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Budgetary Policies during Recessions
- Retrospective Application of
the “Stability and Growth Pact” to the Post-War Period -

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Budgetary Policies during Recessions

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1. Introduction

Over recent years, the budgetary policies carried out by Western countries during the Post-War period have been analysed extensively in the literature. Several studies have pointed to the interaction of economic and political factors and underlined the important role of institutions and procedures in shaping policies and outcomes¹. Considerable attention has been devoted to budgetary consolidation processes, with some studies emphasising the role of the composition of budgetary measures in determining the success of these policies².

The purpose of this paper is to analyse budgetary policies carried out during and after severe recessions, an issue which the above-mentioned literature has not yet focused upon.

Since the agreement on the “Stability and Growth Pact” by the European Council in Dublin in December 1996, interest in this issue has increased significantly. The Stability and Growth Pact, which sets the rules for budgetary behaviour in stage three of EMU, singles out severe recessions as specifically problematical periods during which a certain budgetary flexibility could be allowed.

The rules laid out in the Stability and Growth Pact are used in this paper as a benchmark to evaluate past budgetary behaviour during recessions in the fifteen European Union Member States. More specifically, the paper provides elements to examine the following issues: what type of budgetary policies have been adopted during severe recessions in the past? Were the automatic stabilisers allowed to operate fully and did governments adopt an expansionary budgetary policy stance? Which factors influenced the policies undertaken and what was the composition of the measures adopted? Can the accumulation of debt, which took place in the past two decades in Europe, be explained by ‘tax smoothing’ during periods of economic hardship?

With specific reference to the Stability and Growth Pact, the paper addresses the following issues: which changes should be envisaged in national budgetary policies during recessions in order to comply with the requirements of the Pact? More specifically, what is the scope for discretionary counter-cyclical policies? What changes are required in the policies implemented in post-recession periods? Which situations might be particularly problematic? What risks are involved in the transition towards the medium-term targets of close-to-balance or in surplus set by the Pact, and which types of recession can lead Member States into a position of excessive deficit, even when they start from a sound pre-recession budgetary position?

¹ See Alesina and Perotti (1995a), (1995b), (1996a) and (1996b), Bayoumi and Eichengreen (1995), Corsetti and Roubini (1996), Grilli et al. (1991), Hahn et al. (1995), von Hagen (1992) and von Hagen and Harden (1994).

² See Perotti (1996a) and (1996b).

Section 2 of the paper describes the basic principles and features of the Excessive Deficit Procedure and the Stability and Growth Pact. Sections 3 and 4 examine the budgetary policies carried out during recessions in the 1961-1996 period. More specifically, Section 3 presents the real growth and output gap concepts used in the paper as well as the main characteristics of the cyclical adjustment method applied in the paper to estimate structural budget balances. Section 4 examines the main characteristics of the severe recessions which occurred during the past 36 years, as well as the associated budgetary reactions, by analysing cyclical and discretionary changes in budget balances. The issues of the composition of budgetary adjustments and debt accumulation during and after severe recessions are also examined.

Sections 5 to 7 “retrospectively” apply the Stability and Growth Pact. Section 5 applies the Excessive Deficit Procedure and the Stability and Growth Pact framework to the past and analyses under what circumstances the “exceptionality”, “temporariness” and “closeness” conditions set by the Treaty would have been violated in severe recessions. Section 6 assesses whether government budgets behave differently in “mild” recessions and during abrupt slowdowns in growth than in deeper recessions. The length of the adjustment period needed to bring the deficit back below the 3% of GDP ceiling once the recession is over is examined in Section 7.

Section 8 summarises the main results of the analysis and its policy implications. Section 9 concludes by pointing to some areas that require further research.

2. Institutional framework

Solid budgetary discipline is considered to be an essential condition for the success of EMU. The requirement of achieving a sound budgetary position in order to join the single currency and maintaining budgetary prudence once in EMU are at the core of the Maastricht Treaty. The general principles and procedures of the Treaty are currently being spelled out in detail in secondary legislation, which forms the so-called “Stability and Growth Pact”.

The Treaty - Article 104c of the Treaty on European Union states at the outset that, in the third and final stage of EMU, “Member States shall avoid excessive government deficits”³. The compliance of a Member State with the budgetary discipline requirement will be assessed *inter alia* on the basis of the behaviour of the government deficit as a share of GDP in relation to a reference value set by the “Protocol on the Excessive Deficit Procedure” (Protocol 5 of the Treaty) at 3% of GDP.

When an excessive deficit occurs, a procedure aimed at reducing the deficit is initiated. This includes several steps involving an increasing “pressure” on the Member State through recommendations and notice to take effective measures to correct the excessive deficit position. If such a correction does not take place, the Treaty foresees that sanctions may be applied to the Member State participating in EMU.

³ As to the second stage, the Treaty stipulates that “Member States shall endeavour to avoid excessive government deficits”. Currently, only three Member States (namely Denmark, Ireland and Luxembourg) are not in excessive deficit. Germany, which in the 1995 exercise was also among the “virtuous countries”, dropped out in 1996 because its budget deficit attained 3.5% of GDP in 1995 and was forecast to remain above the reference value in 1996.

The 3% threshold can be exceeded without causing an excessive deficit, but only under a restrictive set of conditions. In particular, three conditions must be met:

- (a) exceptionality: the origin of the excess has to be outside of the normal range of situations;
- (b) temporariness: the deficit is allowed to remain above 3% of GDP only for a limited period of time;
- (c) closeness: the deficit must remain close to the reference value.

In practice, the Treaty prescribes that the original cause of the rise of the deficit above the 3% ceiling must be exceptional, that the deficit must not, in any case, exceed this threshold by too much, and must return promptly below it once the initial driving force is over. These three conditions need to apply simultaneously. The extent of the common subset of events not giving rise to an excessive deficit depends on the degree of restriction with which these conditions are interpreted. The Treaty, however, does not specify the exact content of the three constraints. The Stability and Growth Pact gives a more precise interpretation to conditions (a) and (b).

The Stability and Growth Pact - The European Council reached an agreement on the principles and the main features of the Stability and Growth Pact in Dublin in December 1996⁴. The core elements of the agreement include:

- setting time limits to the various steps of the Excessive Deficit Procedure so as to speed it up and, where appropriate, impose sanctions within the calendar year in which the decision on the existence of the excessive deficit is taken;
- defining the meaning of the exceptionality and temporariness conditions;
- specifying the conditions in which sanctions will be applied and their scale.

The starting point of the Dublin agreement is that the EMU Members should set medium-term budgetary targets which are “close-to-balance or in surplus”, thus allowing them to respect the 3% ceiling even during economic downturns.

The exceptionality clause (condition (a)) can be called upon when the excess of the deficit over the reference value results from an unusual event outside the control of the Member State in question and which has a major impact on the financial position of the general government. Alternatively, it can apply if the deficit overshooting takes place in the presence of a severe economic downturn. The latter is considered “exceptional” if there is an annual fall of real GDP of at least 2%.

An annual fall of GDP of less than 2% could nevertheless be considered exceptional in the light of further supporting evidence, such as the abruptness of the downturn or the accumulated loss of output relative to past trends. In any event, in evaluating whether the economic downturn is severe, the Member States will, as a rule, take an annual fall in real GDP of at least 0.75% as a reference point. This condition recognises that, in the event of a harsh and persistent recession, the budgetary room for manoeuvre between

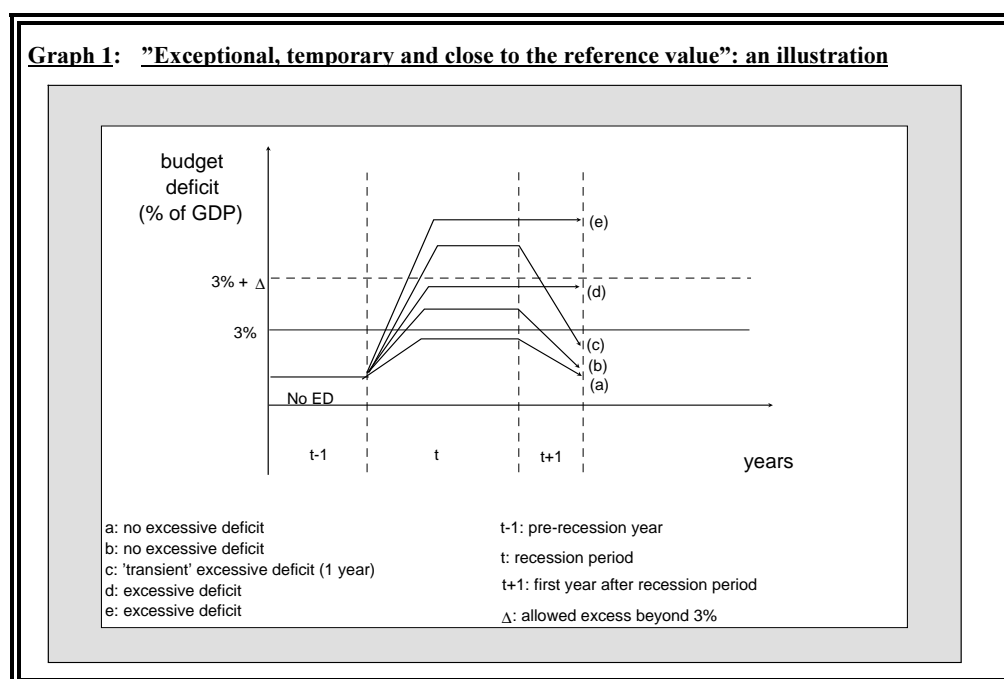
⁴ A first proposal for a Pact to ensure fiscal discipline in stage three of EMU was put forward by the German Finance Minister T. Waigel in November 1995. It was formalised in an official proposal for a Council Regulation on speeding up and clarifying the implementation of the Excessive Deficit Procedure, presented by the Commission in October 1996 (see Commission of the European Communities (1996a)). This first proposal was complemented by a second proposal which represents the “preventive” arm of the Stability and Growth Pact (see Commission of the European Communities (1996b)).

close to balance and a deficit of 3% of GDP may not be sufficient to cushion the negative effects of the shock on economic activity.

As to the temporary nature of the excess of the deficit over 3% of GDP (condition (b)), the agreement is to allow it only insofar as the “exceptional” conditions mentioned above persist. If the Commission’s budgetary forecasts indicate that the deficit would not fall below the reference value in the year following the recession, the country would also be put into a position of excessive deficit in the year of the recession because it had violated the “temporariness” clause.

The conclusions of the Dublin European Council do not deal with the closeness condition (condition (c)).

Graph 1 illustrates the five relevant paths for the deficit during and after an exceptionally severe recession, by indicating for each of them the occurrence or not of an excessive deficit position.



In order of “seriousness”:

- a) the no-problem case, in which, in spite of the recession, the deficit remains below the 3% threshold;
- b) the limited-problem case, in which the deficit exceeds 3% of GDP during the recession, but remains close to it and returns below it immediately after the recession: the three conditions mentioned above apply, hence no excessive deficit occurs;
- c) the violation of the closeness condition, in which the deficit is pushed up well above the reference value, but moves promptly below it as soon as the recession is over: the country is in excessive deficit during the year of the recession, but no sanctions are imposed on it;

- d) the violation of the temporariness clause, in which the deficit remains fairly close to the 3% ceiling during the recession year, but as it does not move below it in the year after the recession, the country is in excessive deficit during the year of the recession and, unless effective measures to correct the deficit are implemented, there is a presumption that sanctions will be applied;
- e) the double-violation case, in which both the temporariness and closeness conditions are not respected: there is an excessive deficit which, as in the previous case, could eventually lead to sanctions.

The decision on whether or not an excessive deficit existed during the year of the recession is taken on the basis of figures for the recession year which are reported one year later. In order to avoid the imposition of sanctions, the Member State which has been put into excessive deficit needs to take immediate action in the year in which the decision on the existence of an excessive deficit is taken. The correction of the deficit should be completed in the year following the identification of the excessive deficit, i.e. in order to avoid sanctions, the Member State concerned should bring back its deficit below the reference value two years after the occurrence of an excessive deficit and one year after its identification, unless special circumstances are given.

3. Conceptual framework: GDP growth, output gaps, cyclical adjustment

This paper considers two concepts of “economic downturn”: a decline in real GDP and a worsening of the output gap. As already pointed out in the previous section, the Dublin agreement refers to negative real GDP growth rates. This is the main yardstick used in this paper. This measure is supplemented with the output gap concept, which, though not uncontroversial, allows a broader assessment of the budgetary impact of economic downturns. More specifically, the output gap allows an analysis of the budgetary implications of protracted periods of low positive growth, as well as those in which the rate of growth declines abruptly but still remains positive. The output gap is also implicitly referred to in the Dublin agreement when the exceptionality of cases with negative growth of less than 2% is qualified⁵.

Definition of “severe economic downturn”

The analysis in this paper is based on a definition of a “severe economic downturn” consistent with the Dublin agreement: a “severe recession” is defined as involving a negative annual real GDP growth rate of 0.75% or more, while a fall in GDP of 2% or more in one year is characterised as an “exceptionally severe recession”. Negative growth of less than 0.75% does not qualify as a severe recession, and is therefore characterised as a “mild downturn”.

The 0.75% yardstick allows to examine a substantial number of recession cases, which ensures the robustness of the results. Recessions involving a fall in GDP of 2% or more are, however, also identified separately in the analysis.

⁵ The report by the Ecofin Council for the December 1996 European Council meeting in Dublin states that “The Council when deciding whether an excessive deficit exists will in its overall assessment take into account any observations made by the Member State showing that an annual fall of real GDP of less than 2% is nevertheless exceptional in the light of further supporting evidence, in particular on the abruptness of the downturn or on the accumulated loss of output relative to past trends”.

Table 1: Number of recession years per European Union Member State over the period 1961-1996

Negative growth: Negative annual real GDP growth		Severe recessions: Negative growth of 0.75% or more		Exceptionally severe recessions: Negative growth of 2% or more	
Member States	Number of years	Member States	Number of years	Member States	Number of years
UK	6	S, UK	4	FIN	2
DK, D, P, FIN, S	4	B, D, P, FIN	3	EL, I, L, P, S	1
B, EL	3	DK, EL, I,	2		
E, F, I, L, NL, A	2	E, F, L, NL	1		
IRL	1				
Total EU	45	Total EU	30	Total EU	7

Source: European Commission, DG II database.

As can be seen in Table 1, the total number of cases with a negative annual real GDP growth rate is 45 for the fifteen EU Member States together over the period 1961-1996, which corresponds to an average of three cases per country or a frequency of 8.3%. Most of these negative growth years are concentrated around the three major recession periods of 1974-1975, 1980-1982 and 1991-1993.

For all fifteen Member States over the last 36 years, there were 30 cases when negative growth was 0.75% or worse, i.e. an average of two cases per country or a frequency of 5.6%. The number of years of negative growth of 0.75% or more is distributed unevenly among Member States. The Nordic countries as well as Belgium, Germany, Portugal and the United Kingdom have registered a larger number of severe recession years compared to the average of two cases per country, while Spain, France, Luxembourg and the Netherlands recorded a smaller number of cases. Ireland and Austria did not have a severe recession over the past 36 years. There were only 7 cases where real GDP fell by 2% or more in one year.

In this paper, the periods of two or more consecutive years of negative growth, in which GDP declines by 0.75% or more in at least one year, are treated as single severe "recession episodes"⁶. Over the period 1961-1996, there have been 9 cases where real GDP declined during two or three consecutive years and for which in at least one of these recession years there was negative growth of 0.75% or more⁷. As a result of this approach, the 30 years where there was negative growth of 0.75% or more collapse into 25 severe recession episodes⁸. As no budgetary data are available for the 1974 recession in Greece, only 24 cases have been taken into account for the calculations in this paper. Amongst them, 5 episodes involve a negative growth of GDP of 2% or more.

⁶ This approach seems consistent with the Excessive Deficit Procedure. Before the decision on the existence of an excessive deficit is taken, an examination of the economic situation of the Member State in question is carried out. This examination is based on the data reporting in March of the year following that in which the excessive deficit occurs. At the moment of the reporting, it can be estimated whether the recession was a one-year or a multi-year recession. When there is a fall of real GDP by 0.75% or more in the first year, the recession may be characterised as a severe recession (if supported by other relevant evidence). At the time of the reporting, it can also be estimated, when there is negative growth of less than 0.75% in the first year, whether negative growth is 0.75% or more in the second year. In this case, the full episode could also qualify as a severe recession.

⁷ 7 cases occurred in the Nordic countries and the United Kingdom, the other 2 in the Netherlands and Portugal.

⁸ See Annex 1 for more detailed information on the total of 25 severe recession episodes which occurred for all fifteen Member States over the period 1961-1996.

Actual and cyclically adjusted budget balances

The effects of sudden and important variations in economic growth on the government's budgetary position can be examined by decomposing the actual budget balance into a cyclical and a structural or cyclically adjusted component. While the former shows the effect on the government budget of cyclical fluctuations around the trend level, the latter reflects what the budget balance would be if economic activity were at its trend level.

However, the cyclically adjusted balance does not correct for all changes in the budgetary position due to changes in the economic environment. For instance, it still includes the implications of changes in inflation and real interest rates⁹. In order to exclude these effects, the cyclically adjusted primary balance is used in this paper. Changes in the cyclically adjusted primary balance provide a rough indication of whether the government is taking discretionary action towards consolidation or whether there is a deterioration in the fundamental budgetary situation and can therefore be viewed as indicative of the restrictive or expansionary stance of budgetary policy.

The influence of cyclical fluctuations on government budget balances is calculated by multiplying the output gap by the marginal sensitivity of budgetary receipts and expenditures to GDP. The trend output benchmark is estimated via the Hodrick-Prescott filter¹⁰. The output gap is defined as the difference between the actual level of GDP and that of trend GDP, expressed as a percentage of trend GDP.

The cyclical sensitivity of the budget balance depends on the size of the government sector, the progressivity of the tax system, the generosity of the unemployment compensation schemes and the sensitivity of unemployment to fluctuations in output. Cyclical fluctuations in revenues are usually much larger than those in expenditure: the decrease in government revenue during a recession accounts for four fifths of the cyclical deterioration of the government deficit, while the increase in expenditure only accounts for one fifth.

As can be seen in Table 2, the sensitivity of the budget balance to the cycle lies at around 0.5 for the European Union as a whole¹¹. This means that each deterioration of a negative output gap by 1% point of trend GDP increases the actual government deficit by 0.5% points of GDP.

⁹ This has been pointed out by, for example, Blanchard (1990) and Bredenkamp (1988). Other influences on the budget which are beyond the direct control of the government and which are not corrected for in the cyclically adjusted balance are: changes in receipts from natural resources, fluctuations in exchange rates, etc.

¹⁰ The Hodrick-Prescott trend estimation method produces output gaps which are symmetric over the series, and therefore sum to zero on average over the period 1961-1996. The negative output gaps produced by this method are relatively small compared to those produced by other methods, such as, for example, the production function approach. In addition, the method smoothes over structural breaks, such as those which occurred in Finland and Sweden at the beginning of the 1990s. For more detailed explanations, see Commission of the European Communities (1995). For a critical review of detrending methods, see Canova (1993). The OECD and the IMF use the Cobb-Douglas production function for the estimation of potential output, as explained respectively in Giorno et al. (1995) and IMF (1993).

¹¹ OECD (1993) found the same coefficient for the average of all OECD countries.

The sensitivity of the budget balance to the cycle is smaller for the southern countries and is relatively large for the Nordic Member States. It ranges from 0.4 for Greece to 0.85 for Sweden.

As shown in Table 3, the size of the budgetary automatic stabilisers, as measured by the cyclical component of budget balances, is quite important for most EU Member States and varies substantially across Member States and over time.

The cyclical impact on government budgets is both higher and more volatile in the smaller Member States and in the Nordic countries than in the larger Member States.

In most Member States, the cyclical component varies on average by around 1% point of GDP in either direction around its mean. As can be seen from the lowest negative and highest positive values of the cyclical components

over the period 1961-1996 presented in Table 3, the cyclical component for all but two EU Member States never surpassed the 3% of GDP value on either side and even remained below the 2% value in six Member States. Cyclical components around 4% to 5% were only registered in Finland and Sweden during the exceptionally severe recession at the beginning of the 1990s.

Table 2: Sensitivity of budget revenue and expenditure to the cycle for European Union Member States-1995

Member States	Marginal sensitivity of budgetary receipts* (1)	Marginal sensitivity of budget expenditure * (2)	Marginal sensitivity of budget balances* (3)=(1)-(2)
B	0.5	-0.1	0.6
DK	0.5	-0.3	0.7
D	0.4	-0.1	0.5
EL	0.3	-0.1	0.4
E	0.5	-0.2	0.6
F	0.5	-0.1	0.5
IRL	0.4	-0.2	0.5
I	0.3	-0.1	0.5
L	0.4	-0.2	0.6
NL	0.5	-0.2	0.8
A	0.4	-0.1	0.5
P	0.4	-0.1	0.5
FIN	0.5	-0.2	0.6
S	0.6	-0.2	0.9
UK	0.5	-0.2	0.6
EU	0.4	-0.1	0.5

* Figures are rounded-off.

Source: European Commission, DG II Database.

Table 3: Size and volatility of the cyclical component of budget balances for the European Union Member States (1961-1996)

Member States	Volatility Standard deviation (% points of GDP)	Lowest negative component		Highest positive component	
		Value (as % of GDP)	Year	Value (as % of GDP)	Year
B	1.0	-1.8	1986	2.0	1974
DK	1.2	-2.4	1981	2.5	1986
D	1.0	-1.8	1967	1.9	1991
EL	0.7	-1.0	1987	1.6	1973
E	1.5	-2.1	1984,1985	2.7	1990
F	0.8	-1.1	1985	1.6	1990
IRL	1.2	-2.3	1993	2.0	1978
I	0.7	-1.2	1975	1.1	1980
L	1.7	-3.2	1983	4.2	1974
NL	1.3	-2.8	1983	1.8	1974
A	0.8	-1.4	1987	1.4	1973, 1974
P	1.1	-2.4	1984	2.4	1973
FIN	2.2	-5.2	1993	5.3	1989
S	1.8	-3.8	1993	3.1	1990
UK	1.4	-2.7	1982	3.1	1989
EU	0.7	-1.3	1983	1.6	1990

Source: European Commission, DG II database.

4. Severe recessions and budgetary outcomes: 1961-1996

Budgetary reactions during severe recessions

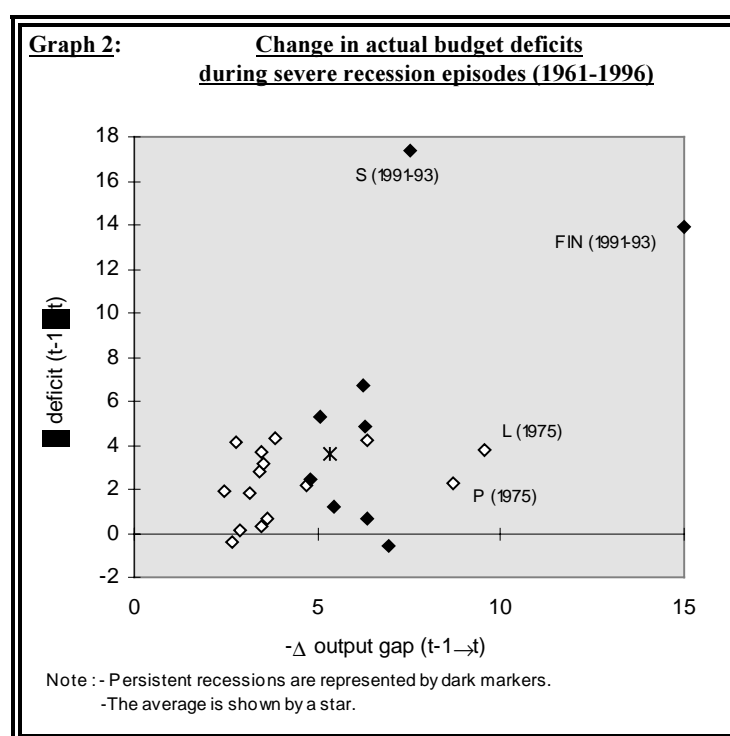
The effect of severe recession episodes on the budgetary situation can be analysed by setting out the changes in the actual budget balances and the cyclically adjusted primary balances between the year preceding the recession and that in which the recession takes place or reaches its final year against the variation in the output gap over the same period.

The difference between the actual and the trend growth rate determines the variation of the output gap. When the actual growth rate falls below the trend growth rate during a recession, there is a worsening of the output gap, i.e. positive output gaps turn negative and existing negative output gaps widen further.

In Graph 2, the change in the actual budget deficit between the year preceding the recession (t-1) and that in which the recession takes place or reaches its final year (t) is set out against the change in the output gap over the same period. Graph 2 shows that the 24 severe recession episodes with negative growth of 0.75% or more over the period 1961-1996 produced extremely different changes in the output gap: the output gap deteriorated by between 2.5 to around 15% points of trend GDP. On average, output gaps deteriorated by 5.5% points.

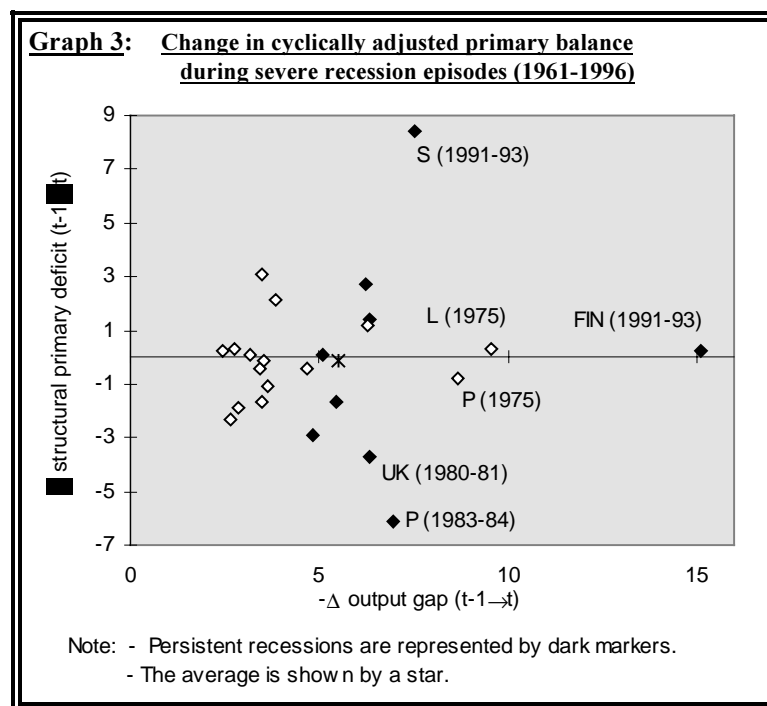
The cumulative widening of the output gap between the year before the recession and the last year of the recession is obviously much larger during multi-year recession episodes (shown by the dark markers) than for single-year recessions. While in most one-year recession episodes (12 out of 15) the gap increased by around 2.5 to 4.5% points, in most multi-year episodes (8 out of 9) it increased by around 4.5 to 7.5% points.

The actual budget balance will tend to worsen during a recession if the automatic stabilisers are not offset completely. As can be seen in Graph 2, most Member States' actual budget deficits increased by between zero and 7% points of GDP during the severe recession episodes which occurred over the period 1961-1996. On average, actual budget deficits increased by around 3.5% points. Graph 2 also shows that the cumulative increase of the actual deficit is not necessarily larger for multi-year recessions than for single-year recessions.



Graph 3 provides some indications about the discretionary budgetary policy stance - defined as the change in the structural primary balance - adopted during the severe recession episodes of the period 1961-1996.

There is an almost even distribution of changes in the structural primary balances above and below the zero-line, i.e. in about half of the cases a counter-cyclical budgetary stance which increased the structural primary deficit was adopted, while in the other half, a pro-cyclical policy was undertaken which reduced the structural primary deficit. Taking the average of all recessions episodes, the structural primary balance remained virtually unchanged. There was thus no systematic tendency on average to loosen budgetary policy during severe recessions over the past decades.



There was no systematic tendency either to adopt more frequently a looser budgetary policy during multi-year recession episodes than during one-year recessions. Portugal and the United Kingdom carried out a budgetary retrenchment policy at the beginning of the 1980s in order to avoid that their budget deficits got out of hand, in spite of a severe and persistent recession, with a strong widening of the output gap by between 6 to 7% points of trend GDP. When its output gap worsened by 7.5% points during the recession of 1991-1993, Sweden, however, judged the recession to be severe enough and its budgetary room for manoeuvre to be large enough to undertake a substantial budgetary relaxation. Finland, which registered a worsening by 15% points of its output gap during the 1991-1993 recession, loosened its budgetary policy during the first two recession years but significantly tightened its budgetary stance during the third year, so that over the full recession episode its structural primary deficit remained unchanged.

The average budgetary stance over all recession episodes hides substantial differences in budgetary behaviour over different recession periods and depends on the pre-recession budgetary position of Member States.

Major recession periods

Did the budgetary reaction of Member States, when confronted with a severe recession, change over time?

Over the years 1961-1996 taken into consideration in this paper, most recessions were concentrated in three periods: 1974-1975, 1980-1982 and 1991-1993. The first and second recession periods were triggered by the two oil price shocks; the third by the

effects of the banking crisis and the collapse of the Soviet-Union in the Nordic countries as well as the tight monetary policy in the aftermath of the German unification¹².

As can be seen in Table 4, real GDP on average declined by 2.8% during both the first and third recession periods. The recession of 1980-1982 was less severe, with an average drop in real GDP of 1.7%. The output gap worsened more during the 1974-1975 recession than during the 1991-1993 recession, even though the negative growth rates were the same. This can be explained by the fact that trend growth was significantly higher in the mid-1970s than at the beginning of the 1990s¹³.

Table 4: Comparison of budgetary reactions during major recession periods (1961-1996)

Major recession periods	Cumulative change between year before recession and last year of the recession (average over episodes)					
	real GDP	output gap	actual deficit	of which: primary deficit	structural deficit	of which: structural primary deficit
1974-1975 recession	-2.8	-6.7	3.5	3.3	0.6	0.5
1980-1982 recession	-1.7	-4.3	2.4	1.2	-0.4	-1.7
1991-1993 recession:	-2.7	-5.1	4.8	4.0	1.4	0.8
-Finland and Sweden	-8.1	-11.0	15.7	12.8	6.7	4.3
-Other countries	-1.5	-4.0	1.8	1.3	-0.4	-0.7
Average over all episodes	-2.5	-5.5	3.6	2.8	0.5	-0.1

Source: European Commission, DG II database.

During the 1974-1975 period, five Member States registered a severe recession with a negative growth of 0.75% or more in 1975, while Denmark and the United Kingdom recorded negative growth in both 1974 and 1975.

As can be seen in Table 4, these countries increased their structural primary deficit by 0.5% points of GDP on average. Four Member States (Denmark, Germany, Luxembourg and Italy) carried out an expansionary budgetary policy to offset the shock, with the structural primary deficit increasing by between 0.3 to 2.7% points. Belgium and Portugal adopted a weak pro-cyclical budgetary stance, which reduced their structural primary deficit by 0.4 to 0.8% points, while the UK took an even more restrictive stance.

During the 1980-1982 period, there was a predominance of multi-year recession episodes. Belgium and Germany registered a negative annual real GDP growth rate of more than 0.75% in 1981 and 1982 respectively, while Denmark and the United Kingdom recorded negative growth in both 1980 and 1981 and the Netherlands in both 1981 and 1982.

¹² Budgetary policies in Western countries over the period 1970-1994 are examined in de Haan et al. (1992), Leibfritz et al. (1994) and Tanzi and Fanizza (1995).

¹³ However, the levels of the negative output gaps were fairly similar during both the first and third major recession periods. This is due to the fact that the positive output gaps registered in the year preceding the first major recession were larger than those recorded in the year preceding the third recession. In the years preceding the 1991-1993 recession, the boom of the middle and end of the 1980s had lost steam and economic activity had already slowed down. A larger variation in the output gap applied to a higher positive output gap gave thus the same negative output gap level in the first major recession as that recorded in the third recession, when a smaller variation was applied to a lower positive output gap.

Most of the Member States hit by this recession undertook a budgetary consolidation policy, with the extent of the fiscal retrenchment undertaken being relatively important. Structural primary deficits were reduced by 1.7% points of GDP on average. As budget deficits had remained high after the first oil shock, less room for manoeuvre was available to combat the second oil shock via budgetary policy. Moreover, the need for counter-cyclical policies was more limited as this recession was less severe.

During the last major recession, seven Member States (Belgium, Germany, Greece, Spain, France, Italy and Portugal) registered negative growth of more than 0.75% in 1993, while Finland and Sweden recorded negative growth in the three consecutive years of the period 1991-1993 and the United Kingdom in both 1991 and 1992.

Over the 1991-1993 recession episode, structural primary deficits increased by 0.8% of GDP on average. This increase can be entirely attributed to the worsening that took place in the Nordic countries: 4.3% points of GDP on average. The other countries adopted a slightly tighter fiscal stance and on average decreased their structural primary deficit by 0.7% of GDP.

Highly-indebted Member States, such as Belgium and Italy, implemented a significant budgetary tightening during this recession and decreased their structural primary deficit by more than 1.5% point of GDP, while Germany also undertook some budgetary consolidation. Most other Member States adopted a slightly expansionary stance and let their structural primary deficits increase by between 0.2 to 1.2% points of GDP. Sweden conducted a substantial fiscal relaxation policy in order to combat its major multi-year recession and increased its structural primary deficit over this recession episode by 8.2% points of GDP. Finland's structural primary deficit increased by 0.2% of GDP.

On the whole, budgetary reactions to recessions seem to have become more prudent since the early 1980s. This may be related to the worsening of the pre-recession deficit and debt levels. The average deficit for the EU as a whole increased from less than 1% of GDP in 1973 to about 3% in 1979 and 3.5% in 1990. In most countries, the debt to GDP ratio was also higher at the beginning of the second and third recession periods than in the early 1970s. Moreover, the debt ratio was set on an upward trend in several countries. These changes increased the risks involved in supplementing the automatic stabilisers with active counter-cyclical policies. The constraint to the implementation of these policies is also evident in the fact that, in the two most recent recession periods, the share of interest payments to GDP increased much more than in the first.

Budgetary margin of manoeuvre

Were budgetary reactions influenced by pre-recession budgetary positions?

Countries with high debt ratios and with a high deficit in the year before the recession can be expected to judge their budgetary room for manoeuvre to be insufficient to conduct a significant fiscal relaxation and therefore to adopt a cautious policy stance, while countries with low pre-recession deficit and debt ratios may be more likely to undertake fiscal relaxation.

Table 5: Comparison of budgetary reactions to severe recessions starting from different pre-recession budgetary situations (1961-1996)

Pre-recession budgetary situation*	Cumulative change between year before recession and last year of the recession (average over episodes)					
	real GDP	output gap	actual deficit	of which: primary deficit	structural deficit	of which: structural primary deficit
-Member States with deficit and debt ratios above the EU average	-1.7	-4.4	1.9	1.1	-0.4	-1.2
-Member States with deficit and debt ratios below the EU average	-3.1	-6.1	5.1	4.4	1.4	0.8
Average over all episodes	-2.5	-5.5	3.6	2.8	0.5	-0.1

* Not including the 1983-1984 and 1993 recession episodes for Portugal because the deficit and debt criteria led to a different classification.

Source: European Commission, DG II database.

It should be stressed that pre-recession budgetary positions may be affected by expectations about the need for active counter-cyclical policies: countries experiencing relatively big output swings may aim at maintaining low deficit and debt levels in order to have more room for manoeuvre in the event of a recession. The same argument applies to countries where the effects of automatic stabilisers are reduced by greater exposure to international trade and may therefore require supplementary discretionary action to cushion negative shocks.

Table 5 provides some preliminary indications on the possible relation between initial public finance imbalances and budgetary behaviour during severe recessions. A Member State is classified as being in a relatively difficult pre-recession budgetary situation if both its deficit and debt ratio in the year before the recession are higher than the EU average, while Member States with pre-recession deficit and debt ratios below the EU average are considered to be in a relatively easier budgetary position.

Table 5 confirms that Member States with deficit and debt ratios above the EU average in the year before the recession conducted a less accommodating budgetary policy: these Member States tightened their fiscal stance and reduced their structural primary deficit by 1.2% points of GDP on average during severe recession episodes¹⁴. Fiscal retrenchment policies aimed at preventing a worsening of the budgetary situation were adopted especially during protracted recession periods.

On the contrary, Member States with low deficit and debt ratios compared to the EU average undertook budgetary relaxation policies during recessions: these Member States increased their structural primary deficits with 0.8% points¹⁵. Member States undergoing a protracted recession substantially loosened their budgetary policy.

Features of budgetary reactions during and after severe recessions

Which budgetary adjustments in terms both of total deficit and composition took place during and after severe recessions?

¹⁴ These results are consistent with the comments on this issue by Leibfritz et al. (1994).

¹⁵ These results still hold when Finland and Sweden, which had a severe multi-year recession at the beginning of the 1990s during which they undertook a fiscal relaxation, are taken out.

Table 6: Features of budgetary reactions during and after severe recessions (1961-1996)

	Cumulative change between year before recession (t-1) and last year of the recession (t) (average over episodes)								
	output gap:		actual deficit	composition of actual deficit:		composition of structural deficit:		composition of structural primary deficit:	
	level t-1	change t		cyclical component	structural deficit	primary deficit	interest payments	primary expenditure	revenue
Change in output gap of \Leftrightarrow 5%	2.0	-3.5	2.1	2.1	0.0	-0.4	0.4	2.2	2.6
Change in output gap of > 5%	3.8	-7.2	4.9	3.9	0.9	0.0	0.9	4.3	4.3
Change in deficit \Leftrightarrow 3%	2.3	-4.5	1.2	2.3	-1.1	-1.7	0.6	2.1	3.9
Change in deficit > 3%	3.5	-6.4	6.3	3.9	2.5	1.8	0.7	4.8	3.1
Average over all episodes	2.9	-5.4	3.6	3.1	0.5	-0.1	0.7	3.3	3.5
	Cumulative change between last year of the recession (t) and first year after the recession (t+1) (average over episodes)								
	output gap:		actual deficit	composition of actual deficit:		composition of structural deficit:		composition of structural primary deficit:	
	level t	change t+1		cyclical component	structural deficit	primary deficit	interest payments	primary expenditure	revenue
Change in output gap of \Leftrightarrow 5%	-1.7	0.5	-0.7	-0.3	-0.4	-0.5	-0.1	-0.4	-0.1
Change in output gap of > 5%	-3.3	1.3	-0.3	-0.6	0.4	0.8	0.4	-0.1	-0.2
Change in deficit \Leftrightarrow 3%	-2.2	0.6	-0.3	-0.2	-0.1	0.1	0.2	-0.3	0.0
Change in deficit > 3%	-3.0	1.2	-0.9	-0.7	-0.2	0.0	0.2	-0.5	0.0
Average over all episodes	-2.5	0.9	-0.6	-0.4	-0.1	-0.3	0.2	-0.4	0.0

Source: European Commission, DG II database.

As can be seen in Table 6, the 24 recession episodes were associated with an average rise in the budget deficit by 3.6% points of GDP: the increase in the deficit due to the working of the automatic stabilisers (3.1% points of GDP) was supplemented by a small increase in the structural deficit by 0.5% points. The worsening of the structural deficit was the net result of a substantial increase in interest payments (0.7% points), while the structural primary balance remained practically unchanged.

In the first year after the recession, there was a small improvement in the budgetary situation (0.6% points of GDP), largely due to the rebound in economic activity. The improvement in the cyclical component of the deficit (0.4% points) was supplemented by a small discretionary tightening (the structural primary deficit declined by 0.3% points of GDP).

As to the composition of the budgetary changes, Table 6 also shows that there has been a substantial increase in expenditure during severe recessions over the past 36 years: overall structural expenditure increased by around 4% points of GDP, with structural primary expenditure increasing by 3.3% points. This increase in expenditure may be caused by either active policy decisions or by “unintended” effects of recessions. Indeed, when the depth of the recession entails a large drop in economic activity, part of the “discretionary” rise in the ratio of government expenditure to GDP is due to inertia in budgetary processes and commitments. This effect is particularly important in the case of the public sector wage bill, which usually depends on predetermined contractual arrangements and enrolment plans, and for transfers to households, which may depend on indexation mechanisms and long-term trends in demography, household structures

and pension scheme maturation. In the short term, public investment expenditure and purchases of goods and services may also show some inertia¹⁶.

Discretionary rises in tax revenue partially offset the expenditure increases: Table 6 shows that structural revenue increased by 3.5% points of GDP on average during severe recessions¹⁷. In the year following the recession, tax revenue stabilised while structural primary expenditure was reduced (0.4% of GDP).

Discretionary tax increases during recessions are *prima facie* counter-intuitive. They may be explained by a number of not-mutually exclusive reasons:

- a) taxes may have to be raised, in spite of the difficult economic times, in order to keep revenue at “acceptable” levels and prevent the budget deficit from getting out of hand, following substantial “voluntary” or “unintended” increases in the ratio of government expenditure to GDP;
- b) in the stagflation of the 1970s, the non-compensation of rising real tax rates, through creeping tax brackets, led “automatically” to discretionary rises in taxes;
- c) due to the existing budgetary process, policy-makers had perhaps decided to raise taxes at the end of the pre-recession period, before it became clear that economic activity was undergoing a contraction; sticky political and institutional procedures may have prevented the reversal of those decisions.

In order to evaluate whether the extent of the economic downturn affects the composition of budgetary reactions, the recession episodes have been arbitrarily split into two groups: those with an output gap change of less than 5% points and those with a bigger output gap worsening. Table 6 shows that, while in the first group of recession episodes revenues and primary expenditure increase by 2.6 and 2.2% points respectively, in the second group they both increase by 4.3% points. The dynamics of the expenditure to GDP ratio may support the above mentioned interpretation about the unintended increases in the expenditure to GDP ratio.

A growing body of literature explores the influence of the initial conditions of public finances and the composition of the budgetary consolidation on the effectiveness and durability of the adjustment¹⁸. It points to the fact that when the adjustment is expenditure-based, it has a higher probability of being durable. It also suggests that, in “bad times regime”, when public finances are undergoing an important deterioration¹⁹, budgetary consolidation tends to rely much more on expenditure cuts, in particular in government consumption, rather than on tax increases.

Which results does the above analysis present in relation, in particular, to the last of these conclusions? More specifically:

- a) are severe recessions at the origin of public finance “bad times”? Or, how much of the current fiscal imbalance can be attributed to the budgetary stabilisation policies implemented in recession periods?
- b) is the result found in the literature that countries tend to rely more on expenditure cuts rather than tax increases in “bad times” somehow connected with the budgetary policies implemented during recessions?

¹⁶ See the extensive analysis of Dawes and Hurst (1992).

¹⁷ Other studies also find evidence of tax rises during recessions. See Alesina and Perotti (1995b).

¹⁸ See for example Alesina and Perotti (1995b) and Perotti (1996a) and (1996b).

¹⁹ Perotti defines a “bad time regime” as one in which the the government debt ratio is above a certain ceiling (80% or 100% of GDP) or the change in the debt ratio over the last two years is larger than the average of the previous two years by at least 5 or 7% points of GDP. See Perotti (1996b).

As to the first question, budgetary policies carried out during recessions all in all do not seem to have contributed substantially to the build-up in government debt that occurred in many EU Member States over the last decades: on average, structural primary deficits were not increased during recessions nor in the years immediately afterwards. As indicated in Table 6, on average these deficits were actually reduced by 0.4% points (0.1% during the recessions, 0.3% in the first year following them).

Table 7 compares the total change in debt to GDP ratios that occurred in the period 1970-1996 with the change that took place in periods of economic downturn (either severe or mild recessions and abrupt slowdowns).

In two Member States (Luxembourg and the United Kingdom), the very limited increases in the debt ratio occurring during recession episodes were fully reversed by the reductions achieved in other periods. In Finland, Ireland and Sweden nearly all the increase in the debt ratio took place during economic slowdowns. However, if in the future these countries confirm past experiences, it may be expected that the large rise in the debt to GDP ratio which took place during the last recession will eventually be re-absorbed in non-recession periods.

In the remaining Member States most of the increase in the debt ratio took place in non-recession periods when budgetary policies did not counterbalance the effects of the recession on debt dynamics, but even further increased the debt ratio. Clearly, the budgetary policies implemented by the third group of countries are not consistent with the Excessive Deficit Procedure and Stability and Growth Pact framework, which implicitly allow some limited public finance imbalances only during recessions and require debt decumulation in the years following the recession.

As to the second question, the contribution of this study is limited, since it does not analyse budgetary developments in the years following the recession. As a preliminary exercise, the recession episodes were divided into two groups, depending on the extent of the increase in the deficit during the recession: more or less than 3% of GDP. This subdivision provides a rough indication of budgetary reactions to severe recessions. The different composition of the changes in the structural primary deficit for each group are presented in Table 6.

The episodes involving an increase of the deficit of more than 3% points show a substantial worsening of the structural deficit (2.5% points) as against a reduction in the other group of recession episodes (-1.1% points). This pattern is determined by the higher increase in the ratio of primary expenditure to GDP in the first group of episodes (4.8% points, as against 2.1% in the second group) and by the lower increase in the ratio of revenues to GDP (3.1% points, as against 3.9%). This result indicates that countries managing recession episodes on a more prudent basis rely both on substantial revenue increases and relatively tighter expenditure controls.

Table 7: Recessions and government debt accumulation (1970-1996)

	Total change in government debt ratio (% points of GDP) 1970-1996	Change in government debt ratio in severe recession episodes (% points of GDP)	Change in government debt ratio in severe and mild recessions and abrupt slowdown in growth	Government debt ratio (% of GDP) at the end of 1996
	<i>Recession effects fully offset in non-recession periods</i>			
L	-19.0	1.3	2.7	6.4
UK	-25.5	2.5	2.5	54.8
	<i>Debt accumulation concentrated in recession periods</i>			
FIN*	43.1	43.5	44.8	58.7
IRL	23.0	-	25.9	72.8
S*	47.6	34.9	34.9	77.7
	<i>Debt accumulation mainly in non-recession periods</i>			
A	50.6	-	12.1	70.0
B	66.3	22.2	22.2	130.0
D	42.1	12.8	13.9	60.7
DK	57.5	18.2	18.2	70.2
E	54.0	12.2	16.3	69.6
EL	94.2	12.6	18.6	111.8
F	35.7	6.0	6.0	56.2
I	85.7	16.7	21.6	123.7
NL	36.9	9.6	9.6	78.5
P	50.2	17.3	17.0	65.6

* The build-up in debt for Finland and Sweden during the 1991-1993 recession is partly attributable to financial operations and other factors not affecting the deficit (these are included in the so-called "stock-flow adjustment").

Note: Figures for general government consolidated gross debt are only available from 1970 onwards. Period 1977-1996 for France, 1975-1996 for the Netherlands and 1973-1996 for Portugal.

Source: European Commission, DG II database

5. "Retrospective" application of the Excessive Deficit Procedure and the Stability and Growth Pact

In this section, the Stability and Growth Pact framework is applied to EU Member States' budgetary outcomes during recession years over the period 1961-1996. This retrospective application exercise aims at providing answers to the following questions: how many recessions would have led to excessive deficits, and, more specifically, to violations of the "temporary nature of deficit" clause or the "close to 3%" clause? Which were the features of these specific recessions? Which level of pre-recession budget balance could have avoided situations that would now be considered as excessive deficits?

Methodology and assumptions

The Excessive Deficit Procedure did not exist for most of the period considered; therefore, the 3% reference value for the government deficit did not have any policy relevance²⁰. This means that the difference between actual deficit levels and the 3% threshold during recessions does not provide any indication relevant for understanding the potential working of this procedure in the past. For this purpose, it is more appropriate to focus on the changes in deficit during and after recessions.

More precisely, the actual deficit changes are superimposed on an arbitrary "pre-recession deficit". Starting from any value of the deficit, the deterioration of the deficit

²⁰ Annex 2 shows that in about three quarters of the years in the period 1961-1996, deficits in the fifteen EU Member States have actually been above the 3% level.

during the recession (in terms of percentage points of GDP) and its bouncing back once the recession is over are examined.

Two starting points are considered: a balanced budget (0% deficit), which is obviously consistent with the “close to balance” requirement and may represent a benchmark for long-term budgetary targets within EMU, and a 2% deficit, the likely deficit level in several Member States during the early years of EMU.

The following assumptions are made on the three concomitant clauses of article 104c:

- 1) the term “exceptional” circumstances is interpreted as a decline in GDP in real terms of 0.75% or more. As pointed out in Section 3, where GDP declines for more than one year, the different years are grouped in a single recession episode.
- 2) The requirement that a deficit in excess of 3% of GDP be “temporary” is interpreted as a requirement that the deficit returns below 3% in the first year following the recession.
- 3) The term “close to the reference value” is arbitrarily defined as a situation in which the deficit does not exceed the reference value by more than 0.5% point of GDP²¹.

For instance, if a Member State is assumed to have a deficit of 2% of GDP in the year before a severe recession, it will be put into a position of excessive deficit during the recession if either its deficit increases by more than 1.5% points of GDP in the year of the recession or if it increases by 1% to 1.5% points in the recession but does return below the 3% threshold as soon as the recession is over, or if both these violations occur simultaneously.

Main results

Tables 8 and 9 report the results of the exercise for the two arbitrary starting points taken into consideration for the pre-recession deficit. On the vertical dimension, each table shows the change in deficit in the recession period with respect to the year before the recession; on the horizontal dimension it considers the change in deficit in the first year after the recession period with respect to the year before the recession. Five areas, corresponding to the five relevant cases outlined in Section 2, can be identified:

- a) the no-problem area (white area - no excessive deficit);
- b) the limited-problem area (light grey area - no excessive deficit);
- c) the violation of closeness area (medium grey area - “transient” excessive deficit);
- d) the violation of temporariness area (medium grey area - excessive deficit),
- e) the double violation area (dark grey area - excessive deficit).

²¹ The tables presented in this section also show the implications of setting the excess margin at 1%.

Table 8: Retrospective application of the Excessive Deficit Procedure (GDP decrease of at least 0.75%): deficit before recession $d_{t-1}=0\%$

$d_{t-1} = 0\%$		Deterioration in (t+1) in comparison with the base year (t-1)			
Deterioration in recession period (t)	number of cases	less equal 1%	more than 1% less equal 2%	more than 2% less equal 3%	more than 3%
no worsening	2	D, P			
less equal 1%	4	B, D, I, UK			
from 1% to 2%	3	EL	F, UK		
from 2% to 3%	4		NL	B	P*, S
from 3% to 3.5%	1			E	
from 3.5% to 4%	2			L*, P	
greater than 4%	8		I*	B, D	DK(2x), FIN*, S*, UK
total	24	7	4	6	7

* : GDP decrease of at least 2.0% (of at least 0.75% otherwise)

Explanation of shaded areas :

light grey	deficit above reference value, but temporary and close to the reference value (E).
medium grey	violation of temporary nature or closeness (L,P,I, B, D).
dark grey	violation of both closeness and temporary nature (DK, FIN, S, UK).

Source : European Commission, DG II database

As can be seen in Table 8, starting from a pre-recession balanced budget, the deficit exceeds the 3% level in 11 recession episodes. In one of these cases (E 1993), the deficit remains below 3.5% during the recession period and returns below 3% in the following year. In 5 other cases (B 1981, D 1975, I 1975, L 1975, P 1993), the deficit exceeds the 3.5% level and returns below 3% in the following year. In 5 events (DK 1974-1975 and 1980-1981, FIN 1991-1992, S 1991-1993, UK 1991-1992), the deficit exceeds the 3.5% level and remains above the 3% level in the year following the recession.

Table 9: Retrospective application of the Excessive Deficit Procedure GDP (decrease of at least 0.75%): deficit before recession $d_{t-1}=2\%$

$d_{t-1} = 2\%$		Deterioration in (t+1) in comparison with the base year (t-1)			
Deterioration in recession period	number of cases	less equal 1%	more than 1% less equal 2%	more than 2% less equal 3%	more than 3%
no worsening	2	D, P			
less equal 1%	4	B, D, I, UK			
from 1% to 1.5%	1		UK		
from 1.5% to 2%	2	EL	F		
from 2% to 3%	4		NL	B	P*, S
from 3% to 4%	3			E, L*, P	
greater than 4%	8		I*	B, D	DK(2x), FIN*, S*, UK
total	24	7	4	6	7

* : GDP decrease of at least 2.0% (of at least 0.75% otherwise)

Explanation of shaded areas :

light grey	deficit above reference value, but temporary and close to the reference value
medium grey	violation of temporary nature (UK) or closeness (EL).
dark grey	violation of both closeness and temporary nature (16 cases).

Source : European Commission, DG II database

In two cases (P 1975 and S 1977), the deficit stays below the 3% reference value during the recession but moves above it in the year following the recession. These countries would not be put into an excessive deficit position for the year of the recession, which is the angle taken for the analysis in Table 8, but would be put in excessive deficit in the year after the recession.

Table 9 shows that a pre-recession 2% deficit leads to 18 cases in which the deficit exceeds the 3% level. There are violations of closeness in one case (EL 1993) and of temporariness in one case (UK 1974-75). Both clauses are violated in 16 recessions (B 1981, D 1975, DK 1974-75 and 1980-81, E 1993, F 1993, FIN 1991-92, I 1975, L 1975, NL 1981-82, P 1975 and 1993, S 1977 and 1991-93, UK 1991-92) involving 12 countries.

The exercises presented above are summarised in Table 10. The following conclusions can be drawn:

- a) As expected, the lower the pre-recession deficit, the lower the probability of breaching the 3% threshold and violating the closeness and temporariness clauses. For instance, moving from the 2% pre-recession deficit exercise to the balanced budget exercise makes the breaches of the 3% threshold decline from 18 to 11; a similar pattern is found for the violations of the closeness condition (from 17 to 10), while the violations of the temporariness clause decline even more sharply (from 17 to 5).
- b) Nearly all cases in which deficits exceed the 3% threshold give rise to an excessive deficit situation (there is only one exception in the 0% exercise).
- c) The early years of EMU, where several countries are likely to record deficits close to 2%, are likely to be extremely problematic in the event of a severe recession. Over the period 1961-1996, with this pre-recession deficit, nearly three quarters of recessions would have resulted in a breach of the 3.5% level or in a deficit above 3% in the year following the recession. Two-thirds of the recessions would have resulted in a violation of both conditions.
- d) A pre-recession balanced budget would have prevented all one-year recessions from resulting in a deficit above the 3% level in the year following the recession.
- e) The risk of incurring an excessive deficit is relatively high for countries involved in lengthy recessions which result in significant negative output gaps and make it extremely difficult to re-absorb the deficit within the first year of recovery. As already pointed out, in 9 out of the 24 recession episodes considered, GDP declines for two or three years. In 5 of these 9 events, even starting with a balanced budget, the deficit exceeds the 3.5% level in the recession period and remains above the 3% level during the following year.
- f) The risk of incurring an excessive deficit is very high in cases where the fall in GDP exceeds 2%. Even in the 0% exercise, temporariness and closeness are respectively violated in 2 and 4 cases out of 5. In the 2% before-the-recession deficit exercise, there is a violation of both the closeness and temporariness clauses in all the 5 recession episodes involving such a fall.
- g) For the calculations carried out in this section, the allowed excess over the 3% ceiling has been arbitrarily set at 0.5% of GDP. A different value would have changed only the proportion of limited problem cases and cases of a violation of the closeness condition as defined in Graph 1 in Section 2.

A bigger excess margin would have increased the number of no excessive deficits compared to the number of “transient” excessive deficits. For the purpose of imposing sanctions on persistent offenders, nothing would have changed²².

All in all, the analysis in this section points to the need to take the problems of countries undergoing lengthy or very deep recessions into account in the implementation of the Stability and Growth Pact. It also calls for a fast move to a balanced budget and for some attention for the problems that will be encountered during the early years of EMU in the event of a severe downturn.

**Table 10: Retrospective application of the Excessive Deficit Procedure (GDP decrease of at least 0.75%):
Summing-up**

Assumed deficit before recession (% of GDP)	Number of recession episodes	Number of recessions with deficit above 3% of which:					
		(a)=(b)+(c)	No Excessive Deficit (b)	Excessive Deficit (c)=(c1)+(c2)+(c3)	of which:		
					Violation of closeness (c1)	Violation of temporary (c2)	Violation of both (c3)
0%	24	11	1	10	5	0	5
2%	24	18	0	18	1	1	16

Source: European Commission, DG II database.

6. “Mild” recessions and abrupt slowdowns: are there hidden problems?

This section examines budgetary outcomes during two additional types of economic slowdown: mild recessions, in which GDP declines by less than 0.75%, and periods of economic slowdown, in which the rate of growth declines abruptly but still remains positive. The analysis provides indications about the risk that these events, which do not qualify as exceptional, produce excessive deficits.

Mild recessions

Over the period 1961-1996 there were 9 cases of negative GDP growth in the 0 to 0.75% range²³. The output gap widened by around 3% points of trend GDP on average in these episodes, as against over 5% points in the 24 episodes considered in Sections 3, 4 and 5.

The increase in the deficit was relatively limited, 0.7% points, as against 3.6% points in the 24 episodes. This is due to the different stance of discretionary policies, which reduced the structural primary deficit by 1.1% points of GDP, while in the 24 episodes it decreased by 0.1% points.

²² An allowed excess margin of 1% of GDP would have increased the number of recession episodes with no excessive deficits from 1 to 3 cases (out of 24 recession episodes) in the 0% before-the-recession deficit exercise and from 0 to 1 case in the 2% exercise. The number of violations of closeness would have conversely declined from 5 to 3 in the 0% exercise and from 1 to 0 in the 2% exercise.

²³ See Annex 3 for more detailed information on the mild recession episodes which occurred for all fifteen Member States over the period 1961-1996.

Table 11: Retrospective application of the Excessive Deficit Procedure (mild recessions): deficit before recession $d_{t-1}=0\%$

$d_{t-1} = 0\%$		Deterioration in (t+1) in comparison with the base year (t-1)			
Deterioration in recession period (t)	number of cases	less equal 1%	more than 1% less equal 2%	more than 2% less equal 3%	more than 3%
no worsening	3	IRL, FIN	EL		
less equal 1%	1		A		
from 1% to 2%	2	D		E	
from 2% to 3%	2	F, L			
from 3% to 3.5%	-				
from 3.5% to 4%	1				A
greater than 4%	-				
total	9	5	2	1	1

Note : Selection of mild recessions exclusively (max. GDP decrease = 0.75%)

Explanation of shaded areas :

light grey	deficit above reference value, but temporary and close to the reference value.
medium grey	violation of temporary nature or closeness.
dark grey	violation of both closeness and temporary nature (A).

Source : European Commission, DG II database

As can be seen in Table 11, assuming a pre-recession balanced budget, there is only one case of excessive deficit. More specifically, this is a case in which the deficit is in the 3.5 to 4% range in the recession period and does not return below 3% in the following year (A 1975). This was due to a substantial expansionary budgetary policy in the year of the recession (an increase in the structural primary deficit by about 1.7% points of GDP), followed by a failure to exploit the high growth rate recorded in the following year²⁴.

Table 12: Retrospective application of the Excessive Deficit Procedure (mild recessions): deficit before recession $d_{t-1}=2\%$

$d_{t-1} = 2\%$		Deterioration in (t+1) in comparison with the base year (t-1)			
Deterioration in recession period	number of cases	less equal 1%	more than 1% less equal 2%	more than 2% less equal 3%	more than 3%
no worsening	3	IRL, FIN	EL		
less equal 1%	1		A		
from 1% to 1.5%	2	D		E	
from 1.5% to 2%	-				
from 2% to 3%	2	F, L			
from 3% to 4%	1				A
greater than 4%	-				
total	9	5	2	1	1

Note : Selection of mild recessions exclusively (max. GDP decrease = 0.75%)

Explanation of shaded areas :

light grey	deficit above reference value, but temporary and close to the reference value (D).
medium grey	violation of temporary nature (E) or closeness (F, L).
dark grey	violation of both closeness and temporary nature (A).

Source : European Commission, DG II database

²⁴ See OECD (1977) and (1978).

As shown in Table 12, a pre-recession deficit of 2% of GDP leads to 5 cases in which the deficit exceeds the 3% threshold, in 4 of which excessive deficits occur. More specifically, there are 2 violations of the closeness clause (F 1975 and L 1981), one of the temporariness clause (E 1981), and one double violation (A 1975). All cases are characterised by expansionary policies.

This seems to imply that, if budgets are balanced before recession episodes, mild recessions will not lead to excessive deficits unless strong expansionary policies are implemented and not reversed after the recession. In other words, experience from the 1961-1996 period points to the fact that there are no downturns other than “severe recessions” which produce serious budgetary effects.

The exercise confirms the problematic nature of the early years of EMU. For instance, in the 2% exercise one country (E 1981) violates the temporariness clause in spite of a very mild expansionary stance (an increase of the structural primary deficit by 0.2% points of GDP). This is probably due to the fact that the recession year followed 3 years of low growth and was followed by one more year of low growth.

Abrupt decline in economic growth

Table 13: Retrospective application of the Excessive Deficit Procedure (abrupt slowdown in growth): deficit before recession $d_{t-1}=0\%$					
$d_{t-1} = 0\%$		Deterioration in (t+1) in comparison with the base year (t-1)			
Deterioration in recession period (t)	number of cases	less equal 1%	more than 1% less equal 2%	more than 2% less equal 3%	more than 3%
no worsening	9	DK, IRL(4x), L, P(2x)		I	
less equal 1%	2	E, A			
from 1% to 2%	2				I, FIN
from 2% to 3%	4			NL	D, L, P
from 3% to 3.5%	-				
from 3.5% to 4%	-				
greater than 4%	-				
total	17	10	-	2	5

Note : Selection of periods of slow growth going along with a worsening of the output gap by at least 2.5%

Explanation of shaded areas :

light grey	deficit above reference value, but temporary and close to the reference value.
medium grey	violation of temporary nature or closeness.
dark grey	violation of both closeness and temporary nature.

Source : European Commission, DG II database

An abrupt decline in economic growth is defined as corresponding to a fall in the GDP growth rate which still remains positive but produces a worsening of the output gap by at least 2.5% points²⁵. As can be seen in Table 13, over the period 1961-1996 there were 17 such episodes (7 of which in Ireland and Portugal). Most took place during the 1960s and 1970s, when growth rates were relatively high.

²⁵ The 2.5% threshold has been selected taking into consideration that 2.5% is the minimum output gap deterioration in the single-year recessions involving a decline of GDP by at least 0.75% (see Annex 1). This means that the 2.5% threshold allows to select downturns which produced effects potentially as large as those produced in the recessions labelled as severe under the 0.75 % condition. See Annex 4 for more detailed information on the abrupt slowdown episodes.

The increase in the deficit was very limited, 0.3% points, as against 3.6% points in the 24 severe recession episodes and 0.7% points during mild recessions. This is due to the discretionary policy undertaken, which reduced the structural primary deficit by 0.9% points of GDP.

As can be seen in Table 13, in the before-the-recession balanced budget exercise, these episodes of sudden decline in the growth rate do not give rise to any excessive deficit case. The 3% threshold is never actually exceeded. In five cases (I 1971, FIN 1977, D 1974, L 1967 and P 1974), the deficit stays below the 3% reference value during the recession but moves above it in the year following the recession. These countries would be put in excessive deficit in the year after the recession.

In the 2% exercise shown in Table 14, there are 6 cases of deficits exceeding the 3% threshold. Among them, there are 5 cases of violation of both clauses and one case of violation of temporariness.

This confirms the indications of the mild recession exercise. If budgets are balanced, major drops in the growth rate do not produce excessive deficits. On the other hand, if deficits are in the 2% range, as might occur in the early years of EMU, abrupt declines in growth might also lead some countries into excessive deficits.

Table 14: Retrospective application of the Excessive Deficit Procedure (abrupt slowdown in growth): deficit before recession $d_{t-1}=2\%$					
$d_{t-1} = 2\%$		Deterioration in (t+1) in comparison with the base year (t-1)			
Deterioration in recession period	number of cases	less equal 1%	more than 1% less equal 2%	more than 2% less equal 3%	more than 3%
no worsening	9	DK, IRL(4x), L, P(2x)		I	
less equal 1%	2	E, A			
from 1% to 1.5%	1				I
from 1.5% to 2%	1				FIN
from 2% to 3%	4			NL	D, L, P
from 3% to 4%	-				
greater than 4%	-				
total	17	10	-	2	5

Note : Selection of periods of slow growth going along with a worsening of the output gap by at least 2.5%

Explanation of shaded areas :

light grey		deficit above reference value, but temporary and close to the reference value.
medium grey		violation of temporary nature (I) or closeness.
dark grey		violation of both closeness and temporary nature (NL, FIN, D, L, P).

Source : European Commission, DG II database

7. How long to correct an excessive deficit? Length of the adjustment period after severe recessions

The issue of the adjustment period to bring the budget deficit back under the 3% threshold in the event of a severe recession enters in two different phases of the application of the Excessive Deficit Procedure, according to the rules laid out in the Stability and Growth Pact:

- 1) As was pointed out in Section 2, in order to respect the “temporariness” condition, the deficit has to be back promptly below the 3% ceiling as soon as the severe recession comes to an end. If this condition is respected, and provided that there had been no violation of the closeness condition, the Member State in question is considered not to have an excessive deficit.
- 2) If the excess over 3% of GDP persists in the year when the recession has come to an end, the country is declared in an excessive deficit position and is asked to implement effective measures to re-absorb the deficit. According to the Dublin agreement, in order to avoid the application of sanctions, effective action should be taken in the year in which the decision on the existence of an excessive deficit has been taken and the correction of the excessive deficit should be completed in the year following its identification, unless special circumstances are given.

Section 5 explored the first issue. The present section deals with the second issue. It examines the relationship between the deterioration in the budget deficit during the recession year and the time period necessary to come back to a sound budgetary position once the recession is over. In policy terms, this section addresses the issue of whether the depth and the persistence of the recession can be called upon as “special circumstances” to allow for a longer adjustment period before imposing sanctions.

Tables 15 and 16 look at the length of the adjustment in the budget deficit after a severe recession - defined, as in the previous sections, as a fall in real GDP of at least 0.75% - has come to an end.

Along the vertical dimension, the change in deficit in the recession period with respect to the year before the recession is indicated, taking a balanced budget and a 2% deficit as the starting points. Along the horizontal dimension, the tables show the number of years which were necessary for the deficit to be brought back under the 3% ceiling. Countries indicated in the first column have either been able to go through the recession without breaching the 3% threshold or have come back below it in the first year following the recession.

Each table is complemented by a graph picturing the relationship between the adjustment period and the deterioration in the output gap during the recession episode. As a way of illustration, the curve depicts an arbitrarily chosen “allowed” adjustment period. The latter is related to the depth of the recession, proxied by the deterioration in the output gap during the recession period. For relatively small changes in the output gap, the adjustment should take place as soon as the recession ends or within two years of the recession at the latest to avoid sanctions, while for larger output gaps a longer adjustment period may be allowed before imposing sanctions²⁶.

²⁶ In the graphs, an additional year is allowed in the case of large output gaps before sanctions are imposed. There would be no change in the results if another additional year were to be granted.

It is assumed that, in any event, the correction of the deficit should take place within three years after the recession. Dots situated below the line represent cases of “appropriate” speed of retrenchment, while dots above it represent “unacceptably” slow adjustment.

The evidence presented in Tables 15 and 16 as well as graphs 4 and 5 below can be summarised as follows:

- a) Starting with a balanced budget, in a large number of cases (17 out of 24) the available room for manoeuvre allowed the budget to remain comfortably within the 3% ceiling or to exceed it for one year only. However, in 5 out of 24 cases, the adjustment took an unacceptably long time of five years or more: 4 of these 5 cases concerned multi-year recessions (DK 1974-1975 and 1980-1981, FIN 1991-1992, S 1991-1993 and UK 1991-1992).

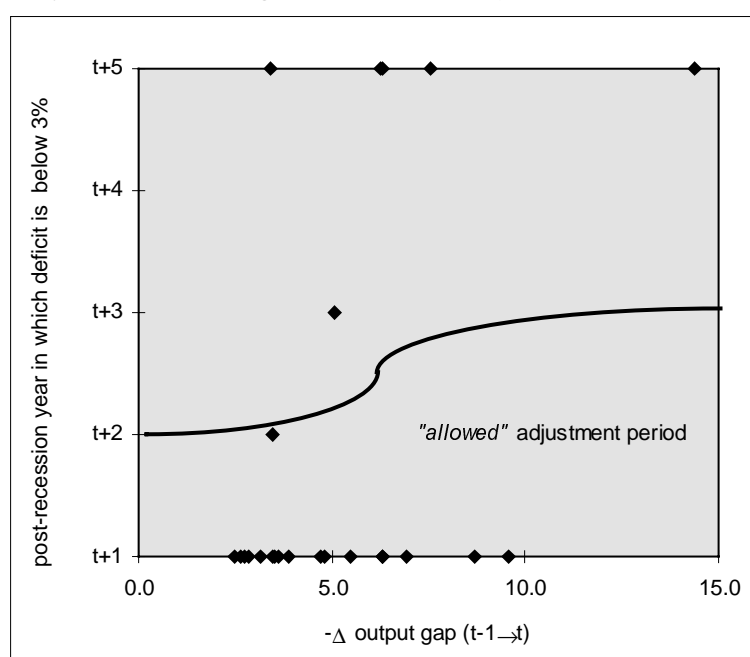
Table 15: Retrospective application of the Excessive Deficit Procedure - Length of the adjustment period after a severe recession: deficit before recession $d_{t-1}=0\%$

$d_{t-1} = 0\%$		Post-recession year in which deficit is below 3% of GDP				
Deterioration in recession period (t)	number of cases	t+1	t+2	t+3	t+4	t+5 or more
no worsening	2	D, P				
less equal 1%	4	B, D, I, UK				
from 1% to 2%	3	EL, F, UK				
from 2% to 3%	4	B, NL	P*			S
from 3% to 3.5%	1	E				
from 3.5% to 4%	2	L*, P				
greater than 4%	8	B, D, I*		DK		DK, FIN*, S*, UK
total	24	17	1	1	-	5

* : GDP decrease of at least 2.0% (of at least 0.75% otherwise)

Source : European Commission, DG II database

Graph 4: Number of years needed to bring the deficit below 3% (deficit before recession=0%)



- b) Moving away from a balanced budget position entails a dramatic drop in the cases of no or just “transient” excessive deficit. Budgetary problems would have been overcome within one year after the end of the recession in only about one third of the cases (7 out of 24). In 11 out of 24 cases, the deficit would have been back below the 3% limit within two years after the end of the recession. Moreover, the number of cases with longer-than-acceptable retrenchment periods increases significantly (to 13, in 8 of these cases the adjustment period took at least 5 years).

The above analysis confirms the policy conclusions of Section 5: an initially sound budgetary position - a balanced budget - allows to fend off the threat of sanctions in the majority of events and in only a relatively small number of cases should substantially faster adjustment strategies have been implemented. The situation thus becomes problematic the further away the government budget moves from a balanced position. In such cases, with the budgetary strategies implemented in the past, not only a large number of countries would have run into excessive deficits, but, in view of the longer adjustment period needed to bring the deficit back under the 3% threshold, many Member States would have incurred the fines foreseen by the Stability and Growth Pact.

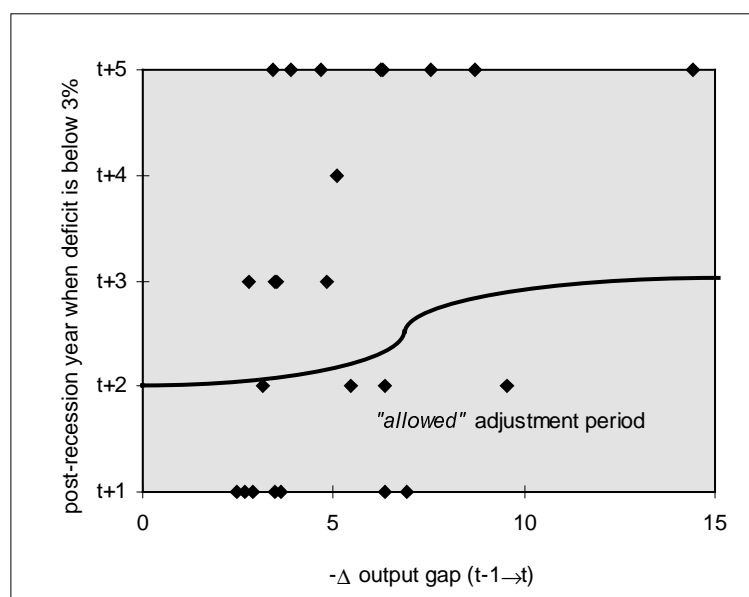
Table 16: Retrospective application of the Excessive Deficit Procedure - Length of the adjustment period after a severe recession: deficit before recession $d_{t-1}=2\%$

$d_{t-1} = 2\%$		Post-recession year in which deficit is below 3% of GDP				
Deterioration in recession period (t)	number of cases	t+1	t+2	t+3	t+4	t+5 or more
no worsening	2	D, P				
less equal 1%	4	B, D, I, UK				
from 1% to 1.5%	1		UK			
from 1.5% to 2%	2	EL	F			
from 2% to 3%	4			NL		B, P*, S
from 3% to 4%	3		L*	E, P		
greater than 4%	8		I*	B	DK	D, DK, FIN*, S*, UK
total	24	7	4	4	1	8

* : GDP decrease of at least 2.0% (of at least 0.75% otherwise)

Source : European Commission, DG II database

Graph 5: Number of years needed to bring the deficit below 3% (deficit before recession=2%)



8. A summing up

The aim of this paper was to examine whether EU Member States will have to change their budgetary policy behaviour once the Excessive Deficit Procedure and the Stability and Growth Pact become fully operational during the third stage of EMU. Indeed, these procedures will introduce a major “regime-change” as Member States will be bound to apply prudent budgetary policies in order to avoid an excessive deficit position.

The paper first examined Member States’ budgetary performances during phases of economic slowdown over the period 1961-1996. A simulation exercise was then set up whereby the provisions of the Excessive Deficit Procedure and the Stability and Growth Pact were applied “retrospectively”. More specifically, the paper analysed whether, during and immediately after these recession periods, Member States would have moved in a situation of excessive deficit had past budgetary policies been pursued.

Main results

Some results of the paper confirm outcomes which were to be expected a priori, while others are not obvious and deserve further attention:

Budgetary policies in recessions during the period 1961-1996:

- There has been no systematic tendency to loosen budgetary policy during recessions: while the Nordic countries pursued active counter-cyclical budgetary policies during their multi-year recession episodes, most other EU Member States often carried out a fiscal retrenchment policy during periods of economic slowdown.
- The initial public finance conditions influence the way budgetary policies react to cyclical downturns: countries with low deficit and debt levels were able to exploit the available room for manoeuvre by carrying out counter-cyclical budgetary policies; on the contrary, Member States with higher budgetary imbalances were less able to smooth out the cycle through fiscal policies and even had to implement pro-cyclical retrenchment policies during recessions in order to prevent their budget deficits from getting out of hand.
- The build-up in government debt that occurred in many EU Member States over the past decades did not take place during periods of economic slowdown, but rather, resulted from public finance imbalances in non-recession periods.
- The main discretionary instrument to smooth out the effects of cyclical downturns is government expenditure. Contrary to widespread perception, discretionary tax revenue has risen during recessions, thereby partly or totally offsetting the rise in expenditure.

“Retrospective” application of the Stability and Growth Pact:

- The simultaneous application of the “exceptionality”, “temporariness” and “closeness” conditions in the case of severe recessions “over-determines” the decision on whether or not an excessive deficit exists: the relaxation of one of these conditions does not produce significantly different results as long as the other two conditions are sufficiently strict. For example, a relaxation of the “closeness” condition would not produce a significantly larger number of cases which would escape being put into excessive deficit, as the “exceptionality” and “temporariness” conditions are already sufficiently binding.

- Over the past 36 years, an initially balanced budget would have prevented all one-year recessions from leading to a budget deficit above 3% of GDP in the year following the recession (hence the excessive deficit would have been, at most, “transient”). However, the early years of EMU, when some countries might still have a deficit of about 2% of GDP, are likely to prove highly problematic in the event of a severe recession.
- The risk of incurring an excessive deficit is high in case of protracted recessions, even if the starting point is a sound budgetary position. The same conclusions can be drawn for exceptionally severe recessions with negative growth of 2% or more. However, there are no economic downturns other than “severe recessions” which would produce serious budgetary effects if the budget is initially in balance. Mild recessions are not likely to create excessive deficits once the medium-term target of “close to balance or in surplus” is met. The same conclusions hold in the case of an abrupt slowdown in growth. As such, the 0.75% recession threshold therefore appears appropriate once the medium-term target of “close to balance or in surplus” is reached.
- If Member States start off with a balanced budget, then even in the event of breaching the 3% ceiling during the recession year, a fast budgetary adjustment to fend off the threat of sanctions is feasible. However, the situation becomes more problematic the further away government budgets move from a balanced position. In such cases, the budgetary strategies implemented in the past would have implied longer-than-acceptable retrenchment periods. This calls for a fast convergence towards a “safer” budgetary position.

Major policy implications

The results of the paper suggest that there is no need for EU Member States to substantially change budgetary policies carried out during recessions. Indeed, over the past decades, these policies were generally rather prudent. However, the paper points to the need for substantial changes in budgetary behaviour in post-recession periods.

More specifically, the paper allows the following policy conclusions to be drawn:

- 1) A medium-term balanced budget is highly recommendable for most Member States in order to meet the Stability and Growth Pact requirements. It would allow them to overcome single-year severe recessions without incurring excessive deficits and also allow them to bring the deficit swiftly back under the 3% ceiling in the case of longer cyclical downturns.
- 2) In case of recessions, the margins for implementing large-scale discretionary counter-cyclical policies are rather limited, unless budgets move into surplus.
- 3) The 0.75% recession benchmark covers almost all recessions which would pose a serious threat to budgetary stability, if the starting point is a balanced budget.

The paper identifies two major risks:

- a) In the event of a severe recession during the early years of EMU, since several countries will still have deficits in the 2% to 3% of GDP range, they risk moving into excessive deficit, unless they take a pro-cyclical budgetary stance.
- b) Long recessions may pose serious threats even to countries with sound pre-recession budgetary positions.

These risks would need to be taken into account in the implementation of the Stability and Growth Pact.

9. Concluding remarks

The application of the provisions of the Excessive Deficit Procedure and the Stability and Growth Pact to the past is obviously a highly speculative exercise. Its results do not address the following questions: to what extent is past budgetary behaviour a reliable guide to assess the likely behaviour of national budgetary policies in EMU during recessions? More specifically, would Member States need larger or smaller changes in their budgetary positions to provide the degree of stabilisation which occurred in the past?

A number of factors will play an important role:

New policy regime under EMU

During the third phase of EMU, the conduct of monetary policy will be centralised at the European level and will therefore no longer be available as a policy tool at the national level. Budgetary policy will thus be the main macroeconomic policy instrument still available for individual Member States to combat recessions, especially when shocks are asymmetric. The impossibility of lowering interest rates and resorting to currency devaluations might require larger deficit changes.

On the other hand, according to the Mundell-Fleming framework, budgetary policy will in principle become more effective in dampening the amplitude of cyclical fluctuations in the new policy environment of EMU with centralised monetary policy and irrevocably fixed exchange rates between Member States.

If, however, EMU enhances the process of economic integration, trade leakages of budgetary policies will gradually increase, thereby reducing the “domestic” effectiveness of budgetary policies. Unless national policies are co-ordinated, this factor raises the changes in the budget deficit required in order to attain the same degree of stabilisation achieved in the past.

“Pre-recession” deficit level

Actual deficit changes observed during past recessions were applied in our retrospective exercise to “pre-recession” deficit levels chosen specifically for the exercise (0% and 2% of GDP). However, the actual deficit changes which took place during past severe recessions usually started from markedly higher pre-recession deficit levels. The impact on the economy of budgetary policy changes during recessions also varies depending on the deficit and debt levels. For instance, the markets’ perception of an increase in the deficit from 0% to 2% of GDP during a severe recession will be different from that of a rise in the deficit from, say, 8% to 10% of GDP, the latter more likely being interpreted as shifting the deficit to an unsustainable path. This may lead to an increase in the risk premium on interest rates which reduces the effectiveness of the fiscal expansion.

High budgetary imbalances may inhibit policy makers from using the budgetary instrument for stabilisation purposes. Indeed, the higher risk premiums which would raise the interest burden may represent a powerful disincentive to expanding fiscal policy in spite of the recession. As was pointed out in Section 4, budgetary reactions to economic downturns differ depending on the initial public finance conditions before the recession: countries with high deficit and debt levels tend to conduct tighter fiscal policies during recessions than those with lower deficit and debt levels. In the future, when medium-term targets have been achieved, Member States would have more room for manoeuvre to undertake accommodating policies.

These factors point in different directions. As a consequence, the net effect on the requirement for budgetary stabilisation is ambiguous. If it proved necessary to reinforce the working of the automatic stabilisers during recessions in EMU, larger swings in budget deficits compared to the past would have to be allowed for. Under the provisions of the Stability and Growth Pact, this would imply, however, that during the third phase of EMU, Member States, and especially those with large automatic stabilisers, would have to run budgetary surpluses when in medium-term equilibrium.

The present paper far from exhausts the issue of what can be learnt from the past budgetary behaviour for the implementation of the Stability and Growth Pact and, more generally, how budgetary authorities actually behaved in different economic circumstances.

The following areas were not or were only partially covered, and therefore, provide scope for further research:

- *Budgetary policies over the full cycle*: this paper has focused essentially on recession episodes. The exercise could therefore be extended to other cyclical phases besides the recession. Indeed, as already indicated in this paper, the problem in the past has not been so much that Member States let budget deficits get out of hand too much during recessions but that they did not seize the opportunity presented by post-recession economic recovery to immediately correct their budgetary position.
- *Composition of budgetary policies*: the paper addressed the issue of the composition of budgetary policy reactions to recessions via a preliminary analysis of the overall revenue and expenditure components. Two extensions can be envisaged: first, an analysis of the composition of retrenchment policies over the years following the recession to assess, for instance, whether the length of the adjustment depends on the composition of budgetary consolidation; second, a further disaggregation of the overall components into more detailed government revenue and expenditure categories is necessary. This detailed analysis would allow conclusions to be drawn on the mechanisms causing budgetary policies to become unsustainable, as well as on the possible effectiveness and durability of budgetary consolidation efforts.

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ANNEX 1:

Features of severe recession episodes

case no	Member State		deficit(t-1) relative to the EU avg.(t-1)*	debt(t-1) relative to the EU avg.(t-1)	Cumulative change (t-1) to (t)**									debt
					GDP	output gap	actual budget deficit	of which: structural deficit	of which: structural revenue	structural expenditure	actual primary budget deficit	of which: primary structural deficit	of which: primary structural expenditure	
1	1974-75	DK			-1,6	-6,2	6,7	2,7	1,8	4,6	6,6	2,7	4,6	-1,9
	1974	DK	lower	lower	-0,9	-3,4	2,1	0,1	3,0	3,1	2,1	0,1	3,1	-2,7
	1975	DK	lower	lower	-0,7	-2,9	4,5	2,6	-1,1	1,5	4,5	2,6	1,5	0,8
2	1974	EL	n.a.	n.a.	-3,6	-8,8	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
	1974-75	UK			-1,5	-5,5	1,2	-1,4	6,5	5,1	0,9	-1,7	4,7	-3,6
	1974	UK	higher	higher	-1,4	-3,5	0,3	-0,9	4,6	3,7	-0,3	-1,5	3,2	0,2
3	1975	UK	higher	higher	-0,1	-2,0	0,9	-0,5	1,8	1,3	1,2	-0,2	1,5	-3,8
	1975	B	higher	higher	-1,5	-4,7	2,2	-0,3	5,4	5,1	2,1	-0,4	4,9	1,8
	1975	D	lower	lower	-1,3	-3,9	4,3	2,3	1,6	3,9	4,1	2,1	3,7	5,4
6	1975	I	higher	higher	-2,1	-6,3	4,2	2,2	1,8	3,9	3,4	1,4	3,1	6,1
7	1975	L	lower	lower	-6,6	-9,6	3,8	-0,8	10,8	9,9	3,7	0,3	10,1	1,3
8	1975	P	lower	lower	-4,3	-8,7	2,3	-0,6	4,5	4,2	2,1	-0,8	4,0	7,2
	annual average				-2,3	-5,4	2,7	0,5	3,6	4,1	2,5	0,4	3,9	1,8
	episode average				-2,8	-6,7	3,5	0,6	4,6	5,2	3,3	0,5	5,0	2,3
9	1977	S	lower	lower	-1,6	-3,4	2,8	-0,1	5,1	5,1	2,5	-0,4	4,7	2,4
10	1980-81	DK			-1,3	-5,1	5,3	1,9	3,9	5,8	3,4	0,1	3,9	21,0
	1980	DK	lower	lower	-0,4	-2,4	1,6	0,3	2,5	2,8	1,1	-0,2	2,3	7,5
	1981	DK	close	higher	-0,9	-2,8	3,6	1,6	1,3	3,0	2,3	0,3	1,6	12,6
11	1980-81	UK			-2,9	-6,3	0,7	-3,0	6,9	3,7	0,1	-3,7	3,1	-0,4
	1980	UK	higher	higher	-1,6	-3,4	0,2	-1,4	3,0	1,7	-0,1	-1,7	1,4	-0,6
	1981	UK	higher	higher	-1,3	-3,0	0,5	-1,7	3,7	2,1	0,2	-2,0	1,7	0,2
12	1981	B	higher	higher	-1,6	-2,8	4,1	2,1	2,7	4,8	2,4	0,3	2,9	14,2
13	1981-82	NL			-1,7	-4,8	2,4	-1,4	4,3	2,9	0,9	-2,9	1,4	9,8
	1981	NL	higher	higher	-0,5	-2,1	1,2	-0,5	1,8	1,3	0,4	-1,2	0,6	4,0
	1982	NL	higher	higher	-1,2	-2,7	1,2	-1,0	2,5	1,5	0,5	-1,7	0,8	5,6
14	1982	D	lower	lower	-0,9	-2,7	-0,4	-1,8	1,9	0,1	-0,9	-2,3	-0,3	3,3
	annual average				-1,1	-2,7	1,5	-0,3	2,4	2,1	0,7	-1,1	1,4	5,9
	episode average				-1,7	-4,3	2,4	-0,4	3,9	3,5	1,2	-1,7	2,2	9,6
15	1983-84	P			-2,1	-6,9	-0,6	-3,6	4,2	0,4	-3,0	-6,1	-2,3	10,5
	1983	P	higher	lower	-0,2	-2,7	2,1	1,0	3,2	4,3	1,5	0,3	3,6	5,1
	1984	P	higher	higher	-1,9	-4,3	-2,6	-4,6	1,0	-3,8	-4,5	-6,4	-5,9	5,1
16	1991-93	FIN			-11,5	-15,1	13,9	3,5	9,3	13,0	10,2	0,2	9,4	48,9
	1991	FIN	lower	lower	-7,1	-8,6	6,9	1,5	5,8	7,3	6,4	1,0	6,8	8,5
	1992	FIN	lower	lower	-3,6	-4,4	4,4	1,3	3,2	4,5	3,6	0,5	3,9	18,5
	1993	FIN	close	lower	-1,2	-2,1	2,1	0,7	0,1	0,7	0,2	-1,3	-1,3	15,8
17	1991-93	S			-4,6	-7,5	17,4	9,9	0,7	10,6	15,3	8,4	9,1	36,1
	1991	S	lower	lower	-1,1	-2,2	5,3	3,4	-1,8	1,6	5,2	3,3	1,5	9,5
	1992	S	lower	lower	-1,4	-2,4	6,7	4,4	1,0	5,4	6,4	4,2	5,1	14,1
	1993	S	higher	higher	-2,2	-3,1	4,5	1,7	1,5	3,2	3,7	0,9	2,5	8,9
18	1991-92	UK			-2,5	-6,3	4,8	0,7	1,3	2,0	5,3	1,2	2,4	6,6
	1991	UK	lower	lower	-2,0	-4,0	1,1	-1,2	1,1	0,0	1,6	-0,7	0,4	0,4
	1992	UK	lower	lower	-0,5	-2,4	3,7	1,9	0,2	2,0	3,7	1,9	2,0	6,2
19	1993	B	higher	higher	-1,4	-3,5	0,3	-1,7	2,4	0,7	0,3	-1,7	0,7	6,4
20	1993	D	lower	lower	-1,2	-3,6	0,7	-0,9	1,8	0,8	0,6	-1,1	0,8	4,1
21	1993	EL	higher	higher	-1,0	-2,5	1,9	0,8	1,5	2,2	0,8	0,2	1,3	12,6
22	1993	E	lower	lower	-1,2	-3,5	3,2	0,9	1,8	2,7	2,2	-0,1	1,7	12,1
23	1993	F	lower	lower	-1,3	-3,2	1,8	0,3	2,0	2,3	1,7	0,1	2,1	6,0
24	1993	I	higher	higher	-1,2	-2,9	0,1	-1,3	4,0	2,8	-0,6	-1,9	2,1	10,8
25	1993	P	lower	higher	-1,2	-3,5	3,7	1,5	-1,4	0,7	4,2	3,1	2,0	4,9
	annual average				-1,8	-3,5	3,1	0,9	1,6	2,5	2,7	0,6	2,1	9,3
	episode average				-2,7	-5,1	4,8	1,4	2,3	3,8	4,0	0,8	3,2	14,8
	annual average				-1,7	-3,8	2,4	0,3	2,4	2,8	2,0	-0,1	2,3	6,1
	episode average				-2,5	-5,5	3,6	0,5	3,5	4,1	2,8	-0,1	3,3	9,4

t-1: pre-recession year

t: recession period

n.a. = not available

higher than the EU avg. deficit : above EU avg.+1%

lower than the EU avg. deficit : below EU avg.-1%

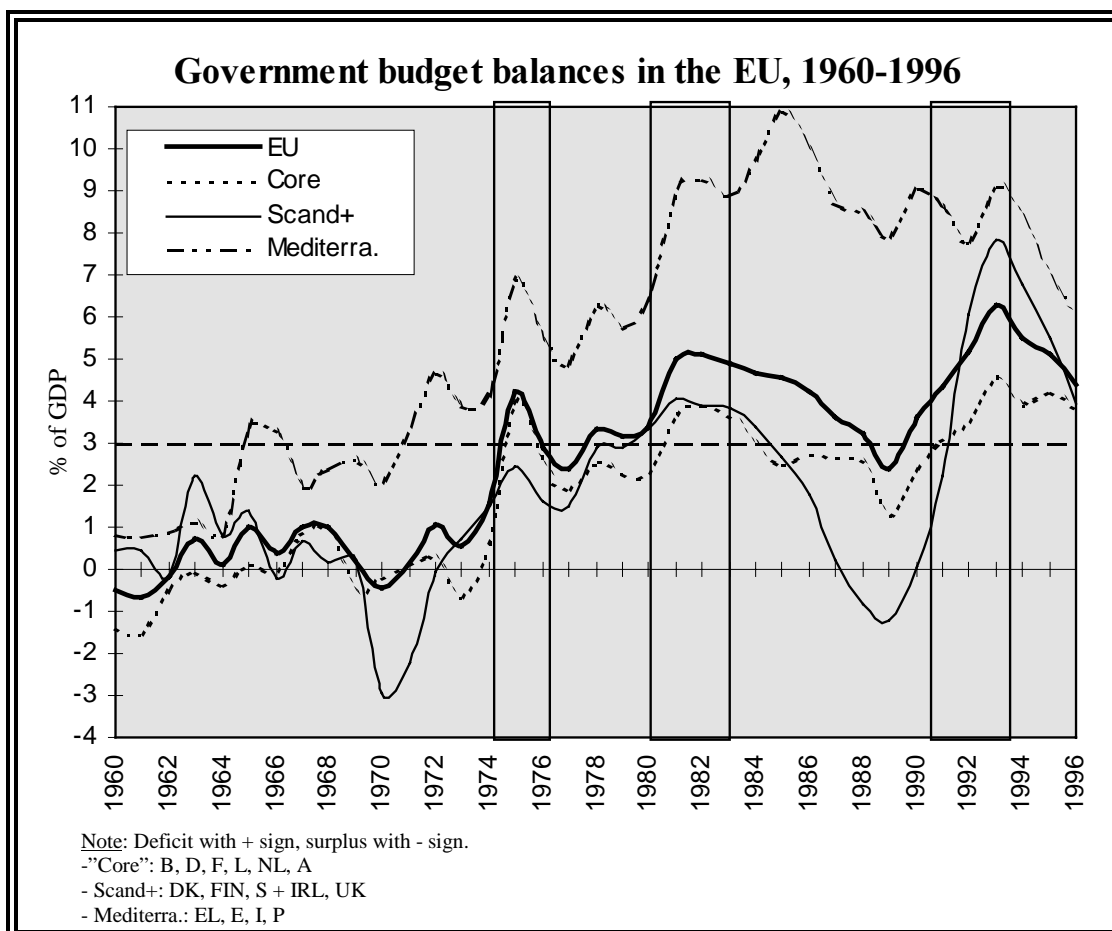
Annex 2:

Table: Budgetary indicators for the European Union Member States (1961-1996)

Member States	Average government budget deficit (% of GDP)	Standard deviation government budget deficits (% points of GDP)	Frequency of budget deficits above 3% of GDP	
			number of years*	%
B	5.5	3.1	26	72%
DK	0.5	3.3	7	19%
D	1.5	1.8	8	22%
EL	9.7	3.8	16	89%
E	3.1	2.5	15	56%
F	1.4	1.9	6	16%
IRL	5.9	3.8	27	75%
I	7.3	3.7	29	81%
L	-2.0	2.0	1	3%
NL	2.7	2.0	15	42%
A	1.6	2.2	9	25%
P	3.2	3.3	20	57%
FIN	-2.1	3.6	5	14%
S	1.1	5.3	10	37%
UK	2.6	2.3	16	44%
EU	3.6	1.6	20	74%

* On a total of 36 years (1961-1996), except for the following cases: 18 years (1979-1996) for Greece, 27 years for Spain, Sweden and EU (1970-1996), 34 years for Luxembourg (excl. 1988 and 1989) and 35 years for Portugal (excl. 1980).

Source: European Commission,



ANNEX 3:

Features of "mild" recessions (decrease of GDP by less than 0.75%)

case no	t	Member State	deficit(t-1) relative to the EU avg.(t-1)*	debt(t-1) relative to the EU avg.(t-1)	Cumulative change (t-1) to (t)**									debt
					GDP	output gap	actual budget deficit	of which: structural deficit	of which: structural revenue	structural expenditure	actual primary budget deficit	of which: primary structural deficit	of which: primary structural expenditure	
1	1967	D	n.a.	n.a.	-0,3	-4,3	1,2	-0,8	2,3	1,5	1,1	-0,9 0	1,3	n.a.
2	1975	F	lower	n.a.	-0,3	-3,6	2,7	1,2	3,0	4,2	2,3	0,8	3,8	n.a.
3	1975	A	lower	lower	-0,4	-3,9	3,8	1,9	1,9	3,8	3,5	1,7	3,6	6,3
	avg. 2-3				-0,4	-3,8	3,3	1,6	2,4	4,0	2,9	1,3	3,7	6,3
4	1976	FIN	lower	lower	-0,4	-3,7	-2,6	-4,8	5,3	0,5	-2,6	-4,8	0,5	-0,4
5	1981	E	lower	lower	-0,2	-2,0	1,3	0,3	2,0	2,3	1,2	0,2	2,2	3,9
6	1981	L	lower	lower	-0,6	-2,8	2,7	0,9	2,0	2,8	2,8	1,3	3	0,5
7	1981	A	lower	lower	-0,3	-2,4	0,1	-1,0	2,4	1,4	-0,2	-1,3	1,1	2,0
	avg. 5-7				-0,4	-2,4	1,4	0,0	2,1	2,2	1,3	0,1	2,1	2,1
8	1983	IRL	higher	higher	-0,2	-3,3	-2,0	-3,8	3,0	-0,8	-2,2	-4,1	-1,1	9,9
9	1987	EL	higher	lower	-0,5	-2,1	-0,7	-1,4	1,2	-0,2	-1,8	-2,6	-1,4	6,0
	avg. 1-9				-0,4	-3,1	0,7	-0,8	2,6	1,7	0,5	-1,1	1,4	4,0

t-1: pre-recession year

t: recession period

n.a. = not available

higher than the EU avg. deficit : above EU avg.+1%

lower than the EU avg. deficit : below EU avg.-1%

** changes expressed as % of GDP; for output gap : % of trend GDP

Source : European Commission, DG II database

ANNEX 4:

Features of abrupt slowdown in growth

(positive real growth rates but worsening of output gap by at least 2.5% points of trend GDP)

case no	t	Member State	deficit(t-1) relative to the EU avg.(t-1)*	debt(t-1) relative to the EU avg.(t-1)	Cumulative change (t-1) to (t)**									
					GDP	output gap	actual budget deficit	of which: structural deficit	of which: structural revenue	structural expenditure	actual primary budget deficit	of which: primary structural deficit	of which: primary structural expenditure	debt
1	1962	EL	n.a.	n.a.	1,5	-5,9	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
2	1963	DK	n.a.	n.a.	0,6	-3,8	-1,2	n.a.	n.a.	-0,3	n.a.	n.a.	n.a.	n.a.
3	1964	I	n.a.	n.a.	2,8	-2,5	0,3	n.a.	n.a.	0,4	n.a.	n.a.	n.a.	n.a.
4	1966	IRL	higher	n.a.	0,9	-3,1	-1,4	n.a.	n.a.	0,1	n.a.	n.a.	n.a.	n.a.
5	1966	P	lower	n.a.	3,9	-4,1	-0,2	-0,4	0,6	0,1	-0,2	-1,0	-0,1	n.a.
6	1967	L	lower	n.a.	0,2	-3,3	2,2	n.a.	n.a.	2,0	n.a.	n.a.	n.a.	n.a.
7	1969	P	lower	n.a.	3,4	-4,5	-0,8	-1,1	0,9	-0,2	-0,8	-1,7	-0,2	n.a.
8	1971	I	higher	lower	1,9	-2,5	1,5	0,6	1,2	1,8	1,3	0,4	1,5	4,9
9	1974	D	lower	lower	0,2	-2,7	2,5	1,1	1,7	2,7	2,4	1	2,6	1,1
10	1974	P	lower	lower	1,1	-5,9	2,6	1,5	0,8	2,5	2,7	1,6	2,5	-0,3
11	1975	E	lower	lower	0,5	-3,1	0,1	-1,1	2,3	1,3	0,2	-1,1	1,3	0,3
12	1975	NL	lower	n.a.	0,2	-2,9	2,6	0,5	3,6	4,1	2,5	0,4	4	0,2
13	1976	IRL	higher	lower	1,3	-3,0	-3,8	-5,4	4,5	-0,8	-4,4	-6	-1,5	4,8
	avg. 2-13				1,4	-3,6	0,4	-0,5	2,0	1,1	0,5	-0,8	1,3	1,8
14	1977	FIN	lower	lower	0,2	-2,8	1,6	-0,2	1,6	1,4	1,5	-0,3	1,3	1,7
15	1978	A	lower	lower	0,1	-2,7	0,4	-0,8	3,6	2,8	0,1	-1,1	2,4	3,8
	avg. 14-15				0,2	-2,8	1,0	-0,5	2,6	2,1	0,8	-0,7	1,9	2,8
16	1986	IRL	higher	higher	0,3	-3,1	-0,1	-1,9	1,4	-0,5	0,4	-1,4	0	11,4
17	1991	IRL	lower	higher	2,6	-2,5	0,1	-1,2	1,4	0,2	0,3	-1	0,4	-0,2
18	1993	L	lower	lower	0,0	-3,0	-0,9	n.a.	n.a.	n.a.	-0,9	n.a.	n.a.	1,0
	avg. 16-18				1,0	-2,9	-0,3	-1,6	1,4	-0,2	-0,1	-1,2	0,2	4,1
	avg. 2-18				1,2	-3,4	0,3	-0,7	2,0	1,1	0,4	-0,9	1,2	2,6

t: recession year

n.a. = not available

higher than the EU avg. deficit : above EU avg.+1%

lower than the EU avg. deficit : below EU avg.-1%

** changes expressed as % of GDP; for output gap : % of trend GDP

Source : European Commission, DG II database