been successful in promoting budgetary consolidation in EU Member States. The paper focuses on the period 1991-2002. It reviews the patterns of budgetary adjustment adopted in the 1990s in the Member States by analysing the size and composition of budget measures, while also taking into account the initial state of public finances. Moreover, the paper looks at the behaviour of fiscal policy over the business cycle, examining the link between budgetary consolidation and the cyclicity of public finances. As a closely related issue, the paper points out conditions under which the negative effects of fiscal contractions on economic activity might possibly be minimised. It then looks at the experience of fiscal consolidation in the various countries and assesses whether countries have implemented adequate budgetary adjustments. Stylised facts show that Member States implemented major budgetary adjustments in the 1990s marking clear structural breaks in the policy regimes compared with the previous decade. However, most progress was made via revenue-based adjustment, including temporary measures, with insufficient emphasis put on primary expenditure restraint. In recent years, “consolidation fatigue” has been evident in many Member States. Although an unfavourable economic environment has adversely affected nominal budget balances in recent years, budget indicators suggest that the process of budgetary adjustment, which started in the 1990s, is far from complete in many countries.

## I INTRODUCTION

In the 1990s, all EU countries implemented major budgetary adjustments and budget deficits were reduced to very low levels compared with the previous decade. However, the re-emergence and persistence of budget imbalances in recent years have brought to the fore the question of whether countries have implemented adequate budgetary adjustments in the past in order to build up sufficient budget safety margins and shelter their budgetary positions from unforeseen and adverse economic developments.

The aim of this paper is to assess whether the implementation of the EU framework of fiscal rules has been successful in promoting budgetary consolidation in Member States. The paper focuses on the period 1991-2002. A review of budgetary adjustments implemented in the 1990s in the EU countries highlights a number of noteworthy stylised facts.

The detection of structural breaks in the policy regimes adopted in the 1990s compared with the previous decade leaves little doubt that fiscal policies and budgetary adjustment were driven by a “Maastricht effect”. Since countries with more severe fiscal imbalances recorded the largest deficit reductions, national budgetary positions also converged towards a smaller EU average deficit. Furthermore, most countries strengthened their consolidation efforts in 1996 and 1997 as they endeavoured to meet the convergence criteria to participate in Stage Three of Economic and Monetary Union (EMU). However, “consolidation fatigue” has been apparent in more recent years.

Looking at the patterns of budgetary adjustment, there is some evidence that convergence of budget structures and an awareness of its impact on a country’s competitiveness influenced the selection of the fiscal strategy, with low-tax countries resorting more to tax increases and vice versa. In the period up to 1997 (the reference year for assessing fiscal convergence for the start of

Stage Three of EMU), most progress in fiscal consolidation was achieved in many countries via revenue-based adjustments, including temporary measures, with only little emphasis on expenditure-based adjustments. However, in the following years tax cuts, which were insufficiently matched by expenditure cuts, resulted in a deterioration in cyclically adjusted primary budget balances in many countries.

All in all, the composition of the adopted policies appears to have had an effect on the durability of fiscal consolidation. Countries which relied more than others on revenue-based adjustments also suffered the largest consolidation setbacks since 2000. The extent of the consolidation is also relevant, as countries which implemented more limited and delayed consolidation have suffered from significant budget worsening in more recent years.

In relation to the cycle, fiscal policies show a clear pro-cyclical bias in the period under examination. Furthermore, the descriptive analysis shows that fiscal policies were more pro-cyclical in high-deficit countries than in low-deficit countries and in large countries than in small countries. In the first case, the risk of exceeding the fiscal reference values in bad times might have prompted pro-cyclical consolidation in countries with serious fiscal imbalances. In the second case, the worse budget positions recorded by larger countries might again explain why consolidation resumed in bad times. More interestingly, the analysis reveals that the pro-cyclical policies were those dominated by revenue-based adjustments. This may have accentuated the distortionary effects of tax increases.

As for the consolidation fatigue apparent in more recent years, some studies have concluded that it was a systematic consequence of the period of consolidation. One alternative view would instead question the effectiveness of the EU framework of fiscal rules in setting short-term budgetary constraints once countries had achieved the goal of monetary union. The

descriptive analysis presented in this paper does not detect any significant differences between the consolidation processes of those countries having adopted and those not having adopted the single currency, which could indicate that institutional constraints were the same for both groups of Member States. The analysis hints nonetheless at the possibility that those constraints might have been more compelling for small than for large countries.

The paper also suggests that the new institutional framework for budgetary discipline introduced by the Treaty on European Union (the Maastricht Treaty) may have enhanced the credibility of governments regarding their commitment to comply with fiscal discipline. As a consequence, the intertemporal effects of fiscal policy might have become more relevant, with credible commitments to fiscal discipline raising expectations of lower taxes and greater wealth. Based on a survey of the empirical literature on the subject, the paper emphasises that the composition and the extent of restrictive policies, as well as the initial budget conditions, are relevant to the overall effectiveness of fiscal consolidation. In particular, there is evidence that an expenditure-based adjustment tends to be more growth-friendly and lasting than a tax-based adjustment without expenditure retrenchment.

In summary, after the signing of the Maastricht Treaty, there was much progress in enhancing the sustainability of public finances in the European Union. However, the overall experience with fiscal consolidation has only been partially positive, as consolidation has stalled in recent years. Furthermore, the consolidation strategies have important shortcomings, especially when they incorporate high spending and tax ratios which distort economic behaviour. In particular, the absence of expenditure restraint in many countries has undermined consolidation efforts, the safety margins for economic stabilisation and the outlook for public finance sustainability.

Following this introduction, Section 2 reviews the rationale for fiscal rules in EMU, Section 3 summarises the main budgetary developments during the 1990s, Section 4 presents and discusses some stylised facts about the process of fiscal consolidation in EU countries, Section 5 focuses on the macroeconomics of fiscal consolidation and, finally, Section 6 presents some conclusions.

## 2 THE RATIONALE FOR FISCAL RULES IN EMU

The basic rationale for budgetary discipline provided by the Stability and Growth Pact is that sound public finances are crucial for preserving macroeconomic stability and as a means of strengthening the conditions for price stability.<sup>2</sup> As experienced in recent decades, large fiscal imbalances adversely affect economic prospects and limit the scope for using fiscal policy as a stabilising instrument. The need for fiscal discipline is even greater in a monetary union among sovereign states. Monetary union eliminates the scope for using interest rate differentials to compensate for differences in inflation and depreciation risks between formerly existing currencies. For those member countries, which had previously been penalised in relative terms in the market for government loans, this makes borrowing a more attractive option for financing public expenditure. This in turn tends to create a deficit bias in the area as a whole. Furthermore, expansionary fiscal policies pursued by individual member countries can have adverse external effects on neighbouring economies, generally through higher long-term interest rates. In particular, the financing of one country's large deficit would put upward pressure on the cost of long-term finance in the area as a whole.

<sup>2</sup> See ECB (1999).

The EU-wide commitment to sound public finances is enshrined in the Treaty establishing the European Community (the Treaty), which established the basic supranational fiscal rules. According to the Treaty, Member States shall avoid excessive deficits, which are defined in relation to the reference values for deficit and debt ratios of 3% and 60% of GDP respectively, as specified in the Protocol on the excessive deficit procedure. An operational clarification of the Treaty's budgetary rules was agreed in 1997 with the Stability and Growth Pact, which lays down the procedures for economic policy coordination and contains preventive and dissuasive instruments to ensure the compliance of fiscal policies with the requirement of sound budgetary behaviour in Member States. In particular, the Pact commits Member States to respecting the medium-term budgetary objective of positions close to balance or in surplus.<sup>3</sup> It also gives specific details of the excessive deficit procedure. The latter aims to dissuade governments from incurring excessive deficits via a number of procedural steps that involve peer pressure and ultimately also the possibility of sanctions. It further specifies that an exceptional and temporary breach of the deficit reference value resulting from events outside the control of the government or from a severe economic downturn would not be considered excessive.

Critics of the use of supranational fiscal rules argue that fiscal discipline in a monetary union should rely on financial market mechanisms or on the self-restraint of governments, together with reforms of national fiscal rules and institutions. However, there is no firm evidence that market forces deter countries from excessive borrowing by imposing country-specific default premia. Since market forces alone cannot guarantee sufficient fiscal discipline, thus making significant spillovers through financial markets possible, there is a clear need to complement and support those market forces with commonly shared fiscal rules.<sup>4</sup>

The EU framework of fiscal rules restricts national policies by imposing a number of rules and procedures, although there is no explicit coordination of fiscal policies by means of joint decision-making.<sup>5</sup> This lack of a joint decision mechanism appears to some observers to be the main weakness and impediment to the proper functioning of a system where monetary policy is centralised, but fiscal policies are decentralised. Therefore, the proposed alternative solution is a supranational authority to which fiscal competence would be delegated. By contrast, critics of explicit coordination stress that countries would lose the possibility to tailor national policies according to the specific shocks and structural problems of individual countries. Furthermore, explicit policy coordination might not be feasible as it would require a massive exchange of information among countries and an appropriate enforcement mechanism, and could possibly cause confusion of roles between different agents.<sup>6</sup>

It is well-established in the academic literature on public finances that fiscal rules should, among other things, be well-defined, transparent, simple, flexible, enforceable and consistent. Furthermore, to ensure compliance, any process to amend them should be difficult and costly. A recent study has analysed and assessed how the rules underpinning the EU fiscal framework perform against these criteria (Buti, Eijffinger and Franco, 2002). The conclusions emphasise that the EU fiscal rules perform quite well against these standards, with the strong points being simplicity, flexibility, consistency and the high cost of amending them. The study also emphasises that policy variables, such as deficits and debt, that are mentioned in the Treaty are well-defined with regard to their content and institutional coverage. However, the relevant provision contained in the Pact, that countries are

<sup>3</sup> For a comprehensive presentation of institutional aspects and provisions of the Treaty and the Pact, see ECB (1999).

<sup>4</sup> See Beetsma (2001).

<sup>5</sup> See Brunila (2002).

<sup>6</sup> See Issing (2002) and Alesina (2002).



committed to a medium-term target of a budget close to balance or in surplus, remains somewhat vague and requires some interpretation to make it fully operational. A critical issue is the identification of the business cycle underlying the nominal budget deficit or surplus and the adoption of an appropriate methodology to exclude the cyclical effects from the nominal figures.<sup>7</sup> Transparency also suffers from a degree of uncertainty, particularly where statistical definitions and creative accounting are concerned. Finally, enforceability relies on the plausibility of imposing sanctions on sovereign countries.

The recent debate has also raised critical issues regarding the implementation of the Stability and Growth Pact. In particular, it has been argued that the Pact reduces budgetary flexibility to cope with cyclical downturns, neglects structural adjustment and reforms by focusing mainly on short-term commitments and does not prevent pro-cyclical behaviour in good times.<sup>8</sup> However, it should also be emphasised that in the past discretionary budgetary policies for stabilisation purposes have often proved to be pro-cyclical owing to lags in the implementation process and uncertainty about the timing of effects. In this respect, it is worth stressing that the objective set in the Pact of achieving and maintaining sound budgetary positions refocuses the attention of fiscal policies from short-term stabilisation objectives towards medium-term aims, including growth performance.<sup>9</sup> Furthermore, achieving close-to-balance medium-term budgets also allows the free operation of automatic stabilisers, which provide an adequate anti-cyclical tool.<sup>10</sup>

### 3 CONSOLIDATION AND CONVERGENCE IN EMU

#### 3.1 DECLINING DEFICIT AND DEBT RATIOS IN THE 1990S

At the beginning of the 1990s most EU countries had sizeable imbalances in their public finances. In 1991 the general government

deficit-to-GDP ratio was 4.6% as a weighted average for the EU15 and 5.0% for the Euro 12 (Table 1). Almost all countries recorded a deficit: nine had deficit ratios between 1% and 3% of GDP, three had deficit ratios between 4% and 8% and two had deficit ratios higher than 11% of GDP. Net of interest expenditure on public debt, there was a small primary budget surplus in 1991 on average in both the EU15 and the Euro 12. In the same year the average general government debt-to-GDP ratio was almost 55% in the EU15 and somewhat higher in the Euro 12. Eight countries had a debt ratio below or well below 60%, two countries had a debt ratio slightly above 60% and five countries had a debt ratio above or well above 70%. Based on the Maastricht reference values of 3% of GDP for deficits and 60% of GDP for debt, seven countries recorded both budget and debt imbalances and another five had clear budget imbalances at the beginning of the 1990s (Chart 1). Both the EU15 and the Euro 12 failed to comply with the Maastricht deficit value and were only slightly below the debt value.

From 1991 to 1997, major budgetary improvements took place in all EU countries (Table 2). The signing of the Maastricht Treaty therefore marked the beginning of a process of declining budget deficits to very low levels compared with previous decades. A common pattern can be discerned for the EU countries over the period considered. In general, there was an initial worsening of budget balances and

7 In 2002 the European Commission adopted a revised methodology based on the production function approach, and the related concept of potential output, to calculate the cyclically adjusted budget balance (European Commission, 2002). The same concept and quantitative statistics are used throughout this paper. A recent survey of available methodologies can be found in Bouthevillain et al. (2001); discussions of critical issues related to the interpretation of alternative indicators can also be found in Jaeger and Schuknecht (2003).

8 See Buti, Eijffinger and Franco (2002), cit., for an in-depth discussion of the issue.

9 See Solbes (2002).

10 On the question of whether a fiscal rule can preserve the sustainability of public finances, while also providing for automatic stabilisation, see Marín Arcas (2002).

**Table 1 General government budgetary position in EU countries and the euro area**

(as a percentage of GDP)

	Deficit(-)/surplus(+)				Primary deficit(-)/surplus(+)				Government debt			
	1991	1995	1997	2002	1991	1995	1997	2002	1991	1995	1997	2002
<b>Belgium</b>	-7.5	-4.3	-2.0	0.1	3.9	4.9	6.0	6.1	130.9	134.0	124.8	105.3
<b>Denmark</b>	-2.4	-2.3	0.4	2.0	4.9	4.1	6.1	5.6	62.5	69.3	61.2	45.2
<b>Germany</b>	-2.9	-3.5	-2.7	-3.6	-0.1	0.2	0.9	-0.4	40.4	57.0	61.0	60.8
<b>Greece</b>	-11.4	-10.2	-4.0	-1.2	-2.1	1.0	4.2	4.3	82.2	108.7	108.2	104.9
<b>Spain</b>	-4.3	-6.6	-3.2	-0.1	-0.6	-1.4	1.6	2.8	44.3	63.9	66.6	54.0
<b>France</b>	-2.4	-5.5	-3.0	-3.2	0.6	-1.8	0.7	-0.1	35.8	54.6	59.3	59.5
<b>Ireland</b>	-2.9	-2.1	1.4	-0.2	4.8	3.3	5.3	1.1	102.9	82.7	65.0	33.3
<b>Italy</b>	-11.7	-7.6	-2.7	-2.3	0.2	3.9	6.7	3.4	100.6	123.2	120.2	106.7
<b>Luxembourg</b>	1.2	2.1	3.2	2.5	1.5	2.5	3.6	2.9	3.8	5.6	6.1	5.7
<b>Netherlands</b>	-2.7	-4.2	-1.1	-1.1	3.4	1.7	4.1	2.1	76.9	77.2	69.9	52.6
<b>Austria</b>	-3.0	-5.3	-2.0	-0.6	1.2	-0.9	2.0	3.0	57.5	69.2	64.7	67.6
<b>Portugal</b>	-7.6	-5.5	-3.6	-2.8	1.2	0.8	0.7	0.3	60.7	64.3	59.1	58.1
<b>Finland</b>	-1.1	-3.9	-1.3	4.7	0.8	0.1	2.9	7.0	22.6	57.1	54.0	42.7
<b>Sweden</b>	-1.1	-7.4	-1.7	1.3	3.9	-0.8	4.6	4.2	51.3	73.6	70.5	52.4
<b>United Kingdom</b>	-3.1	-5.8	-2.2	-1.3	0.1	-2.1	1.5	0.8	34.4	51.8	50.8	38.4
<b>Euro 12</b>	-5.0	-5.1	-2.6	-2.2	0.5	0.5	2.5	1.4	58.6	73.0	75.4	69.2
<b>EU15</b>	-4.6	-5.2	-2.5	-1.9	0.6	0.2	2.5	1.5	54.9	70.2	71.0	62.7

Sources: European Commission, spring 2003, and own calculations.

Note: Data exclude proceeds from the sale of UMTS licences.

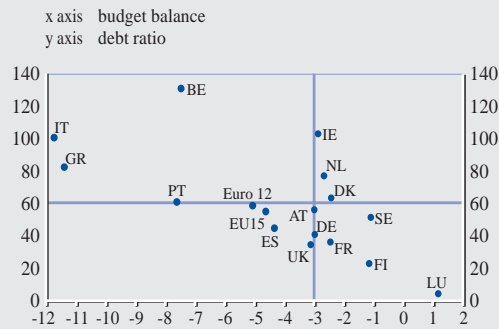
debt ratios in the early years of the 1990s, reflecting inter alia the budgetary impact of the economic recession of 1992-1993. However, this was followed by a period of substantial deficit reduction, particularly in 1996 and 1997. In 1997, the reference year for assessing compliance with the convergence criteria of the Maastricht Treaty, the general government budget deficit ratio declined to 2.5% of GDP on average for the EU15 and to 2.6% for the Euro 12. This represents a remarkable reduction in the deficit ratio by 2.7 percentage points for the EU15 and by 2.4 percentage points for the Euro 12 during the years 1996 and 1997. However, declining interest expenditure also contributed to the budgetary improvement, and the primary budget balance ratio improved less than the total budget balance ratio during the same period – by 2.3 percentage points on average for the EU15 and 2.0 percentage points on average for the Euro 12.

The picture for the period 1998-2002 is more mixed. Many countries have experienced a deterioration in their nominal budget balances, owing to the resurgence of fiscal disequilibria in more recent years that are only partly

explained by the concurrent economic slowdown. In 2001 Portugal exceeded the 3% deficit reference value, and Germany and France exceeded it in 2002. Despite this, the average deficit for both the EU15 and the Euro 12 was smaller in 2002 than in 1997, although this was not the case for every country in every year. In the period 1998-2002 the general government budget deficit declined by approximately 0.5 percentage point to 1.9% of GDP on average for the EU15 and 2.2% of GDP on average for the Euro 12. However, the average deficit reduction recorded in the period 1998-2002 was due entirely to a marked decline in interest expenditure by some 1.5 percentage points of GDP, which more than compensated for a clear deterioration in the primary budget surplus by around 1.0 percentage point of GDP. Lower interest expenditure resulting from declining interest rates recorded since the start of Monetary Union was thus the main factor compensating for the budget deterioration in those years.

**Chart 1 General government debt and budget balance, 1991**

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

The general government debt ratio has been on a steadily declining path in almost all EU countries since 1997. By the end of 2002, the average debt ratio had declined from its peak by approximately 8 percentage points to 62.7% of GDP for the EU15 and by 6 percentage points to 69.2% of GDP for the Euro 12. However, at the end of 2002 it was still much higher on average than at the beginning of the 1990s in both the

EU15 and the Euro 12. Debt reductions over the entire period are found in only a limited number of countries. Notably, among those with high debt ratios, Belgium, Ireland, the Netherlands and Portugal had a lower debt ratio in 2002 than at the beginning of the 1990s, while Italy and Greece had a higher debt ratio. By contrast, in 2002 some of the countries which had previously complied with the debt ratio reference value recorded debt ratios higher than 60% (Germany and Austria), or closely approaching the debt reference value (France).

Overall developments in budget deficit and debt ratios in the period from 1991 to 2002 are illustrated in Chart 2, which clearly shows the substantial reduction in deficits over the decade, particularly in high-deficit countries. It also shows the more limited reduction in debt ratios over the period. The reduction of deficits also coincided with a convergence of budget balances towards a lower EU average, since countries with larger fiscal imbalances reduced their deficits the most. The gap between the worst and best budget balances declined from about 13 percentage points of GDP in 1991 to some 8 percentage points in 2002 (Chart 3).

**Table 2 Change in the general government budgetary position in EU countries and the euro area**

(in percentage points of GDP)

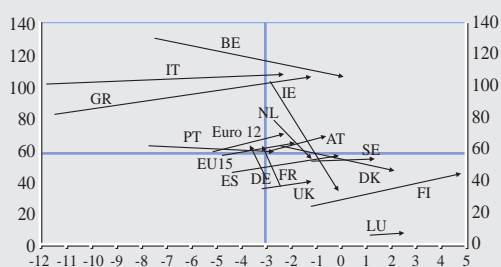
	Deficit(-)/surplus(+)				Primary deficit(-)/surplus(+)				Government debt			
	1992-95	1996-97	1998-02	1992-02	1992-95	1996-97	1998-02	1992-02	1992-95	1996-97	1998-02	1992-02
<b>Belgium</b>	3.1	2.4	2.0	7.5	1.0	1.1	0.1	2.2	3.2	-9.2	-19.6	-25.6
<b>Denmark</b>	0.1	2.6	1.7	4.4	-0.7	1.9	-0.5	0.8	6.8	-8.1	-16.0	-17.3
<b>Germany</b>	-0.5	0.7	-0.9	-0.7	0.3	0.7	-1.3	-0.3	16.6	4.0	-0.2	20.5
<b>Greece</b>	1.2	6.1	2.8	10.1	3.1	3.2	0.1	6.4	26.5	-0.5	-3.3	22.7
<b>Spain</b>	-2.3	3.5	3.1	4.3	-0.8	3.0	1.2	3.4	19.5	2.7	-12.6	9.6
<b>France</b>	-3.1	2.5	-0.1	-0.7	-2.3	2.4	-0.7	-0.7	18.8	4.7	0.3	23.7
<b>Ireland</b>	0.8	3.5	-1.7	2.6	-1.5	2.0	-4.2	-3.7	-20.2	-17.7	-31.6	-69.6
<b>Italy</b>	4.1	4.9	0.4	9.4	3.8	2.7	-3.3	3.2	22.6	-3.0	-13.5	6.1
<b>Luxembourg</b>	0.9	1.1	-0.7	1.4	1.0	1.1	-0.7	1.4	1.8	0.4	-0.4	1.9
<b>Netherlands</b>	-1.5	3.0	0.0	1.5	-1.7	2.3	-2.0	-1.3	0.3	-7.3	-17.3	-24.3
<b>Austria</b>	-2.3	3.3	1.4	2.4	-2.1	2.9	1.0	1.7	11.7	-4.5	2.8	10.1
<b>Portugal</b>	2.1	1.9	0.8	4.8	-0.4	-0.1	-0.4	-0.9	3.5	-5.2	-1.0	-2.6
<b>Finland</b>	-2.8	2.6	6.0	5.9	-0.6	2.8	4.0	6.2	34.4	-3.0	-11.3	20.1
<b>Sweden</b>	-6.3	5.7	3.0	2.4	-4.7	5.4	-0.4	0.3	22.3	-3.1	-18.1	1.1
<b>United Kingdom</b>	-2.7	3.6	0.9	1.8	-2.2	3.6	-0.7	0.7	17.4	-1.0	-12.3	4.1
<b>Euro 12</b>	0.0	2.4	0.4	2.8	0.0	2.0	-1.1	1.0	14.4	2.3	-6.1	10.6
<b>EU15</b>	-0.6	2.7	0.6	2.7	-0.4	2.3	-1.0	0.9	15.2	0.8	-8.3	7.7

Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

**Chart 2 General government debt and budget balance, change from 1991 to 2002**

(as a percentage of GDP)

x axis budget balance  
y axis debt ratio

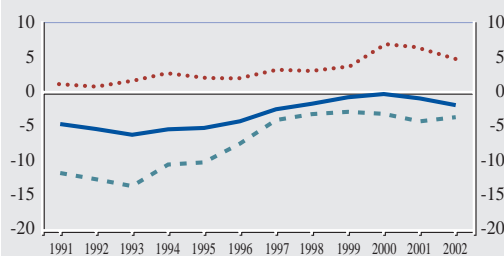


Sources: European Commission, spring 2003, and own calculations.  
Note: Arrows indicate changes in debt and budget balance ratios from 1991 to 2002. Data exclude proceeds from the sale of UMTS licences.

**Chart 3 General government budget balance, 1991-2002**

(as a percentage of GDP)

— EU15 average  
..... best position  
- - - - - worst position  
y axis deficit(-)/surplus(+) ratio



Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

### 3.2 A MORE RESTRICTIVE FISCAL STANCE IN THE RUN-UP TO EMU

The annual average change in the cyclically adjusted primary balance is the indicator used in this paper to indicate the stance of fiscal policy. This indicator, calculated for each individual country for each period considered, roughly illustrates how countries have distributed their consolidation efforts over time. Looking back over the years 1991 to 2002, three distinct periods can be distinguished in relation to the fiscal stance adopted in the EU countries (Table 3). In the period 1992-1995, the fiscal stance, as measured by the cyclically adjusted primary balance, was moderately restrictive. By the end of 1995, the cyclically adjusted primary surplus had improved by only 0.4 percentage point of GDP in the EU15, and by a larger 1.3 percentage points in the Euro 12. The fiscal stance became more restrictive in the run-up to Stage Three of EMU, in particular in 1996 and 1997, when budgetary adjustment was motivated by the need to fulfil the convergence criteria or face the threat of exclusion. In the period 1996-1997, the cyclically adjusted primary surplus improved by 2.3 percentage points of GDP in the EU15 and by 2.1 percentage points of GDP in the Euro 12.

The annual average consolidation effort was some 1.1 and 1.0 percentage points of GDP in the EU15 and Euro 12 respectively. This indicates greater annual consolidation efforts than in any other period considered. In the previous period, 1992-1995, the annual average consolidation effort was equivalent to only 0.1 and 0.3 percentage point of GDP in the EU15 and Euro 12 respectively.

Large consolidation efforts undertaken between the early 1990s and 1997 suggest that the signing of the Maastricht Treaty and the adoption of the EU fiscal framework successfully promoted fiscal discipline in those years. In particular, the structural breaks detected in the policy regimes of most EU countries in the early 1990s seem to leave little doubt that fiscal policies in the 1990s were driven by a “Maastricht effect”.<sup>11</sup>

Against this background, countries with higher budget imbalances generally achieved greater budget consolidation over the 1990s. This is

<sup>11</sup> On this particular aspect, see European Commission (2000). See also von Hagen et al. (2001), who find a Maastricht effect for the early 1990s only.

**Table 3 Fiscal stance in EU countries and the euro area**

(as a percentage of GDP and in percentage points of GDP)

	Cyclically adjusted primary balance												
	Ratio to GDP				Change in GDP ratio					Annual average change in GDP ratio			
	1991	1995	1997	2002	1992-95	1996-97	1992-97	1998-02	1992-02	1992-95	1996-97	1998-02	1992-02
<b>Belgium</b>	2.9	5.3	6.1	6.1	2.5	0.7	3.2	0.1	3.2	0.6	0.4	0.0	0.3
<b>Denmark</b>	5.7	3.9	5.4	5.5	-1.8	1.6	-0.3	0.1	-0.2	-0.5	0.8	0.0	0.0
<b>Germany</b>	-1.9	0.1	1.4	0.0	2.0	1.3	3.4	-1.4	1.9	0.5	0.7	-0.3	0.2
<b>Greece</b>	-2.4	2.2	5.1	3.7	4.6	2.8	7.5	-1.4	6.1	1.2	1.4	-0.3	0.6
<b>Spain</b>	-1.5	-0.3	2.3	2.8	1.3	2.5	3.8	0.5	4.4	0.3	1.3	0.1	0.4
<b>France</b>	0.1	-1.4	1.2	-0.3	-1.5	2.6	1.1	-1.5	-0.4	-0.4	1.3	-0.3	0.0
<b>Ireland</b>	4.5	3.8	4.7	0.4	-0.7	0.9	0.2	-4.3	-4.1	-0.2	0.4	-0.9	-0.4
<b>Italy</b>	-0.3	3.8	6.5	3.6	4.1	2.7	6.8	-2.9	3.8	1.0	1.3	-0.6	0.3
<b>Luxembourg</b>	-	-	-	-	-	-	-	-	-	-	-	-	-
<b>Netherlands</b>	2.0	2.1	3.7	2.2	0.1	1.6	1.7	-1.5	0.2	0.0	0.8	-0.3	0.0
<b>Austria</b>	0.6	-0.6	2.5	3.0	-1.2	3.1	1.9	0.5	2.4	-0.3	1.6	0.1	0.2
<b>Portugal</b>	-0.2	1.5	0.8	0.5	1.7	-0.8	1.0	-0.2	0.7	0.4	-0.4	0.0	0.1
<b>Finland</b>	2.6	1.9	1.8	7.0	-0.7	-0.1	-0.8	5.2	4.4	-0.2	0.0	1.0	0.4
<b>Sweden</b>	4.5	-0.5	5.3	3.8	-5.0	5.8	0.8	-1.5	-0.7	-1.3	2.9	-0.3	-0.1
<b>United Kingdom</b>	1.0	-2.1	1.0	1.1	-3.1	3.2	0.0	0.0	0.1	-0.8	1.6	0.0	0.0
<b>Euro 12</b>	-0.5	0.8	2.8	1.6	1.3	2.1	3.3	-1.3	2.1	0.3	1.0	-0.3	0.2
<b>EU15</b>	0.0	0.4	2.7	1.6	0.4	2.3	2.7	-1.1	1.6	0.1	1.1	-0.2	0.1

Sources: European Commission, spring 2003, and own calculations.

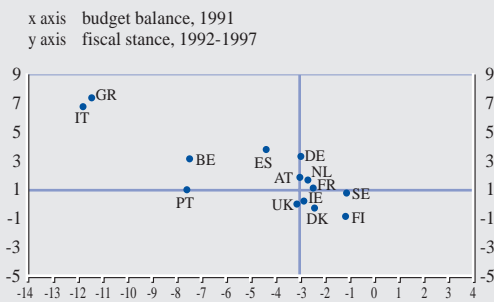
Note: Data exclude proceeds from the sale of UMTS licences. The fiscal stance is defined as the change in the cyclically adjusted primary budget balance, expressed as a ratio to GDP. The adjustment for the effect of the cycle is based on the production function and potential output approach applied by the European Commission. “-” indicates that data do not exist or are not applicable.

broadly illustrated by Chart 4a, which plots countries' consolidation efforts over the period 1992-1997, as measured by the overall change in the cyclically adjusted primary balance, against countries' fiscal positions in 1991, as measured by the nominal budget balance ratio. Almost all the countries (nine out of twelve) with a large budget deficit (i.e. close to or above 3%) lie above the horizontal line, indicating consolidation efforts greater than 1 percentage point of GDP. Only three of the twelve countries with large deficits (Denmark, Ireland and the United Kingdom) maintained a broadly neutral fiscal stance. Although consolidation efforts were generally pursued by most countries, countries experiencing larger public finance imbalances undertook stronger consolidations. The picture is confirmed when relating consolidation efforts over the same period to the cyclically adjusted primary balance in 1991 (Chart 4b). Large adjustments are also evident in countries with high debt ratios (namely Belgium and the Netherlands).

With reference to the period 1998-2002, the cyclically adjusted primary balance initially remained broadly constant on average in the EU15 and Euro 12 and then started to decline. This indicates a loosening of fiscal policies in many EU countries as well as on average in the EU15 and Euro 12. Taking as a reference 1997, the year when compliance with the Maastricht convergence criteria was assessed, the cyclically adjusted primary surplus declined by more than one percentage point of GDP on average in both the EU15 and the Euro 12. Hence, a feature of the consolidation process appears to be that many countries concentrated or brought forward their consolidation efforts to before the start of Stage Three of EMU in 1996 and 1997 when facing the threat of exclusion. Although fiscal experiences varied across different countries, in the period 1998-2002 the fiscal stance in many EU countries was broadly neutral or expansionary.

**Chart 4a Government budget balance in 1991 and fiscal stance in the period 1992-1997**

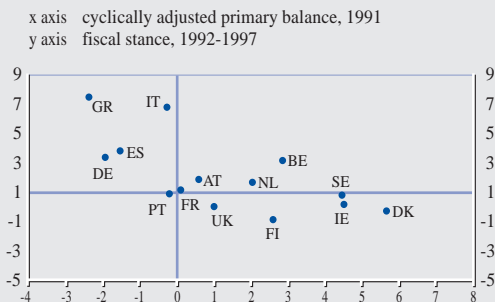
(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: For the definition of the fiscal stance, see note to Table 3. Data exclude proceeds from the sale of UMTS licences.

**Chart 4b Cyclically adjusted government primary balance in 1991 and fiscal stance in the period 1992-1997**

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: For the definition of the fiscal stance, see note to Table 3. Data exclude proceeds from the sale of UMTS licences.

### 3.3 CONVERGENCE OF REVENUE AND EXPENDITURE RATIOS TOWARDS EU AVERAGES

From 1991 to 2002 the revenue-to-GDP ratio remained constant at 45.5% for the EU15 and increased by 0.7 percentage point to 46.1% for the Euro 12 (Table 4). However, the broadly stable revenue ratio over the whole period hides developments in some specific years. In the period from 1991 to 1997 the revenue ratio increased by 1.3 percentage points to 46.8% in the EU15 and by 2.1 percentage points to 47.6% in the Euro 12. Having reached a peak in 1997, the ratio started declining thereafter. In the period from 1997 to 2002 the revenue ratio declined by 1.3 percentage points in the EU15 and by 1.4 percentage points in the Euro 12.

Looking at individual countries, it is noticeable that in some countries, such as Spain, Ireland, the Netherlands, Finland, Sweden and the United Kingdom, the revenue ratio started declining earlier in around 1995. By contrast, in other countries, notably Belgium, Denmark, Germany, Greece, France, Italy and Portugal, the revenue ratio increased throughout the period up to 1997. Thereafter, in the period 1998-2002 the largest declines in revenue ratios

took place in Germany, Ireland, Italy and Sweden, all of which (with the exception of Ireland) recorded an average tax ratio above or equal to the EU average in 1997. Over the entire period, in general, countries with lower than average revenue ratios recorded the highest revenue increases, while countries with higher than average revenue ratios instead reduced their revenue ratios (Chart 5).

The developments in revenue ratios can be further analysed by looking at the cyclically adjusted ratio, which sheds some light on the underlying developments in the budget. In particular, one might ask whether budgetary adjustments have been driven by a process of convergence of budget structures and greater awareness of competition in the Single Market under a common currency. If this were the case, initial budget conditions might also have played a role when selecting the pattern of budgetary adjustments.<sup>12</sup> Net of cyclical effects, in the period 1992-1997 revenue ratios increased by 2.1 percentage points to 47.0% in the EU15 and by 3.3 percentage points to 47.9% in the Euro 12 (Table 5). By

<sup>12</sup> On the convergence issue, see De Bandt and Mongelli (2002).

**Table 4 General government revenue in EU countries and the euro area**

(as a percentage of GDP and in percentage points of GDP)

	Revenue								
	1991	Ratio to GDP		2002	Change in GDP ratio				
		1995	1997		1992-95	1996-97	1992-97	1998-02	1992-02
<b>Belgium</b>	46.9	48.5	49.5	50.1	1.6	0.9	2.5	0.6	3.2
<b>Denmark</b>	55.4	58.0	58.3	57.2	2.6	0.3	2.9	-1.1	1.8
<b>Germany</b>	44.1	46.1	46.6	45.0	2.0	0.5	2.5	-1.6	0.8
<b>Greece</b>	33.3	39.3	42.4	45.1	5.9	3.1	9.1	2.7	11.8
<b>Spain</b>	39.2	38.4	38.6	39.6	-0.8	0.2	-0.6	1.0	0.4
<b>France</b>	49.1	49.7	51.9	50.8	0.6	2.2	2.8	-1.1	1.6
<b>Ireland</b>	42.0	39.4	38.6	33.7	-2.6	-0.8	-3.5	-4.9	-8.3
<b>Italy</b>	43.8	45.8	48.4	45.2	2.0	2.6	4.5	-3.2	1.4
<b>Luxembourg</b>	45.7	47.6	46.5	48.0	1.9	-1.1	0.8	1.5	2.3
<b>Netherlands</b>	52.2	47.3	47.1	46.1	-4.9	-0.2	-5.1	-1.0	-6.1
<b>Austria</b>	51.2	52.0	52.1	51.4	0.8	0.1	0.9	-0.7	0.2
<b>Portugal</b>	37.5	39.6	41.2	43.4	2.0	1.6	3.7	2.2	5.9
<b>Finland</b>	57.3	55.5	55.0	54.0	-1.9	-0.4	-2.3	-1.1	-3.4
<b>Sweden</b>	64.6	60.3	61.4	59.5	-4.3	1.1	-3.2	-1.9	-5.1
<b>United Kingdom</b>	40.9	38.9	38.9	39.5	-2.0	0.0	-2.0	0.6	-1.4
<b>Euro 12</b>	45.5	46.5	47.6	46.1	1.0	1.1	2.1	-1.4	0.7
<b>EU15</b>	45.5	46.1	46.8	45.5	0.6	0.7	1.3	-1.3	0.0

Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

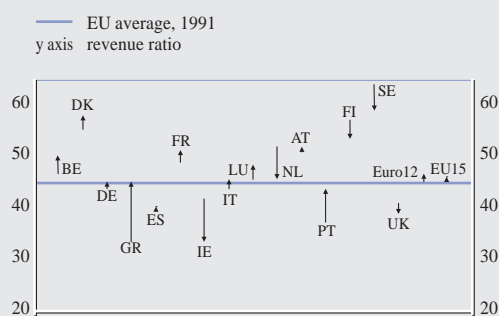
contrast, in the period 1998-2002 cyclically adjusted revenue ratios declined by about 1.5 percentage points on average in both the EU15 and the Euro 12.

Over the entire period considered, revenue ratio increases were generally larger in countries with

initial values below the average ratio in the EU15 and Euro 12. The main exceptions were Ireland in the lower than average revenue group, and France and Austria in the higher than average revenue group (see Chart 6, which shows the EU average revenue ratio in 1991, individual countries' revenue ratios in 1991 and 2002 and changes in revenue ratios, all in cyclically adjusted terms). Between 1991 and 2002 the standard deviation of cyclically adjusted revenue ratios between countries declined from 9 to 7.2 in the EU15 and from 7.5 to 5.9 in the Euro 12, illustrating some convergence of revenue ratios. Convergence has, however, taken place towards a slightly higher EU average.

**Chart 5 Change in government revenue from 1991 to 2002**

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

In the period 1992-1995 the total government expenditure ratio increased by 1.2 percentage points to 51.3% of GDP in the EU15 and by 1.0 percentage point to 51.5% of GDP in the Euro 12 (Tables 6 and 7). After 1995 this ratio steadily declined and in the period 1996-2002 it decreased by 3.9 percentage points to 47.4% of GDP in the EU15 and by 3.1 percentage points to 48.4% of GDP in the Euro 12.

**Table 5** Cyclically adjusted government revenue in EU countries and the euro area

(as a percentage of GDP and in percentage points of GDP)

	Cyclically adjusted revenue								
	Ratio to GDP				Change in GDP ratio				
	1991	1995	1997	2002	1992-95	1996-97	1992-97	1998-02	1992-02
<b>Belgium</b>	46.1	48.8	49.5	50.1	2.7	0.7	3.4	0.6	4.0
<b>Denmark</b>	56.0	57.8	57.9	57.2	1.8	0.1	1.9	-0.7	1.2
<b>Germany</b>	42.5	46.0	47.1	45.4	3.5	1.1	4.6	-1.7	2.9
<b>Greece</b>	33.0	40.5	43.3	44.5	7.5	2.8	10.2	1.2	11.5
<b>Spain</b>	38.3	39.4	39.3	39.6	1.1	-0.2	1.0	0.3	1.3
<b>France</b>	48.8	50.0	52.4	50.7	1.2	2.4	3.6	-1.7	1.9
<b>Ireland</b>	41.8	39.8	38.1	33.2	-1.9	-1.7	-3.7	-5.0	-8.6
<b>Italy</b>	43.5	45.7	48.2	45.4	2.3	2.5	4.8	-2.8	2.0
<b>Luxembourg</b>	-	-	-	-	-	-	-	-	-
<b>Netherlands</b>	51.4	47.5	46.9	46.2	-3.9	-0.6	-4.4	-0.8	-5.2
<b>Austria</b>	50.5	52.2	52.5	51.4	1.7	0.3	2.0	-1.1	0.9
<b>Portugal</b>	36.3	40.2	41.3	43.7	3.9	1.1	5.0	2.3	7.4
<b>Finland</b>	58.7	56.8	54.2	54.0	-1.9	-2.6	-4.5	-0.2	-4.7
<b>Sweden</b>	65.0	60.5	62.0	59.2	-4.5	1.5	-3.0	-2.7	-5.8
<b>United Kingdom</b>	41.7	38.8	38.5	39.7	-2.8	-0.3	-3.2	1.2	-2.0
<b>Euro 12</b>	44.6	46.7	47.9	46.3	2.1	1.2	3.3	-1.6	1.7
<b>EU 15</b>	44.9	46.3	47.0	45.6	1.3	0.7	2.1	-1.3	0.7

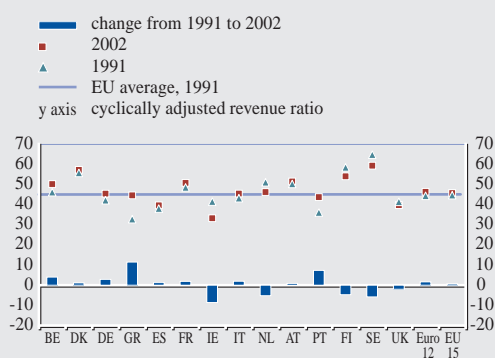
Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

Interest expenditure, which up to 1995 increased as a percentage of GDP in most EU countries, declined continuously over the period 1996-2002 by a total of around 2 percentage points of GDP in both the EU15 and the Euro 12. Declining interest expenditure ratios contributed to declining total

spending ratios, particularly in the period 1998-2002, reflecting lower nominal interest rates to service lower debt ratios (Tables 8 and 9). Therefore, primary expenditure ratios fell by less than total expenditure. Since 1996, the decline in the ratio of interest expenditure to GDP accounted for about half of the decline in the total expenditure ratio in the EU15 and two-thirds in the Euro 12. The fall in the interest expenditure ratio was greater in countries which recorded higher than average debt ratios and nominal interest rates in the mid-1990s (e.g. Belgium, Greece, Ireland, Italy and Portugal). In 2002, the primary expenditure ratio was slightly lower than in 1991 in the Euro 12 and almost 1 percentage point lower in the EU15.

**Chart 6** Cyclically adjusted government revenue ratio in 1991 and 2002 and change from 1991 to 2002

(as a percentage of GDP and in percentage points of GDP)



Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

The biggest falls in expenditure ratios were generally seen in countries which had the highest total expenditure ratios at the beginning of the 1990s. There is also some evidence that countries with higher than average primary expenditure ratios were keener than the others to curb them, with Denmark and France being notable exceptions (Chart 7).



**Table 6 General government expenditure in EU countries and the euro area**

(as a percentage of GDP)

	Total expenditure				Interest expenditure				Primary expenditure			
	1991	1995	1997	2002	1991	1995	1997	2002	1991	1995	1997	2002
<b>Belgium</b>	54.4	52.8	51.4	50.0	11.9	9.3	8.0	6.0	43.0	43.6	43.4	44.0
<b>Denmark</b>	57.8	60.3	58.0	55.2	7.3	6.4	5.7	3.6	50.6	53.9	52.3	51.6
<b>Germany</b>	47.1	49.6	49.3	48.6	2.6	3.7	3.6	3.2	44.3	45.9	45.7	45.4
<b>Greece</b>	44.7	49.4	46.4	46.3	10.0	11.2	8.2	5.5	35.4	38.3	38.2	40.8
<b>Spain</b>	43.5	45.0	41.8	39.6	3.9	5.2	4.8	2.9	39.8	39.8	37.0	36.8
<b>France</b>	51.6	55.2	55.0	53.9	2.9	3.8	3.7	3.1	48.6	51.5	51.3	50.9
<b>Ireland</b>	44.9	41.5	37.1	33.9	7.9	5.4	3.8	1.3	37.2	36.1	33.3	32.6
<b>Italy</b>	55.5	53.4	51.1	47.5	10.5	11.5	9.4	5.7	43.7	41.9	41.7	41.9
<b>Luxembourg</b>	44.5	45.5	43.3	45.5	0.4	0.4	0.3	0.4	44.2	45.2	43.0	45.1
<b>Netherlands</b>	54.9	51.4	48.2	47.2	5.9	5.9	5.2	3.2	48.8	45.5	43.1	44.0
<b>Austria</b>	54.2	57.3	54.1	52.0	4.1	4.4	4.0	3.5	49.9	52.9	50.1	48.4
<b>Portugal</b>	45.1	45.0	44.8	46.2	8.6	6.3	4.2	3.0	36.3	38.8	40.6	43.1
<b>Finland</b>	58.5	59.4	56.3	49.2	1.4	4.0	4.2	2.2	56.6	55.3	52.1	47.0
<b>Sweden</b>	65.6	67.7	63.1	58.2	4.8	6.6	6.3	2.9	60.6	61.1	56.8	55.3
<b>United Kingdom</b>	44.0	44.6	41.1	40.7	3.8	3.7	3.7	2.0	40.8	41.0	37.4	38.7
<b>Euro 12</b>	50.5	51.5	50.2	48.4	5.2	5.6	5.1	3.7	45.0	46.0	45.1	44.7
<b>EU15</b>	50.1	51.3	49.3	47.4	5.0	5.4	4.9	3.4	44.9	45.9	44.3	44.0

Sources: European Commission, spring 2003, and own calculations.

Note: Data exclude proceeds from the sale of UMTS licences.

Developments in cyclically adjusted expenditure ratios might shed some light on the adopted policies and on the underlying developments in the budget. Over the period 1992-2002, cyclically adjusted primary expenditure declined on average in both the

EU15 and the Euro 12. Net of cyclical effects, average expenditure ratios first increased between 1991 and 1995 by almost 1 percentage point to about 45.9% of GDP in both the EU15 and the Euro 12 (Table 10). Expenditure as a percentage of GDP only began falling in 1996

**Table 7 Change in general government expenditure in EU countries and the euro area**

(as a percentage of GDP)

	Total expenditure				Interest expenditure				Primary expenditure			
	1992-95	1996-97	1998-02	1992-02	1992-95	1996-97	1998-02	1992-02	1992-95	1996-97	1998-02	1992-02
<b>Belgium</b>	-1.6	-1.4	-1.4	-4.4	-2.1	-1.3	-2.0	-5.4	0.6	-0.1	0.6	1.0
<b>Denmark</b>	2.5	-2.3	-2.8	-2.6	-0.8	-0.7	-2.1	-3.7	3.3	-1.6	-0.6	1.1
<b>Germany</b>	2.5	-0.2	-0.8	1.5	0.8	0.0	-0.5	0.4	1.7	-0.2	-0.3	1.1
<b>Greece</b>	4.7	-3.0	-0.1	1.6	1.9	-2.9	-2.7	-3.8	2.9	-0.1	2.6	5.4
<b>Spain</b>	1.5	-3.2	-2.2	-3.9	1.5	-0.5	-1.9	-0.9	0.0	-2.7	-0.2	-3.0
<b>France</b>	3.6	-0.2	-1.0	2.3	0.7	0.0	-0.6	0.0	2.9	-0.2	-0.4	2.3
<b>Ireland</b>	-3.4	-4.3	-3.2	-10.9	-2.3	-1.5	-2.5	-6.3	-1.1	-2.8	-0.7	-4.6
<b>Italy</b>	-2.1	-2.3	-3.6	-8.0	-0.3	-2.2	-3.7	-6.2	-1.8	-0.2	0.2	-1.8
<b>Luxembourg</b>	1.0	-2.2	2.2	0.9	0.0	0.0	0.0	0.0	1.0	-2.2	2.1	0.9
<b>Netherlands</b>	-3.4	-3.2	-1.0	-7.6	-0.2	-0.7	-1.9	-2.9	-3.2	-2.5	0.9	-4.8
<b>Austria</b>	3.1	-3.2	-2.1	-2.2	0.2	-0.4	-0.5	-0.7	2.9	-2.8	-1.7	-1.5
<b>Portugal</b>	-0.1	-0.3	1.4	1.0	-2.5	-2.0	-1.2	-5.8	2.4	1.8	2.6	6.8
<b>Finland</b>	0.9	-3.0	-7.1	-9.3	2.1	0.2	-2.0	0.3	-1.2	-3.2	-5.1	-9.6
<b>Sweden</b>	2.1	-4.6	-4.9	-7.4	1.7	-0.3	-3.4	-2.0	0.5	-4.3	-1.5	-5.3
<b>United Kingdom</b>	0.6	-3.5	-0.4	-3.3	0.5	0.0	-1.6	-1.1	0.2	-3.5	1.3	-2.1
<b>Euro 12</b>	1.0	-1.3	-1.8	-2.1	0.1	-0.4	-1.5	-1.9	1.0	-0.9	-0.4	-0.3
<b>EU15</b>	1.2	-2.0	-1.9	-2.7	0.2	-0.4	-1.6	-1.9	1.0	-1.6	-0.3	-0.9

Sources: European Commission, spring 2003, and own calculations.

Note: Data exclude proceeds from the sale of UMTS licences.

**Table 8 Implicit interest rate on general government debt**

(in percentage points)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Belgium</b>	8.8	8.5	7.8	7.1	6.8	6.4	6.3	6.1	6.2	6.1	5.7	5.4
<b>Denmark</b>	11.0	11.1	9.2	9.1	9.3	9.3	9.0	8.7	8.4	8.6	8.1	7.5
<b>Germany</b>	8.5	7.7	7.4	7.7	6.6	6.2	6.1	5.9	5.6	5.6	5.5	0.0
<b>Greece</b>	16.2	16.2	14.3	11.6	10.7	8.2	7.8	7.3	7.2	6.4	5.6	5.3
<b>Spain</b>	10.4	11.2	8.6	9.2	8.9	7.4	6.9	5.9	5.6	5.5	5.3	5.2
<b>France</b>	9.3	8.6	8.2	8.0	7.4	6.7	6.3	5.6	5.6	5.7	5.5	5.6
<b>Ireland</b>	7.7	7.6	6.4	6.7	6.1	6.0	6.2	5.2	4.8	4.3	4.0	4.7
<b>Italy</b>	11.9	11.5	9.7	10.1	9.9	8.0	7.2	6.0	5.9	6.0	5.3	5.1
<b>Luxembourg</b>	9.2	8.0	6.2	6.8	6.6	6.1	6.5	5.3	5.0	5.1	6.6	4.1
<b>Netherlands</b>	8.3	8.0	7.6	8.1	7.5	7.3	7.4	7.1	6.7	6.7	6.4	6.0
<b>Austria</b>	7.7	7.7	6.8	7.1	6.6	6.0	6.3	5.8	5.7	5.5	5.4	5.3
<b>Portugal</b>	11.7	10.5	10.7	10.9	8.9	7.3	6.4	6.2	6.3	6.2	5.7	5.5
<b>Finland</b>	11.1	11.3	9.3	7.5	7.8	8.1	7.2	6.6	6.6	6.4	5.3	5.2
<b>Sweden</b>	10.2	9.3	9.5	9.7	9.1	8.9	8.1	7.2	6.8	6.4	5.6	5.4
<b>United Kingdom</b>	8.0	7.3	7.0	8.0	7.5	7.5	7.5	6.5	6.4	5.9	5.5	5.5

Source: European Commission, spring 2003.

Note: General government interest expenditure as a percentage of debt of preceding year.

and continued to fall although only slightly until 2002, with a total decline of 1.9 percentage points to 44.0% of GDP on average in the EU15 and 1.2 percentage points to 44.7% of GDP on average in the Euro 12.

Fiscal consolidation efforts on the expenditure side were generally greater in countries that had higher than average expenditure ratios in 1991. This is broadly shown in Chart 8, which shows the EU average primary expenditure ratio in

1991, countries' primary expenditure ratios in 1991 and 2002 and consolidation efforts on the expenditure side, all in cyclically adjusted terms. By contrast, most of the increases in expenditure ratios took place in countries with lower than average expenditure ratios. The most notable exception was Ireland, which recorded a sizeable decline in its expenditure ratio, in spite of having a lower than average expenditure ratio in 1991. Over the entire period considered, expenditure ratios converged towards the

**Table 9 Nominal long-term interest rates**

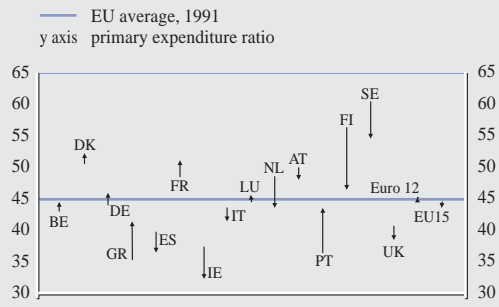
(in percentage points)

	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002
<b>Belgium</b>	9.3	8.6	7.2	7.8	7.5	6.5	5.8	4.7	4.8	5.6	5.1	5.0
<b>Denmark</b>	10.1	10.1	7.2	7.9	8.3	7.2	6.2	4.9	4.9	5.6	5.1	5.0
<b>Germany</b>	8.6	8.0	6.4	6.9	6.8	6.2	5.7	4.6	4.5	5.3	4.8	4.8
<b>Greece</b>	-	-	23.3	20.7	17.0	14.5	9.9	8.5	6.5	6.5	5.9	5.1
<b>Spain</b>	12.4	12.2	10.1	10.1	11.3	8.7	6.4	4.8	4.7	5.5	5.1	5.0
<b>France</b>	9.0	8.6	6.7	7.3	7.5	6.3	5.6	4.6	4.6	5.4	5.0	4.9
<b>Ireland</b>	9.2	9.1	7.8	8.1	8.3	7.3	6.3	4.8	4.6	5.4	4.9	4.9
<b>Italy</b>	13.0	13.7	11.1	10.4	11.9	9.2	6.7	4.8	4.8	5.6	5.2	5.0
<b>Luxembourg</b>	8.2	7.9	6.8	7.2	7.2	6.3	5.6	4.7	4.7	5.5	4.9	4.7
<b>Netherlands</b>	8.7	8.1	6.3	6.9	6.9	6.2	5.6	4.6	4.6	5.4	5.0	4.9
<b>Austria</b>	8.6	8.3	6.6	6.7	7.2	6.3	5.7	4.7	4.7	5.6	5.1	5.0
<b>Portugal</b>	18.3	15.4	9.5	10.4	11.5	8.6	6.4	5.0	4.8	5.6	5.2	5.1
<b>Finland</b>	11.7	12.0	8.2	8.4	8.8	7.1	6.0	4.8	4.7	5.5	5.0	4.9
<b>Sweden</b>	11.8	10.0	8.6	9.5	10.2	8.1	6.7	5.0	5.0	5.4	5.1	5.3
<b>United Kingdom</b>	9.9	9.1	7.3	8.1	8.2	7.8	7.0	5.5	5.0	5.3	4.9	4.9

Source: European Commission, spring 2003.

**Chart 7 Change in government primary expenditure from 1991 to 2002**

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

slightly declining EU15 and Euro 12 averages. Between 1991 and 2002, the standard deviation of cyclically adjusted primary expenditure ratios declined from 7.5 to 6.1 in the EU15 and from 6.5 to 5.1 in the Euro 12. A broad conclusion that can be drawn is that in selecting a budget adjustment policy (whether revenue-based or expenditure-based) countries took into account their initial budget

compositions. In particular, the countries' budgets converged towards a more uniform composition.

### 3.4 MIXED PATTERN OF CAPITAL EXPENDITURE ACROSS COUNTRIES

Over the period 1991-2002 the pattern of capital expenditure in EU countries was mixed. Most countries either reduced their capital expenditure ratio or maintained it at a broadly constant level. However, there is also evidence that some countries, namely Greece, Ireland and Portugal, increased their capital expenditure to cope with the need to improve their infrastructure. In addition, the national co-financing of EU Structural Funds and the Cohesion Fund, of which these countries are recipients, further boosted their capital expenditure.<sup>13</sup> By contrast, the decline in capital expenditure seen in a number of countries might be related to a long-term decline which began in the 1970s rather than to consolidation needs. As countries develop and increase their capital stock,

<sup>13</sup> See Martin (2004).

**Table 10 Cyclically adjusted government primary expenditure in EU countries and the euro area**

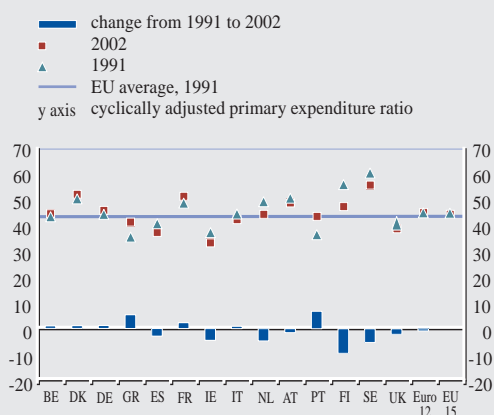
(as a percentage of GDP and in percentage points of GDP)

	Cyclically adjusted primary expenditure							
	Ratio to GDP				Change in GDP ratio			
	1991	1995	1997	2002	1992-95	1996-97	1998-02	1992-02
<b>Belgium</b>	43.2	43.5	43.4	44.0	0.3	-0.1	0.6	0.8
<b>Denmark</b>	50.3	54.0	52.5	51.7	3.7	-1.5	-0.8	1.4
<b>Germany</b>	44.4	45.9	45.7	45.4	1.5	-0.3	-0.3	1.0
<b>Greece</b>	35.4	38.3	38.2	40.8	2.9	-0.1	2.6	5.4
<b>Spain</b>	39.8	39.7	37.0	36.8	-0.1	-2.7	-0.2	-3.0
<b>France</b>	48.7	51.4	51.1	50.9	2.7	-0.2	-0.2	2.3
<b>Ireland</b>	37.3	36.0	33.4	32.8	-1.3	-2.6	-0.7	-4.5
<b>Italy</b>	43.7	41.9	41.7	41.8	-1.8	-0.2	0.1	-1.9
<b>Luxembourg</b>	-	-	-	-	-	-	-	-
<b>Netherlands</b>	49.3	45.4	43.2	43.9	-3.9	-2.2	0.7	-5.4
<b>Austria</b>	49.9	52.9	50.1	48.4	2.9	-2.8	-1.7	-1.5
<b>Portugal</b>	36.5	38.7	40.5	43.1	2.2	1.8	2.6	6.6
<b>Finland</b>	56.1	54.9	52.4	47.0	-1.2	-2.5	-5.4	-9.1
<b>Sweden</b>	60.6	61.0	56.7	55.4	0.4	-4.4	-1.3	-5.2
<b>United Kingdom</b>	40.7	41.0	37.5	38.6	0.3	-3.5	1.2	-2.0
<b>Euro 12</b>	45.1	45.9	45.0	44.7	0.8	-0.9	-0.3	-0.4
<b>EU15</b>	45.0	45.9	44.3	44.0	0.9	-1.5	-0.3	-0.9

Sources: European Commission, spring 2003, and own calculations.  
Note: Data exclude proceeds from the sale of UMTS licences.

**Chart 8 Cyclically adjusted government primary expenditure in 1991 and 2002 and change from 1991 to 2002**

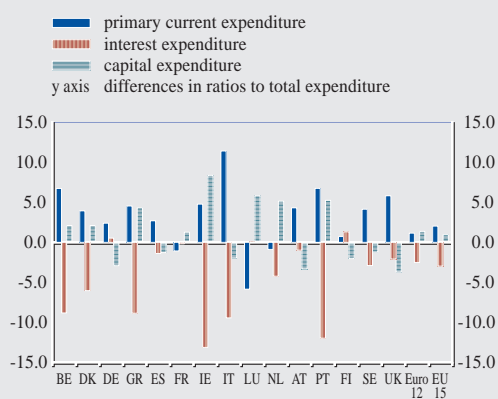
(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

**Chart 9 Change in government expenditure composition, 1991-2002**

(differences in ratios to total expenditure in percentage points)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

they tend to reduce their capital expenditure and investment. Recent privatisation processes have also tended to reduce capital outlays by governments.<sup>14</sup>

Chart 9 illustrates the developments in the composition of expenditure in respect of its main components (primary current expenditure, capital expenditure and interest expenditure) between 1991 and 2002. Changes over the decade reveal various patterns. As expected, capital expenditure increased relative to other expenditure components in countries that recorded relatively lower capital expenditure ratios at the beginning of the period. This was particularly true in Greece, Ireland and Portugal. Furthermore, countries with higher debt ratios benefited more from the decline in interest spending. This was especially the case in Belgium, Greece, Ireland, Italy and Portugal.

In a number of countries, the relative decline in the share for interest spending was associated with a larger share for current expenditure. This was the case for instance in Belgium and Italy. In other countries, such as Greece, Ireland and Portugal, a smaller share for interest expenditure was associated with larger shares for current and capital outlays. However, given

that changes of opposite signs took place in different countries, the composition of the spending side of the budget remained broadly unchanged in both the EU15 and the Euro 12.

#### 4 PATTERNS OF BUDGETARY ADJUSTMENT IN THE 1990S

##### 4.1 TAX INCREASES PLAYED A MAJOR ROLE IN CONSOLIDATION IN THE EURO AREA

A glance at the consolidation process seen in EU countries in the period 1992-1997 reveals that fiscal consolidation was mainly driven by tax increases. Expenditure retrenchment only helped to maintain the expenditure ratio at a broadly stable level in the Euro 12, and to reduce it slightly in the EU15. This is clearly illustrated by Chart 10a, which plots revenue-based adjustments (measured by changes in the cyclically adjusted revenue ratio) against expenditure-based adjustments (measured by changes in the cyclically adjusted primary expenditure ratio) over the period

<sup>14</sup> On the link between investment expenditure and European fiscal provisions, see also European Commission (2001).

1992-1997 for individual countries and for the EU15 and Euro 12 averages. The points below the diagonal line indicate a budget improvement over the period and those above it a worsening. The observations in the first quadrant that are located below the diagonal indicate that about half of the countries carried out budget adjustments via tax increases, which were partly offset by expenditure increases. Observations in the second quadrant indicate countries which implemented both revenue-based and expenditure-based measures to consolidate their budgets (Spain and Italy). The third quadrant contains countries which implemented both tax and expenditure cuts. Among those, the Netherlands and Sweden (below the diagonal) succeeded in consolidating their budget by reducing expenditure, in spite of tax reductions, while Ireland and the United Kingdom (on the diagonal) maintained a neutral stance. Only in Finland (above the diagonal) did tax and expenditure cuts imply some budget deterioration.

It is interesting to note that two-thirds of the euro area countries fall in the first and second quadrants. This indicates a revenue-based consolidation, which in some cases was only partly offset by increases in the expenditure ratio (Germany, Greece, France and Portugal)

and in some cases was reinforced by a diminishing or stable expenditure ratio (Belgium, Spain, Italy and Austria). By contrast, two of the three non-euro area countries (Sweden and the United Kingdom) lie together with Ireland, the Netherlands and Finland in the third quadrant, showing a consistent reduction in tax and expenditure. This suggests that policy-makers in those countries have combined fiscal consolidation with the additional target of implementing reforms of their public finances, possibly aimed at reducing the size of the public sector.

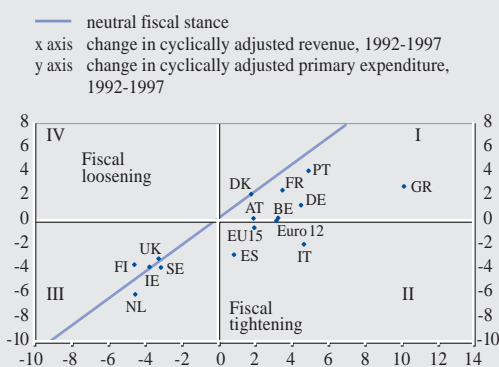
#### 4.2 REVENUE-BASED ADJUSTMENTS PRECEDED EXPENDITURE-BASED ADJUSTMENTS

Fiscal consolidation implemented by EU countries from 1991 to 1997 can be better analysed by considering two distinct sub-periods, so as to identify the pattern and timing of budgetary adjustments.

In the period 1992-1995 the cyclically adjusted primary budget balance, as a percentage of GDP, improved a little in the EU15 and somewhat more in the Euro 12. On average, the budgetary consolidation was largely based on revenue adjustments, partly offset by increases

Chart 10a Budget adjustment, 1992-1997

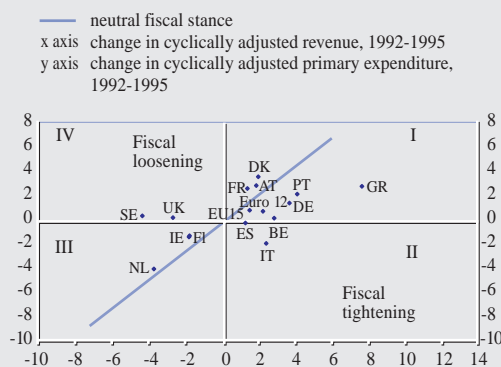
(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

Chart 10b Budget adjustment, 1992-1995

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

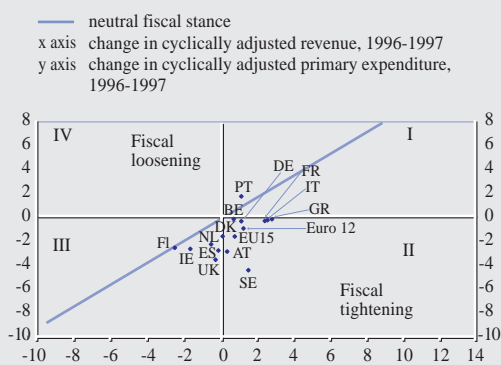
in expenditure. The averages for the EU15 and Euro 12 fall in the first quadrant of Chart 10b, illustrating a revenue-based budget adjustment which was partly offset by expenditure increases in the euro area as a whole. Almost all euro area countries made use of higher taxes to improve the underlying budget position or to compensate for higher expenditure. However, two countries, Spain and Italy, and to some extent Belgium, matched policies generating increased revenue with expenditure restraint, thus reinforcing the effect of the adjustment on the budget. Therefore, in the period considered, almost all euro area countries lie in the first and second quadrants, illustrating that significant discretionary tax increases underpinned the budget process in those years. The exceptions are three euro area countries (Ireland, the Netherlands and Finland) which contained their budget deterioration through expenditure restraint, in spite of a significant reduction in tax revenues. By contrast, in two non-euro area countries, Sweden and the United Kingdom, tax reductions caused a noticeable deterioration in the underlying budget position.

In the period 1996-1997 the cyclically adjusted primary budget ratio improved significantly and to a larger extent than in the previous years in

both the EU15 and Euro 12 (Chart 10c). In contrast to the consolidation experienced in previous years, most countries exercised significant expenditure restraint, which was accompanied by some further revenue increases. In the EU15 a slightly larger contribution came from the expenditure side than the revenue side, and in the Euro 12 there was a slightly larger contribution from the revenue side. In Chart 10c most countries, including the non-euro area countries, fall in or close to the second quadrant, which indicates the adoption of both revenue and expenditure-based adjustments. Hence, most countries implemented policies to curb expenditure, thus allowing a reduction in or stabilisation of the expenditure-to-GDP ratio. Moreover, revenue increases continued to contribute to budget adjustments in many countries, such as Germany, Greece, France, Italy and Sweden, thus strengthening the effects of expenditure restraint. The three euro area countries which had started expenditure and tax reductions in the previous years (Ireland, the Netherlands and Finland) maintained their policies of reducing the size of both sides of the budget. The only exception to the observed process was Portugal which continued to record both expenditure and tax increases, resulting in some budget deterioration.

**Chart 10c Budget adjustment, 1996-1997**

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations.  
 Note: Data exclude proceeds from the sale of UMTS licences.

The Commission has suggested a two-step consolidation strategy for the euro area as a whole and for a number of specific countries.<sup>15</sup> The Commission suggests in particular a “switching strategy”, where countries have moved from revenue-based adjustments to expenditure-based adjustments. The switching strategy view has been challenged by another study which emphasises the fact that the consolidation performed in the second step was larger than the adjustment of the first step.<sup>16</sup> In the context discussed here, the case for a two-step strategy mainly refers to a delayed implementation of expenditure cuts relative to revenue-based adjustments, notwithstanding

<sup>15</sup> See European Commission (2000).

<sup>16</sup> See von Hagen et al. (2001).

**Table 11 Budget consolidation in EU countries and the euro area: size, composition and timing**

(in percentage points of GDP)

	Fiscal stance	Revenue change	Expenditure change	Debt change		Fiscal stance	Revenue change	Expenditure change	Debt change
<b>Expenditure-based adjustment:</b>					<b>Two-step strategy:</b>				
<b>Ireland</b>					<b>Denmark</b>				
1992-95	-0.7	-1.9	-1.3	-20.2	1992-95	-1.8	1.8	3.7	6.8
1996-97	0.9	-1.7	-2.6	-17.7	1996-97	1.6	0.1	-1.5	-8.1
1998-02	-4.3	-5.0	-0.7	-31.6	1998-02	0.1	-0.7	-0.8	-16.0
<b>Netherlands</b>					<b>Germany</b>				
1992-95	0.1	-3.9	-3.9	0.3	1992-95	2.0	3.5	1.5	16.6
1996-97	1.6	-0.6	-2.2	-7.3	1996-97	1.3	1.1	-0.3	4.0
1998-02	-1.5	-0.8	0.7	-17.3	1998-02	-1.4	-1.7	-0.3	-0.2
<b>Finland</b>					<b>Greece</b>				
1992-95	-0.7	-1.9	-1.2	34.4	1992-95	4.6	7.5	2.9	26.5
1996-97	-0.1	-2.6	-2.5	-3.0	1996-97	2.8	2.8	-0.1	-0.5
1998-02	5.2	-0.2	-5.4	-11.3	1998-02	-1.4	1.2	2.6	-3.3
1992-02	4.4	-4.7	-9.1	20.1	<b>Spain</b>				
<b>Sweden</b>					1992-95				
1992-95	-5.0	-4.5	0.4	22.3	1992-95	1.3	1.1	-0.1	19.5
1996-97	5.8	1.5	-4.4	-3.1	1996-97	2.5	-0.2	-2.7	2.7
1998-02	-1.5	-2.7	-1.3	-18.1	1998-02	0.5	0.3	-0.2	-12.6
<b>United Kingdom</b>					<b>France</b>				
1992-95	-3.1	-2.8	0.3	17.4	1992-95	-1.5	1.2	2.7	18.8
1996-97	3.2	-0.3	-3.5	-1.0	1996-97	2.6	2.4	-0.2	4.7
1998-02	0.0	1.2	1.2	-12.3	1998-02	-1.5	-1.7	-0.2	0.3
<b>Tax-based adjustment:</b>					<b>Austria</b>				
<b>Belgium</b>					1992-95				
1992-95	2.5	2.7	0.3	3.2	1992-95	-1.2	1.7	2.9	11.7
1996-97	0.7	0.7	-0.1	-9.2	1996-97	3.1	0.3	-2.8	-4.5
1998-02	0.1	0.6	0.6	-19.6	1998-02	0.5	-1.1	-1.7	2.8
<b>Italy</b>					<b>Euro 12</b>				
1992-95	4.1	2.3	-1.8	22.6	1992-95	1.3	2.1	0.8	14.4
1996-97	2.7	2.5	-0.2	-3.0	1996-97	2.1	1.2	-0.9	2.3
1998-02	-2.9	-2.8	0.1	-13.5	1998-02	-1.3	-1.6	-0.3	-6.1
<b>Portugal</b>					<b>EU 15</b>				
1992-95	1.7	3.9	2.2	3.5	1992-95	0.4	1.3	0.9	15.2
1996-97	-0.8	1.1	1.8	-5.2	1996-97	2.3	0.7	-1.5	0.8
1998-02	-0.2	2.3	2.6	-1.0	1998-02	-1.1	-1.3	-0.3	-8.3

Sources: European Commission, spring 2003, and own calculations.

Note: Revenue and expenditure in cyclically adjusted figures; fiscal stance measured by the change in the cyclically adjusted primary balance. Data exclude proceeds from the sale of UMTS licences.

some predominance of revenue adjustments over the entire period considered.

The rationale behind a two-step strategy is that the need to comply with the Maastricht criteria and the inevitable approach of the convergence “exam” might have persuaded countries to pursue rapid and radical budget consolidation. The adopted policies might have reflected different sources of budget vulnerability in various countries. For instance, when benefits

from social security systems mature, current expenditure is not fully under the control of the government in the short term. In addition, it might be more difficult to gain political acceptance for measures to curtail spending in some cases. Hence, faced with an urgent need to address budgetary imbalances, countries might have felt compelled to resort to tax instruments as an immediately effective tool. This observation is supported by the fact that many tax adjustments implemented in the early 1990s,

such as extraordinary taxes or one-off measures implemented in Germany and Italy, among other countries, were temporary.

Table 11 illustrates the various fiscal strategy approaches taken by the various countries. One group (Denmark, Germany, Greece, Spain, France and Austria) adopted a two-step strategy whereby expenditure cuts (or the stabilisation of the expenditure ratio) came after a tax-oriented strategy of consolidation. A second group (Belgium, Italy and Portugal) did not follow a two-step strategy and adjustments appear to have mainly been revenue based, although also accompanied by expenditure restraint in some cases. A third group (Ireland, the Netherlands, Finland, Sweden and the United Kingdom) did not show a change of strategy over the period considered and mainly carried out expenditure-based adjustments.

#### 4.3 TAX REFORMS BETWEEN 1998 AND 2002 INSUFFICIENTLY FINANCED BY EXPENDITURE CUTS

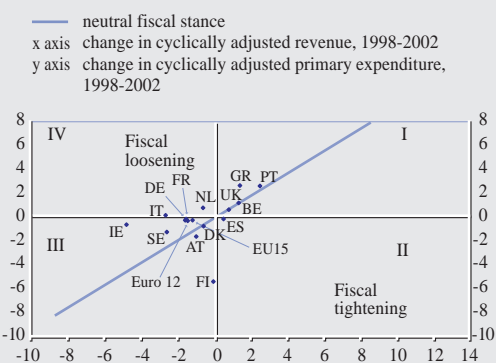
In the period 1998-2002, after initially remaining broadly constant the cyclically adjusted primary budget balance ratio worsened

considerably both in the EU15 and the Euro 12. Between 2000 and 2002, many countries experienced a setback in fiscal consolidation (Chart 10d). Discretionary measures aimed at reforming national tax systems and reducing the tax burden were not sufficiently accompanied by measures to restrain expenditure growth. Tax cuts were motivated by the concern that an excessively high tax burden on factors of production (labour and capital) would be detrimental to economic activity. Worries about the quality of public finances and budget composition were, to some extent, given priority over the need for further consolidation.

Large tax reductions were implemented in both the personal and corporate sectors, particularly in countries recording the highest revenue ratios compared with the EU average. Higher temporary revenues from the cyclical upturn were used to compensate for discretionary tax cuts in the budget year, without the necessary structural adjustments being implemented on the expenditure side. As a result, tax cuts were not always sufficiently financed. Therefore, in the wake of the economic slowdown and the decline in asset prices beginning in 2000, revenues started decreasing and most countries

Chart 10d Budget adjustment, 1998-2002

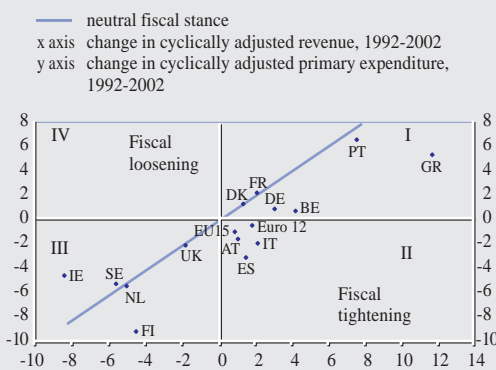
(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

Chart 10e Budget adjustment, 1992-2002

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.



experienced a worsening of their budgetary position. Since 2000, most countries recorded a deterioration in their underlying budgetary position or, at best, maintained a broadly neutral fiscal stance. This is illustrated in Chart 10d, where a majority of the countries lie to the left of the diagonal, indicating a worsening of budget balances, mainly in the third quadrant (negative changes in both revenue and expenditure ratios).

The most pronounced budget deteriorations, as well as tax cuts, took place in some of the largest countries, namely Germany, France, Italy and the Netherlands, but also in Ireland and Sweden. In all these countries, the introduction of significant tax reforms was accompanied by insufficient expenditure restraint. Hence, to some extent, these countries reversed the budget adjustments made in the previous years. By contrast, the other countries (particularly some of the small ones) financed discretionary tax cuts through expenditure restraint or adopted balanced increases in both, thus maintaining a broadly neutral fiscal stance. The general exception was Finland, which continued to achieve significant budget consolidation.

An overview of the process for the entire period from 1992 to 2002 is given in Chart 10e, which shows that on average euro area countries implemented a larger budget consolidation than the EU15 as a whole. Furthermore, in the euro area, budget consolidation was biased towards tax increases, while in the EU15 as a whole it was more or less equally divided between expenditure cuts and tax increases. To summarise, both the size and the composition of policy measures appear to have had an effect on the durability and overall effectiveness of fiscal consolidation. Fiscal consolidation was significant until 1997, but since then progress has not been robust enough. Some countries which relied more heavily on tax-based adjustment in the period 1992-1997, such as Germany and Italy, also suffered from greater consolidation fatigue in the years that followed.

#### 4.4 DISCRETIONARY FISCAL POLICY AND ECONOMIC CONDITIONS

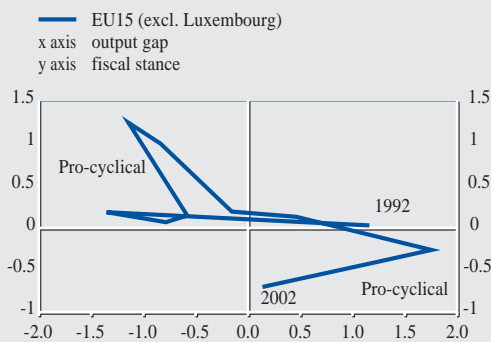
To further identify the patterns of budgetary adjustment, this section analyses whether economic conditions affected the choice of discretionary fiscal policy. Many empirical studies have found evidence that fiscal policies are pro-cyclical in the European Union.<sup>17</sup> Furthermore, fiscal policies tend to be asymmetric across the cycle, with fiscal consolidation mainly taking place when economic downturns occur. The theoretical rationalisation given to the pro-cyclicality of public finances mainly refers to the political economy literature. In particular, large surpluses increase lobbying for higher spending (Talvi and Vegh, 2000). Greater political competition during economic upswings leads to higher public spending, in particular public investment (Tornell and Lane, 1999). With a slightly different emphasis, one alternative explanation points out that economic reforms and policy changes are more likely when things go badly (Drazen and Grilli, 1993). Pro-cyclicality of public finances has also been related to the weakness of the budget constraints set by the Stability and Growth Pact in good times (Brunila, 2002).

Fiscal policies during the period 1992-2002 show a clear pro-cyclical orientation. On average, the fiscal stance in the EU15 was pro-cyclical, with most tightening episodes occurring in bad economic times and most loosening episodes happening in good economic times (Chart 11). Furthermore, fiscal policies were more pro-cyclical in countries recording the highest deficit ratios in the mid-1990s (close to or above 4%) than in countries registering the lowest deficit ratios (close to or below 3%). On average, high-deficit countries experienced a larger number of pro-cyclical fiscal episodes than low-deficit countries, particularly in bad economic times (Chart 12). In addition, the chart shows that the stance of fiscal policies

<sup>17</sup> See Lane (2002) (also for a survey of previous empirical studies); Hallerberg and Strauch (2003); and Gali and Perotti (2003).

**Chart 11 Output gap and fiscal stance in the EU15, 1992-2002**

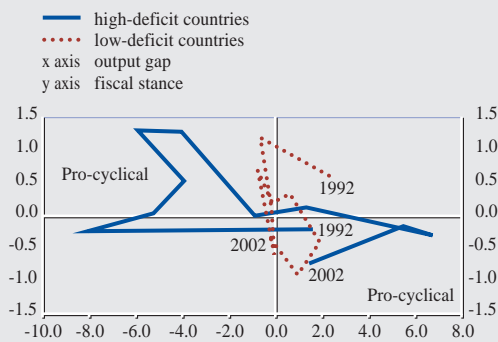
(as a percentage of potential GDP and in percentage points of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: For the definition of the fiscal stance, see note to Table 3.

**Chart 12 Output gap and fiscal stance in high and low-deficit countries, 1992-2002**

(as a percentage of potential GDP and in percentage points of GDP)



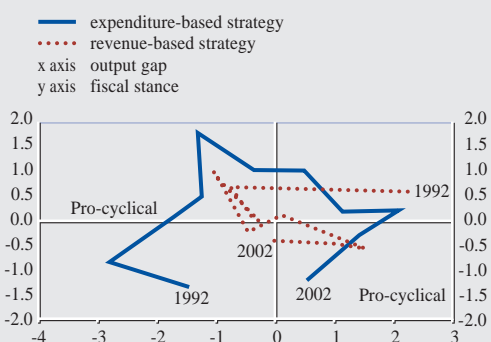
Sources: European Commission, spring 2003, and own calculations. Note: For the definition of the fiscal stance, see note to Table 3.

in high-deficit countries was more pro-cyclical than in low-deficit countries. One possible explanation is that, in the absence of consolidation measures, an economic downturn in countries with large fiscal imbalances would have caused their budgetary position to breach the 3% deficit reference value. Therefore, the risk of exceeding the deficit threshold in bad times might have prompted pro-cyclical consolidation in countries with serious fiscal imbalances. Interesting information on the nature of the

pro-cyclical policies adopted can be gained by distinguishing between countries according to the composition of the budget consolidation strategy (Chart 13). In particular, this chart shows that pro-cyclical policies are those implemented through tax adjustments. In other words, countries which mainly relied on revenue-based adjustments used tax policy in a pro-cyclical way, which may have had a strong distortionary effect on economic activity. Furthermore, large countries maintained more

**Chart 13 Output gap and fiscal stance by consolidation strategy, 1992-2002**

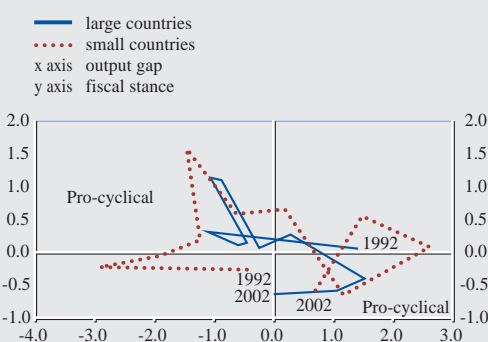
(as a percentage of potential GDP and in percentage points of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: For the definition of the fiscal stance, see note to Table 3.

**Chart 14 Output gap and fiscal stance in large and small countries, 1992-2002**

(as a percentage of potential GDP and in percentage points of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: For the definition of the fiscal stance, see note to Table 3.

pro-cyclical policies than small countries (Chart 14). This observation could be related to sounder budget positions recorded on average by small countries.

#### 4.5 CONSOLIDATION FATIGUE OR A MISSED OPPORTUNITY?

The re-emergence of budget imbalances in recent years bring to the fore the question of whether countries have implemented sufficient budgetary adjustments in the past to build adequate budget safety margins and to shelter their budgetary position from unforeseen, adverse economic developments. A body of literature has looked at the conditions under which budgetary adjustments produce an effective and lasting improvement in public finances. The main conclusion reached by a number of studies is that the factors which are critical to the success of a fiscal consolidation are its size, its quality (i.e. the budget composition of the adjustment) and the initial state of public finances. In particular, expenditure-based adjustments tend to have greater longevity than revenue-based adjustments.<sup>18</sup> However, a budgetary worsening could also signal consolidation fatigue as an expected consequence of consolidation efforts. More specifically, the longer the consolidation effort lasts, the greater the likelihood that the budget balance will worsen again (Harden, Brookes and von Hagen, 1995). Furthermore, when assessing the budgetary deterioration which took place in particular after 2000, a related aspect worth looking into is whether the institutional constraints and fiscal rules enshrined in the Treaty became less compelling in the short term for countries which had already joined Monetary Union (Brunila, 2002; Buti and Giudice, 2002).

To shed some light on the issue, one can examine the fiscal consolidation implemented by various countries, taking into account the budget composition of the adjustment. Chart 15 shows the developments in the cyclically

adjusted primary balance between 1992 and 2002 in EU Member States, making a distinction between two groups of countries.

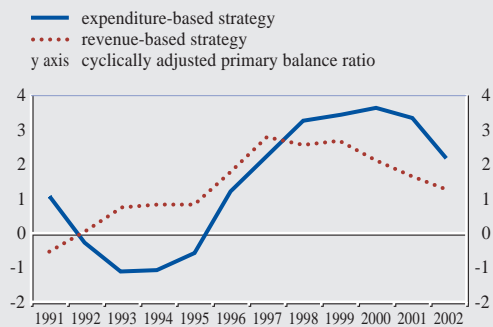
The first group includes countries which based their budgetary adjustments mainly on tax increases, namely Belgium, Denmark, Germany, Greece, France, Italy, Austria and Portugal. The second group comprises the countries which consolidated their budget mainly on the basis of expenditure cuts, namely Spain, Ireland, the Netherlands, Finland, Sweden and the United Kingdom. Chart 15 illustrates that countries which adopted an expenditure-based strategy also implemented a larger budget adjustment than countries which adopted a tax-based strategy. This is measured by the overall change in the cyclically adjusted primary balance for the group of countries considered, taking the mid-1990s as a reference. Furthermore, the cyclically adjusted primary balance in countries which adopted an expenditure-based strategy was higher than in the other countries over the period 1998-2002.

In assessing the budget consolidation process, it is also useful to distinguish between high-debt and low-debt countries, so as to relate the adjustments of the budget balance to the initial state of public finances and, in particular, the outstanding stock of public debt. High-debt countries are defined as those that in the mid-1990s had debt ratios close to or above 70% of GDP (namely Belgium, Denmark, Greece, Ireland, Italy, the Netherlands, Austria and Sweden), with the others defined as low-debt countries. Chart 16 illustrates that over the entire period high-debt countries maintained on average a cyclically adjusted primary surplus ratio well above the one recorded on average by the other countries. The high-debt group of countries kept a restrictive fiscal stance until 1997 and initiated a gradual loosening from 1998 onwards. The low-debt group of countries instead implemented a restrictive fiscal stance until 1999 and started loosening it in 2000. Over the entire period

<sup>18</sup> See Alesina and Perotti (1995a); Alesina and Ardagna (1998); and von Hagen et al. (2001).

**Chart 15 Average cyclically adjusted primary balance by groups of countries, 1991-2002**

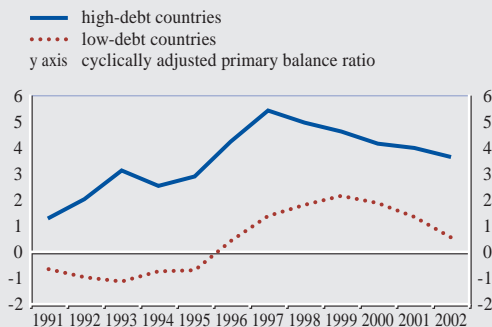
(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

**Chart 16 Average cyclically adjusted primary balance by groups of countries, 1991-2002**

(as a percentage of GDP)



Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

considered, consolidation efforts in the high-debt countries were greater than those in the low-debt countries. The overall picture suggests that in abiding by the fiscal framework established institutionally by the Treaty, considerations regarding the outstanding stock of public debt entered into and strongly influenced the budget adjustment process.

All in all, both the size and composition of policies, as well as the initial state of public finances, appear to have had an effect on the durability and overall effectiveness of fiscal consolidation. As emphasised above, countries which relied more than others on revenue-based adjustments in the period 1992-1997 also experienced the greatest consolidation fatigue in the following years and in particular after 2000. Furthermore, countries with higher debt ratios achieved greater consolidation.

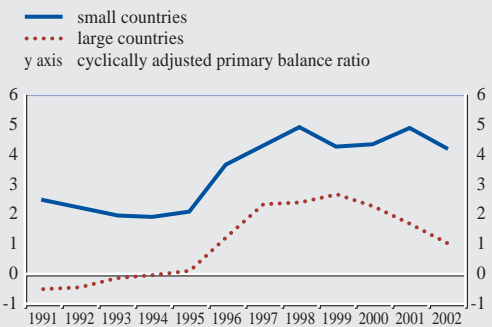
The possibility that consolidation fatigue is a systematic consequence for countries undergoing a long-term process of deficit reduction has been looked into by a recent econometric study (von Hagen et al., 2002). The study found a positive and significant effect relating the length of the consolidation to the probability of a setback. The results are worth noting, particularly in the light of the recent debate which has called into question the

effectiveness of fiscal rules in imposing short-term constraints on national budget policies. In particular, it has been said that, since countries achieved Monetary Union and the convergence of interest rates, the incentives to preserve sound public finances have become weaker.

In this respect, it is first useful to make a distinction between large countries (namely Germany, Spain, France, Italy, the Netherlands and, outside the euro area, the United Kingdom) and small countries when assessing the budget

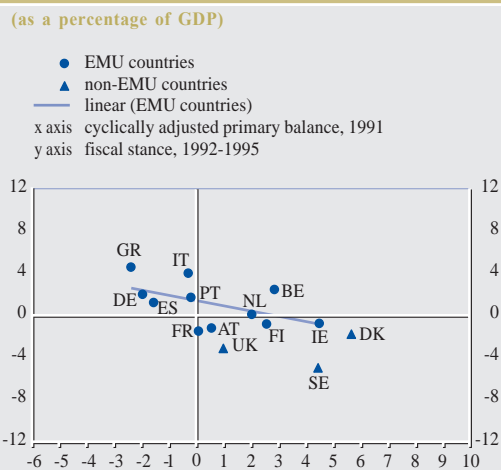
**Chart 17 Average cyclically adjusted primary balance by groups of countries, 1991-2002**

(as a percentage of GDP)



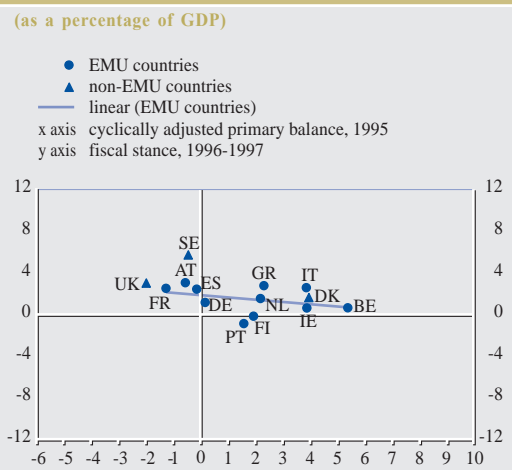
Sources: European Commission, spring 2003, and own calculations. Note: Data exclude proceeds from the sale of UMTS licences.

**Chart 18a** Cyclically adjusted primary balance in 1991 and fiscal stance in the period 1992-1995 in EMU and non-EMU countries



Sources: European Commission, spring 2003, and own calculations.  
Note: For the definition of the fiscal stance, see note to Table 3.  
Data exclude proceeds from the sale of UMTS licences.

**Chart 18b** Cyclically adjusted primary balance in 1995 and fiscal stance in the period 1996-1997 in EMU and non-EMU countries



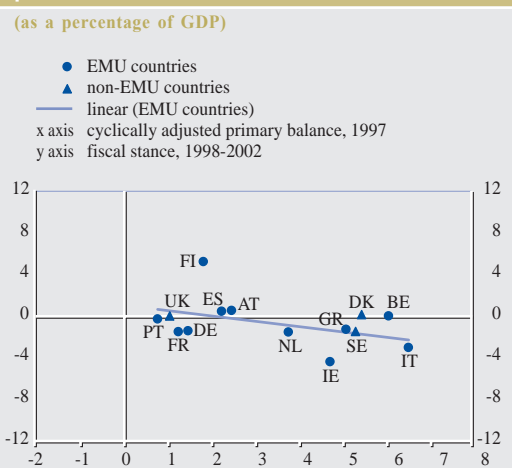
Sources: European Commission, spring 2003, and own calculations.  
Note: For the definition of the fiscal stance, see note to Table 3.  
Data exclude proceeds from the sale of UMTS licences.

process (Chart 17). Small countries maintained a fairly restrictive fiscal policy stance throughout the period considered, with only a limited loosening thereafter. By contrast, on average large countries did not implement restrictive policies until 1996 with a clear loosening after 1999. The chart would suggest that the institutional constraints established by the Treaty were more compelling for the small countries than for the large ones.

One way to see whether institutional constraints weaken after achieving entry into EMU is to compare the adjustments implemented by participants and non-participants in the single currency. Charts 18a to 18c plot fiscal adjustments (measured by changes in the cyclically adjusted primary budget balance) in the participant countries in the three sub-periods considered (1992-1995, 1996-1997 and 1998-2002) against the nominal deficit recorded at the beginning of each period. The charts also show observations for non-participants. In the period 1992-1995 non-participants lie below the participants, showing less consolidation effort than euro area countries. However, in the period 1996-97 the chart indicates a tighter fiscal stance for the

non-participant countries. In the period 1998-2002 the chart does not show significant differences in the relative position of the two groups. Therefore, although the euro area countries appear to have started their processes of consolidation earlier in the 1990s, both groups converged towards a restrictive fiscal

**Chart 18c** Cyclically adjusted primary balance in 1997 and fiscal stance in the period 1998-2002 in EMU and non-EMU countries



Sources: European Commission, spring 2003, and own calculations.  
Note: For the definition of the fiscal stance, see note to Table 3.  
Data exclude proceeds from the sale of UMTS licences.

stance in the European Union in the run-up to Stage Three of EMU by implementing major budgetary adjustments. Furthermore, the two groups both halted their consolidation efforts after the start of Stage Three.

## 5 THE MACROECONOMICS OF FISCAL CONSOLIDATION

### 5.1 OVERVIEW

While there is broad agreement that the long-term effects on economic activity of budget imbalances and high debt are negative, there is much less consensus on the interaction between fiscal policy and output in the short term. In the short term, a restrictive fiscal policy would generally imply contractionary effects on aggregate demand. However, expansionary effects are also possible if fiscal policies prompt a change in the expectations of economic agents about their future wealth (demand-side effects) and/or contribute to improving the competitiveness of the economy (supply-side effects). The traditional macroeconomic approach emphasises the demand implications of restrictive fiscal policies and points to the short-term contractionary impact of fiscal consolidation. The opposite view suggests instead broadly neutral or favourable output implications of contractionary fiscal policies and emphasises expectational effects, particularly when current fiscal conditions are perceived as unsustainable by the market. In this context, in addition to positive demand-side effects, some supply-side effects also have to be considered.

This issue is of particular relevance in the European Union, where a number of countries have not yet attained sound fiscal positions and, in some cases, still record high debt ratios. However, the downturn of the cycle since 2000 has given rise to a debate in several fora on the appropriateness of pursuing further fiscal consolidation when faced with bleak growth prospects. Therefore, it is crucial for policy-makers to investigate the conditions

under which the negative impact on output can be minimised. The new institutional framework for budgetary discipline introduced by the Maastricht Treaty has created new elements of interest in the analysis. In particular, the enhanced credibility of governments and their commitment to fiscal discipline could make intertemporal effects stronger and create conditions which minimise the contractionary effect on economic activity of restrictive fiscal policies.

A large body of literature has examined the experiences of fiscal consolidation which took place in OECD countries in the 1980s and 1990s from a quantitative point of view in order to determine the size and sign of fiscal multipliers. The approach adopted by several recent empirical studies and presented in this section focuses on specific episodes of fiscal consolidation in various countries in order to identify the channels of transmission of potentially expansionary fiscal retrenchments. Although the interpretation of cross-country evidence is subject to a number of methodological limitations (above all, the possible impact of non-fiscal factors on economic activity), all studies provide evidence suggesting that fiscal consolidation may have non-Keynesian effects.

Most studies agree that the crucial aspects of a budgetary adjustment in determining possible expansionary effects on economic activity are its size, composition, speed of implementation and the initial state of public finances. However, conclusions differ as to the relative importance of the various features of a budgetary adjustment. In particular, evidence related to the size of a budgetary adjustment and the initial state of public finances is more mixed. Most studies conclude that expenditure-based adjustments are associated with neutral or positive effects on economic activity, whilst this is not the case for revenue-based adjustments. The initial state of public finances and the size of budget adjustments also enter into the picture, with large fiscal imbalances and sizeable adjustments possibly contributing to the expansionary effect of a fiscal tightening.

## 5.2 EMPIRICAL STUDIES OF EPISODES OF FISCAL CONSOLIDATION: SOME REFERENCES

The theoretical and empirical literature has highlighted a number of channels through which fiscal consolidation might lead to less detrimental or even favourable effects of budget retrenchment on economic activity (see Summary table A).

A number of studies based on data for a panel of OECD countries covering the years from 1970 up to the mid-1990s have focused on the demand-side channels of expansionary fiscal consolidation. On the demand side, restrictive policies might reduce the risk premia paid on interest rates, particularly in countries with high debt ratios, by increasing confidence in government solvency. According to the study by McDermott and Wescott (1996), a decline in interest rates would stimulate aggregate demand directly via investments. The empirical results show that successful consolidation episodes are associated with faster GDP growth and lower unemployment, with most economic growth driven by higher investment.

However, in a study of the experiences of fiscal consolidation in Denmark and Ireland, Giavazzi and Pagano (1990) show that expansionary effects on economic activity are driven by the positive wealth effect in the private sector and hence by consumption. In particular, major fiscal consolidation could signal future lower tax burdens, which would in turn lead to an increase in the expected lifetime disposable income of economic agents. Hence, wealth effects on private consumption might outweigh a Keynesian recessionary process triggered by a reduction in public spending. In a more recent work (Giavazzi and Pagano, 1995) the same authors conclude that the size and persistence of fiscal consolidation are also relevant in determining wealth effects. A further investigation (Giavazzi, Jappelli and Pagano, 2000) concludes that the sign of a fiscal adjustment is also relevant, meaning that wealth effects are stronger for fiscal contraction than for fiscal expansion.

A recent study by the European Commission (2003) based on a panel of EU countries covering the period from 1970 to 2002 emphasises that the consumption and investment channels are both relevant in episodes of expansionary consolidation. Furthermore, the size and persistence of the fiscal adjustment, its composition and the initial state of public finances, especially the level of debt, are all important factors for expansionary consolidation. In particular, expansionary fiscal consolidation is more likely to be based on expenditure cuts than on tax increases.

Expectations also play a role because people's expectations about future fiscal policies and hence, future wealth changes, affect their current behaviour. In particular, if a fiscal expansion prompts expectations of a future policy reversal, the resulting precautionary behaviour on the part of households and firms can reduce fiscal multipliers and possibly turn them negative. Agents would then expect future large and disruptive fiscal adjustments that, in the presence of distortionary taxes, would produce large output losses (Blanchard, 1990). By contrast, a sizeable reduction in public expenditure, perceived as permanent, could signal that future spending and hence taxes will be lower. Therefore, when governments are committed to fiscal discipline in a credible way, positive intertemporal effects of restrictive fiscal policy on wealth and demand may occur. The non-linearity of the relationship between fiscal policies and private consumption depends on the level reached by total public expenditure (Bertola and Drazen, 1992) or public debt (Sutherland, 1997).

In this context, Perotti (1999) searches for conditions under which non-Keynesian effects might prevail by applying the structural VAR approach to the analysis of fiscal policy. The analysis relies on institutional information about taxes and transfer systems and the timing of tax collection to identify the automatic response of taxes and spending to activity and from there to infer fiscal shocks. He uses a model based on relatively standard

macroeconomic assumptions, such as distortionary taxes and the coexistence of liquidity-constrained and unconstrained consumers. Under normal circumstances, defined as a relatively low debt ratio, Keynesian effects related to changes in public consumption might prevail. However, with a very high debt and large distortions from taxes, wealth effects can be very sizeable. Thus, given a reduction in government spending, the increase in consumption by unconstrained individuals might well outweigh the fall in consumption by constrained individuals and aggregate private consumption will increase, showing non-Keynesian effects. A more recent paper (Perotti, 2002) studies the effects of fiscal policy on GDP, prices and interest rates in five OECD countries, using a structural VAR approach. The study concludes that the effects of fiscal policy on GDP and its components have become weaker over the last twenty years. Although before 1980 positive government multipliers larger than one were an exception, after 1980 negative multipliers became the norm, with tax multipliers being even smaller.

Expansionary effects are also possible from the supply side. A series of studies (Alesina and Perotti, 1995 and 1996) find some evidence that during fiscal consolidation investment is at least partly crowded in and that international competitiveness, measured on the basis of labour costs, may improve. The studies emphasise that increases in labour taxation lead unions to demand higher real wages to compensate for lower after-tax income. Therefore, the effects of taxes on aggregate labour supply in unionised markets can be large. According to these studies, during successful consolidation episodes, nominal interest rates and relative unit labour costs fall significantly, with positive effects on GDP growth. The finding is that successful types of adjustment have moderating effects on wage demands. These findings suggest that the unit labour cost channel might be even more relevant than wealth and confidence effects.

Alesina et al. (1999) carried out an empirical study based on a panel of twenty OECD countries over the period 1960-95 in order to assess the effects of taxation and expenditure on investment. They focused on the role of profit as a determinant of investment and showed that the composition of fiscal policy is relevant to profit determination, particularly when workers belong to a union which is a monopoly, in which case higher government spending will prompt higher labour demand and the union will increase the price (real wage) of labour. In a standard q-model of investment, the decline in profits will lead to lower investment. Furthermore, increases in labour taxes reduce profits and investment, although the effects are weaker than in the case of spending changes. This analysis is supported by empirical estimates. They use a structural VAR procedure to identify fiscal policy shocks and then estimate the effects of these shocks on profits, wages and investment. They find that government spending shocks have a negative effect on profits. The fall in profits is indeed intermediated by the labour market, via higher real wages, and profits are positively associated with investment.

The study by Caselli and Rinaldi (1999) aimed to shed light on whether the composition of the fiscal consolidation is relevant because of its impact on consumer expectations (demand-side effects) or because of its impact on the competitiveness of the economy (supply-side effects). To answer this question, the study empirically tested the main prescriptions of the Obstfeld and Rogoff model. The study shows that the composition of budgetary adjustment affects private demand via expectational effects rather than by stimulating supply-side effects. Looking at the composition of the fiscal adjustments, expansionary effects on private consumption are larger for cuts in public consumption than for cuts in other components of primary expenditure. However, simultaneity of fiscal consolidation in the second half of the 1990s might have contributed to the weakness of the economic cycle in Europe.



Summary table A Empirical evidence of weak Keynesian or non-Keynesian effects

Study	Sample	Indicator of fiscal stance	Number of fiscal episodes	Empirical findings	Channels	Underlying theory	Characteristics of expansionary fiscal contractions
Giavazzi and Pagano (1995)	19 OECD countries, 1970-1992	OECD primary structural budget balance	223 episodes	Consolidation has non-Keynesian effects	Private consumption based on wealth effect via a decline in interest rates	Credibility effects and non-linearity of consumption	Size and persistency are relevant
Alesina and Perotti (1995a and 1996)	20 OECD countries, 1960-1994	Blanchard fiscal impulse	62 episodes of tight fiscal policy	Consolidation has non-Keynesian effects	Supply-side effects via improved competitiveness	Unionised labour markets/budget composition	Size not relevant, composition relevant (expenditure cuts)
McDermott and Wescott (1996)	20 OECD countries, 1970-1995	OECD primary structural budget balance (only large and successful episodes)	63 contractions, of which 14 successful	Consolidation has weak Keynesian effects or negative multiplier effects	Investment via a decline in interest rates	Credibility effects reinforced by initial debt conditions	Size, composition, persistency and initial conditions are relevant
Alesina and Ardagna (1998)	All OECD countries, 1960-94	Blanchard fiscal impulse	28 contractions and 23 expansions	Consolidation has non-Keynesian effects	Supply-side and demand-side effects (consumption and investment)	Unionised labour market/budget composition/wealth effects	Size not relevant, composition is (expenditure cuts)
Caselli and Rinaldi (1999)		EU cyclically adjusted primary budget balance (large and successful consolidation)		Under specific circumstances, consolidation has non-Keynesian effects	Demand-side effects (consumption)	Wealth effects	Composition and spillover effects are relevant
Alesina et al. (1999)	20 OECD countries, 1960-1995	–	–	Consolidation has non-Keynesian effects	Supply-side effects (investment)	Unionised labour market/budget composition/wealth effects	Composition is relevant (expenditure cuts)
Perotti (1999)	19 OECD countries, 1965-1994	–	–	Consolidation has non-Keynesian effects	Consumption via wealth effects	Distortionary taxes and expectational view	Composition and initial conditions are relevant
Giavazzi, Jappelli and Pagano (2000)	18 OECD countries, 1970-1996	OECD primary structural budget balance (only large and persistent episodes)	65 contractions and 38 expansions	Consolidation has non-Keynesian effects	Private consumption based on wealth effects	Credibility effects and non-linearity of consumption	Size, composition and persistency are relevant; initial conditions are not
European Commission (2003)	14 EU countries, 1970-2002	European Commission cyclically adjusted primary budget balances	49/59 consolidations and 24/32 expansions	Consolidation has non-Keynesian effects	Consumption and investment	Credibility and confidence	Composition and initial conditions matter; size does not

A study by Alesina and Ardagna (1998) provides some evidence to support the wealth and expectational effects (demand side) and the labour market argument (supply side). Successful adjustments pave the way for a spectacular investment boom during and immediately after the adjustment, with increasing rates of growth in private consumption. Both successful and unsuccessful episodes are accompanied by a nominal devaluation of similar magnitude. The unit labour cost falls immediately before and after successful adjustments, with all indicators pointing to an increase in profits during successful adjustments. The policy prescription is that a successful and long-lasting fiscal adjustment with expansionary effects must combine spending cuts (particularly social transfers, welfare programmes and government wage bills), some form of wage agreement with the unions to ensure wage moderation, and a devaluation prior to fiscal tightening.

## 6 SUMMARY AND CONCLUSIONS

This paper has taken a close look at a number of stylised facts describing the main features of budget consolidation implemented by EU countries between 1991 and 2002. The aim was to examine, by presenting the facts in a rather descriptive fashion, whether the signing of the Maastricht Treaty affected the process of budgetary adjustment undertaken by the EU countries. As a closely related issue, the paper has examined the conditions for lasting fiscal consolidation and the circumstances under which the negative effects on growth of fiscal contractions might possibly be minimised.

The key stylised facts characterising the process of budget consolidation are the following. After the signing of the Maastricht Treaty, and particularly in the run-up to Monetary Union, the fiscal stance became restrictive in the euro area countries, with larger adjustments in the countries that had experienced the largest imbalances at the

beginning of the 1990s. In the course of the consolidation process, revenue and expenditure ratios converged somewhat towards the EU15 and Euro 12 averages. Across countries, the standard deviation of cyclically adjusted revenue ratios and primary expenditure ratios declined during the 1990s. Countries converged towards a higher average EU revenue ratio and towards a slightly lower average EU primary expenditure ratio. Regarding capital expenditure, there is some evidence that its share in total expenditure has increased in countries with historically low capital expenditure ratios.

Consolidation in the 1990s can be divided into three periods. Between 1992 and 1995 the moderate budgetary consolidation recorded on average in both the EU15 and the Euro 12 was largely based on rising revenue ratios and was partly offset by increases in expenditure ratios. In the years 1996 and 1997 the cyclically adjusted primary budget balance improved significantly on average in both the EU15 and the Euro 12. The budget consolidation was based on both lower expenditure and higher revenue ratios in the EU15 and the Euro 12. Overall, fiscal strategies adopted until 1997 were mainly based on tax increases, including temporary measures, with only limited attention being paid to expenditure restraint in many cases. Furthermore, in many countries revenue-based adjustments were implemented before expenditure-based adjustments. One possible explanation is that the urgent need for consolidation induced countries to resort to tax instruments as an immediately effective tool. In the period 1998-2002, when policies were aimed at reducing excessively high tax burdens, the cyclically adjusted primary budget ratio remained initially broadly constant on average in the EU15 and in the Euro 12 and declined thereafter. In those years tax cuts were insufficiently matched by expenditure cuts.

The composition of the adopted policies appears to have had an effect on the durability and extent of fiscal stabilisation. Countries which relied more than others on revenue-based

adjustments in the period from 1992 to 1997, the year in which convergence was assessed, also experienced the greatest consolidation fatigue in more recent years. The above observation is in line with several empirical studies, which suggest that expenditure-based adjustments are more robust than revenue-based adjustments. Furthermore, countries which implemented consolidation policies in a timely way could move swiftly to stimulate growth through a supply side-oriented policy (including tax cuts compensated for by expenditure restraint).

This paper also suggests that the new institutional framework introduced by the Maastricht Treaty has created new elements of interest in the analysis. The framework for budget discipline, together with the sizeable budget adjustments implemented by the various

countries in the 1990s, might have increased the credibility of governments' commitment to comply with the fiscal discipline criteria. Hence, the new institutional framework could have made intertemporal effects of fiscal policy more likely, thus strengthening the expectations of consolidation-induced lower taxes and of greater wealth in the future and therefore also reducing the detrimental effects on growth from substantial fiscal consolidation. Based on a survey of the empirical literature on the subject, this paper emphasises that the composition and the extent of restrictive policies, as well as the initial budget conditions, are relevant to the overall effectiveness of fiscal consolidation. In particular, there is evidence that an expenditure-based adjustment tends to be more growth-friendly and lasting than a tax-based adjustment without expenditure retrenchment.

## REFERENCES

- Afonso, A. (2001), “Non-Keynesian effects of fiscal policy in the EU15”, Universidade Tecnica de Lisboa, mimeo.
- Alesina, A. (2002), “The coordination of monetary and fiscal policies in Europe: A skeptic’s view”, paper prepared for the Bundesbank Conference on Monetary Policy, Frankfurt am Main, December.
- Alesina, A. and S. Ardagna (1998), “Tales of fiscal adjustment”, *Economic Policy*, No. 27.
- Alesina, A., S. Ardagna, R. Perotti and F. Schiantarelli (1999), “Fiscal policy, profits and investment”, NBER Working Paper No. 7207.
- Alesina, A. and A. Drazen (1991), “Why are stabilizations delayed?”, *American Economic Review*, Vol. 81, No. 5.
- Alesina, A. and R. Perotti (1995a), “Fiscal expansions and adjustments in OECD countries”, *Economic Policy*, No. 21.
- Alesina, A. and R. Perotti (1995b), “The political economy of budget deficits”, *IMF Staff Papers*, No. 42.
- Alesina, A. and R. Perotti (1996), “Fiscal adjustments in OECD countries: composition and macroeconomics effects”, NBER Working Paper No. 5730.
- Alesina, A., R. Perotti and J. Tavares (1998), “The political economy of fiscal adjustments”, *Brooking Papers on Economic Activity*.
- van Aaele, B. and H. Garretsen (2001), “Keynesian, non-Keynesian or no effects of fiscal policy changes? The EMU case”, CESifo Working Paper No. 570.
- Barry, F. and M. B. Devereux (1995), “The expansionary fiscal contraction’ hypothesis: a neo-Keynesian analysis”, *Oxford Economic Papers*, Vol. 1.
- Beetsma, R (2001), “Does EMU need a Stability Pact?” in Brunila, A. et al. (2001), cit.
- Begg, I., D. Hodson and I. Maher (2003), “Economic policy coordination in the European Union”, *NIER*, No. 183.
- Bertola, G. and A. Drazen (1992), “Trigger points and budget cuts: explaining the effects of fiscal austerity”, *American Economic Review*, Vol. 83, No. 1.
- Blanchard, O. J. (1990), “Comments on Giavazzi and Pagano”, *NBER Macroeconomics Annual*, Vol. 5.
- Bouthevillain, C., P. Cour-Thimann, G. van den Dool, P. Hernández de Cos, G. Langenus, M. Mohr, S. Momigliano and M. Tujula (2001), “Cyclically-adjusted budget balances: an alternative approach”, *ECB Working Paper No. 77*.

- Briotti, M. G. (1998), "The use of cyclically adjusted fiscal variables for policy analysis: issues for discussion", ECB, mimeo.
- Briotti, M. G. (2000), "Is the output gap a reliable fiscal indicator?", ECB, mimeo.
- Briotti, M. G. (2002), "Virtues of fiscal consolidation: a practical guide for initiated policy-makers", ECB, mimeo.
- Brunila, A. (2002), "Fiscal policy: co-ordination, discipline and stabilisation", Bank of Finland Discussion Papers, No. 7.
- Brunila, A., M. Buti and D. Franco (2002), "The Stability and Growth Pact – the architecture of fiscal policy in EMU", Palgrave.
- Buti, M., S. Eijffinger and D. Franco (2002), "Revisiting the Stability and Growth Pact: grand design or internal adjustment?", CEPR Discussion Paper Series, No. 3692.
- Buti, M., D. Franco and H. Ongena (1998), "Fiscal discipline and flexibility in EMU: the implementation of the Stability and Growth Pact", *Oxford Review of Economic Policy*, Vol. 14, No. 3.
- Buti, M. and G. Giudice (2002), "Maastricht's fiscal rules at ten: an assessment", *Journal of Common Market Studies*, Vol. 40, No. 5.
- Caselli, P. (1999), "Fiscal consolidation under fixed exchange rates", Banca d'Italia, Temi di discussione, No. 336.
- Caselli, P. and R. Rinaldi (1999), "La politica fiscale nei paesi dell'Unione Europea negli anni novanta", Banca d'Italia, Temi di discussione, No. 334.
- De Bandt, O. and F. P. Mongelli (2002), "Convergence of fiscal policies in the euro area" in Buti, M., J. von Hagen and C. Martinez-Mongay (eds.), "The behaviour of fiscal authorities", Palgrave.
- Drazen, A. and V. Grilli (1993), "The benefits of crises for economic reforms", *American Economic Review*, Vol. 83, No. 3.
- ECB (1999), "The implementation of the Stability and Growth Pact", *Monthly Bulletin*, May.
- ECB (2002), "The operation of automatic fiscal stabilisers in the euro area", *Monthly Bulletin*, April.
- European Commission (1998), "Economic policy in EMU", Clarendon Press, Oxford.
- European Commission (2000), (2001), (2002) and (2003), "Report on public finances in EMU", *European Economy, Reports and studies*, various issues.
- Galí, J. and R. Perotti (2003), "Fiscal policy and monetary integration in Europe", mimeo.

- Giavazzi, F., T. Jappelli and M. Pagano (2000), "Searching for non-Keynesian effects of fiscal policy: evidence from industrial and developing countries", NBER Working Paper No. 7460.
- Giavazzi, F. and M. Pagano (1990), "Can severe fiscal adjustments be expansionary? Tales of two small European countries", NBER Macroeconomic Annual, Vol. 5, MIT Press.
- Giavazzi, F. and M. Pagano (1995), "Non-Keynesian effects of fiscal policy changes: international evidence and Swedish evidence", NBER Working Paper No. 5332.
- von Hagen, J. (2002), "Reflections on fiscal policy in Euroland", University of Bonn ZEI, mimeo.
- von Hagen, J., A. Hughes Hallet and R. Strauch (2001), "Budgetary consolidation in EMU", Economic Papers, No. 148.
- von Hagen, J., A. Hughes Hallet and R. Strauch (2002), "Budgetary consolidation Europe: quality, economic conditions and persistence", Journal of the Japanese and International Economies, No. 16.
- Hallerberg, M., and R. Strauch (2003), "On the cyclical nature of public finances in Europe", *Empirica*, Vol. 29.
- Harden, I., R. Brookes and J. von Hagen (1995), "How to avoid convergence fatigue", European Brief Vol. 3, No 2.
- Hemming, R., S. Mahfouz and A. Schimmelpfennig (2002), "Fiscal policy and economic activity during recessions in advanced economies", IMF, WP/02/87.
- IMF (1996), "Can fiscal contraction be expansionary in the short run?", World Economic Outlook.
- IMF (2000), "The effectiveness of fiscal policy in stimulating economic activity: a review of the literature", mimeo.
- IMF (2001), "Impact of fiscal consolidation on macroeconomic performances", World Economic Outlook.
- Issing, O. (2002), "On macroeconomic policy coordination", Journal of Common Market Studies, No. 40.
- Jaeger, A. and Schuknecht L. (2003), "Boom-bust phases in asset prices and fiscal policy", mimeo, October.
- Korkman, S. (2001), "Fiscal policy coordination in EMU: should it go beyond the Stability and Growth Pact?" in Brunila et al. (2001), cit.
- Lane, P. R. (2002), "The cyclical behaviour of fiscal policy: evidence from the OECD", Trinity College Dublin, mimeo.
- Marín Arcas, J. (2002), "Sustainability of public finances and automatic stabilisation under a rule of budgetary discipline", ECB Working Paper No. 193.

- Martin, R. (2004), "Regional policy" in McDonald, F. and S. Dearden (eds.), "European economic integration", fourth ed., Longman (forthcoming).
- McDermott, J. and R. Wescott (1996), "An empirical analysis of fiscal adjustments", IMF Staff Papers, Vol. 43, No. 4.
- Perotti, R. (1996), "Fiscal consolidation in Europe: composition matters", American Economic Review: Papers and Proceedings, Vol. 86, No. 2.
- Perotti, R. (1999), "Fiscal policy in good times and bad", Quarterly Journal of Economics, No. 114.
- Perotti, R. (2000), "What do we know about the effects of fiscal policy?", XII Riunione scientifica, Università di Pavia, Pavia.
- Perotti, R. (2002), "Estimating the effects of fiscal policy in OECD countries", ECB Working Paper No. 168.
- Solbes, P. (2002), "How relevant are institutional arrangements in labour market and fiscal policy for a stability-oriented monetary policy?", conference of the Monetary Stability Foundation on an institutional framework for monetary stability, Frankfurt am Main.
- Sutherland, A. (1997), "Fiscal crises and aggregate demand: can high public debt reverse the effects of fiscal policy", Journal of Public Economics, LXV.
- Talvi, E. and C. Vegh (2000), "Tax base variability and pro-cyclical fiscal policy", NBER Working Paper No. 7499.
- Tornell, A. and P. R. Lane (1999), "The voracity effect", American Economic Review, Vol. 89.
- Zaghini, A. (1999), "The economic policy of fiscal consolidations: the European experience", Banca d'Italia, Temi di discussione, No. 355.

