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FISCAL CONSOLIDATION IN EU COUNTRIES IN THE NINETIES: NEW FACTS AND POLICY IMPLICATIONS[1]

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1 Introduction

In the 1990's, most EU countries hurried to meet the Maastricht fiscal parameters' requirement under comparable economic conditions and adopted sizeable fiscal consolidation. This provides a unique standpoint and a consistent framework to analyse and compare the budgetary adjustments adopted by the various countries and detect their impact on public finances sustainability and economic activity. This paper takes a close look at a host of stylised facts to describe the main features of the budget consolidation implemented by the various Member States in stage two and three of monetary union. The paper highlights, in a rather descriptive fashion, whether considerations relative to convergence of budget structure and competitiveness have influenced policy choices since the signing of the Maastricht Treaty. As a closely related issue, the paper points out the conditions under which fiscal contractions might have minimised their negative effects on growth and have been effective in producing lasting budget consolidation. In so doing, the purpose of the paper is to set a framework for further discussion and empirical work on the subject.

Following the introduction, the second section presents stylised facts of the fiscal consolidation process in EU countries over the 1990s. The observation of the budgetary adjustments in EU countries, shows that revenue based adjustments have generally preceded expenditure based adjustments. The paper claims that in the choice of policy adopted, convergence of budget structure and awareness of their impact on a country's competitiveness played a role. Hence, initial budget conditions have influenced the choice of policies.

The third section focuses on the macroeconomics of fiscal consolidation. The paper claims that the new institutional framework of budget discipline enshrined by the Maastricht Treaty may have increased the credibility of governments regarding their commitment to comply with the fiscal parameters requirement. Hence, intertemporal effects of fiscal policy have become more relevant, thus strengthening potential positive wealth effects of fiscal consolidation. The sizeable budget adjustments implemented by the various countries in the run up to EMU, even in periods of slow growth, might have to some extent been unexpected. Therefore, fiscal consolidation could have caused people to switch their expectations about future policies. Hence, because of a Maastricht effect on confidence, contractionary effects of fiscal consolidation might have been somewhat lessened in the 1990's. In this respect, the paper produces some evidence that countries that relied more on tax consolidation than others might have recorded the lowest growth rates.

2 Fiscal consolidation in the EU countries in the 1990s

2.1 Declining deficits and debt ratios in the second half of the nineties, in the EU and euro area-12

At the beginning of the nineties, most EU countries showed sizeable imbalances in their public finances. In 1991, the general government deficit ratio was equal to 4.2% of GDP on average in the EU-15, and it was somewhat higher on average in the euro area-12 (see Table 1). Almost all countries recorded a deficit: nine of them had deficit ratios between 1% and 3% of GDP, three of them had deficit ratios between 4% and 7% of GDP and two of them had deficit ratios higher than 11% of GDP. Net of the expenditure for interests on public debt, the primary budget balance in 1991 was in surplus, both in the average of the EU-15 and of the euro area-12. In the same year, the general government debt ratio was equal to 55% of GDP in the average of the EU countries and somewhat higher in the average of the euro area-12. Eight countries had a debt ratio below 60% of GDP and four countries above 90% of GDP. Taking as reference the Maastricht fiscal parameters, six countries recorded both budget balance and debt imbalances and six countries showed clear budget imbalances (Chart 1).

Looking at the period between 1991 and 2001, one can easily detect that budgetary development in the EU-15 and euro area aggregates have generally followed a common pattern (see Table 2). An initial generalised worsening of budget balance and debt ratios took place until the mid-nineties, also reflecting the budgetary impact of the economic recession of 1993-1994. A subsequent period of strong budgetary improvement took place in 1996 and 1997, as a result of countries' consolidation efforts in the run up to EMU. In 1997, the reference year to assess the countries' convergence to the criteria of the Maastricht Treaty, the average general government budget deficit ratio declined to 2.5% on average in the EU-15 countries and to 2.6% in the euro area-12 average. This accounts for a remarkable budgetary improvement of 2.7 percentage points of GDP for the EU-15 and 2.4 percentage points of GDP in the euro area-12, during the years 1996 and 1997. Declining interest expenditure also contributed to the budgetary improvement. Therefore, the primary budget balance ratio improved less than the total budget balance ratio during the same period, by 2.3 percentage points in the EU-15 average and 2.0 percentage points in the euro area-12 average, respectively. During the more recent years from 1998 to 2001, budget balances generally improved and debt ratios were on a steady declining path. As of the end of 2001, the general government budget deficit had declined further to 0.5% of GDP on average in the EU-15 and to 1.1% of GDP on average in the euro area-12.

Since 1997, the general government debt ratio has been on a steady declining path. In 2001 the debt ratio had declined from its peak in the mid-nineties by some 10 percentage points to 62.5% of GDP on average in the EU-15 and by some 7 percentage points to 68.8% of GDP on average in the euro area-12. However, it is still much higher than at the beginning of the decade in both the EU-15 and euro area-12 aggregate.

As expected, deficit reductions were larger in countries which showed the largest initial budget imbalances. Therefore, over the period considered, countries' fiscal positions have converged towards lower deficits and debt. Ranking countries in descending order, according to the size of their budget deficit ratio in 1991, shows that the largest reduction of budget deficit ratios over 1992 until 2001 generally occurred in those countries which had recorded the highest initial deficit ratios (Chart 2). However, budget deficits are not the only concern in assessing fiscal imbalances and implementing budgetary adjustments, which also depend on the size of the accumulated size of the public debt ratio. Ranking countries in descending order, according to the size of their debt ratio in 1991, shows that higher debt ratios at the beginning of the period are generally combined with the largest debt reductions over 1992 until 2001, with the notable exceptions of Greece and Italy (Chart 3).

2.2 Fiscal stance becomes restrictive in the run-up to EMU

Looking back over the years 1991 to 2001, one can distinguish three different stages of fiscal consolidation in the EU countries (see Table 3 and Chart 4). During the period from 1992 to 1995, the fiscal stance, as measured by the cyclically adjusted primary balance, was moderately restrictive. The cyclically adjusted primary surplus improved by 0.8 percentage points in the EU-15 to 0.5% of GDP in 1995, and by 1.7 percentage points in the euro area-12 to 0.8% of GDP in 1995. In the run-up to EMU, and in particular over the years 1996 and 1997, the fiscal stance became more restrictive and the cyclically adjusted primary surplus improved by 2.4 percentage points of GDP in the EU-15 and by 2.2 percentage points of GDP in the euro area-12. Taking as reference the year 1997, when the convergence to the Maastricht Treaty was assessed, the fiscal stance in the EU countries became broadly neutral or somewhat expansionary afterwards. During the years 1998 until 2001, the cyclically adjusted primary surplus remained broadly constant on average in the EU-15 and even diminished somewhat on average in the euro area-12.

In general, countries with higher budget imbalances have performed greater consolidation efforts over the nineties. This is broadly illustrated by chart 4, where countries are ordered in descending order, according to the size of their budget deficit in 1991. Chart 4 indicates that countries' consolidation efforts, as measured by the overall change in the cyclically adjusted

primary balance, are generally declining going from left to right, with the most notable exception of Portugal.

Most countries strengthened their consolidation efforts in 1996 and 1997 in the run-up to the EMU. Taking the annual average change of the cyclically adjusted primary balance, for each individual country and in each period considered, roughly illustrates how countries have distributed their consolidation efforts over time (see Table 3). In 1996 and 1997, the annual average consolidation effort was some 1.2 and 1.1 percentage points of GDP in the EU-15 and euro area-12, respectively. This indicates bigger annual consolidation efforts than at any other period of time considered. By contrast, in the previous years from 1991 to 1995, the annual average consolidation effort accounted for only 0.2 and 0.4 percentage points of GDP, in the EU-15 and euro area-12, respectively. Furthermore, the annual average change of the cyclically adjusted primary balance over the years 1998 until 2001 shows a consolidation fatigue in EU countries and the euro area as a whole.

2.3 Revenue and expenditure ratios converging towards EU-15 and euro area-12 average

From 1991 until 1997, most EU countries recorded sizeable increases of revenue-to-GDP ratios, with expenditure ratios also showing some increases. Expenditure cuts were instead generally implemented only since 1996. Overall, tax increases have been lower (and tax cuts higher) in countries where the revenue ratios were above the EU-15 and euro area-12 respective average. To some extent, expenditure cuts have been largest in countries with higher than average expenditure ratios. At the end of the period considered, the standard deviation across countries' structural revenue ratios and primary expenditure ratios declined significantly both in the EU-15 and in the euro area-12 aggregates.

From 1991 to 2001 the total revenue to-GDP ratio increased by 1 percentage point to 46.4% of GDP in the EU-15 and by 1.6 percentage points to 46.8% of GDP in the euro area-12 (see Table 4). However, the increase in the revenue ratio over the whole period hides the developments in some specific years and in individual countries. From 1991 until 1997, the total revenue ratio increased by 1.6 percentage points to 46.9% of GDP in the EU-15 and by 2.4 percentage points to 47.6% of GDP in the euro area. Having reached a maximum value of the ratio in 1997, it started declining thereafter. From 1998 until 2001, the total revenue ratio declined by 0.5 percentage point of GDP in the EU-15 and by 0.8 percentage points in the euro area-12. However, some countries continued to increase their revenue even in later years. Furthermore, countries with higher than average revenue ratios have been less inclined to further increase their taxes. Therefore, over the period considered, the biggest

increase in the revenue ratio took place in countries with the lowest revenue ratio at the beginning of the decade (with the exception of Ireland and the United Kingdom).

Total expenditure increased from 1991 to 1995 by 1.9 percentage points to 51.4% of GDP in the EU-15 and to 51.6% of GDP in the euro area-12 (see Table 5 and 6). After 1995, total expenditure was on a steady declining path and over the years 1996 until 2001, it declined by 4.5 percentage points to 46.9 in the EU-15 and by 3.7 percentage points to 47.9 in the euro area-12. Interest expenditure, which increased until 1996 in most EU countries, declined continuously over the years 1997 until 2001, by 1.9 percentage points of GDP in the EU-15 and by 1.8 percentage points in the euro area-12, respectively. Declining interest expenditure contributed to declining total expenditure, particularly so in the period from 1998 to 2001, reflecting lower interest service on declining debt ratios. Therefore, primary expenditure ratios declined by less than total expenditure. Over the period 1992-2001, the decline in primary expenditure accounted for about half of the decline in total expenditure in the EU-15 and for one third of it in the euro area-12. The biggest reductions in the expenditure ratio are to be detected in countries which had the highest total expenditure ratio at the beginning of the decades. Although the largest declines in expenditure have also been the result of rapidly diminishing interest spending (following the reduction in their debt ratio), there is some evidence that countries with the highest primary current expenditure had been more keen than others to curb their current expenditure.

The evolution of revenue and expenditure ratios can be further analysed by looking at the cyclical adjusted ratios, which might shed some light on the structural evolution of the budget. In particular one might ask if budgetary adjustments have been somewhat driven by convergence process.

Net of the effect of the cycle, revenue ratios increased during the years 1992 until 1997 by 3 percentage points up to 47.2% of GDP in the EU-15 and by 4 percentage points up to 48% of GDP in the euro area-12 (see Chart 5). By contrast, during the years 1998 until 2001 structural revenue ratios declined by about 1 percentage point on average in the EU-15 and by somewhat more on average in the euro area-12. Revenue hence remains higher than at the beginning of the decade. Over the period considered, revenue ratio increases were generally largest in countries with revenue ratios below the average ratio in the EU-15 and euro area-12, respectively (exception are Ireland and the United Kingdom in the lower revenue segment and France and Austria in the higher revneue segment). Ranking countries in ascending order according to their structural revenue ratio in 1991 broadly shows that, tax ratios increased less or even declined moving from the left to the right of the chart. From 1991 to 2001, the standard deviation of countries' structural revenue ratios declined from 8 to

6.7 in the EU-15 and from 7 to 5.7 in the euro area-12, illustrating some convergence of revenue collection.

Cyclically adjusted primary total expenditure declined slightly over the total 1991-2001 period. It increased from 1991 until 1995 by more than one percentage point up to about 45.9% of GDP, both in the EU-15 and in the euro area-12 (see Chart 6). Structural reduction of expenditure only took place from 1996, and continued steadily until 2001, with a total reduction of 2.7 percentage points down to 43.3% of GDP in the EU-15 and a smaller reduction of some 1.8 percentage points, down to 44% of GDP in the euro area-12.

Fiscal consolidation efforts on the expenditure side have been stronger in countries that had very high expenditure ratios in 1991. This is broadly shown in the chart, where countries are ranked from left to right in descending order, according to the size of their structural primary expenditure ratio in 1991. Almost all countries with higher than average expenditure ratios have reduced their expenditure ratios. By contrast, almost all increases in expenditure ratios took place in countries with lower-than-average expenditure ratios (except for France). From 1991 to 2001, the standard deviation of countries' structural primary expenditure ratios declined from 6.8 to 5.9 in the EU-15 and from 6.4 to 5.3 in the euro area-12. A qualitative conclusion that one can draw is that in the choice of policy adopted awareness of the convergence process and of competitive aspects have plaid a role.

2.4 Capital expenditure shows a mixed pattern

Capital expenditure shows a mixed pattern among EU countries. Most countries have generally reduced capital expenditure ratios over 1992 until 2001. There is also some evidence that countries with historically low capital expenditure have increased their capital expenditure in the effort to improve their infrastructure. This is suggested by the pattern of capital expenditure ratio changes over 1991 until 2001, where countries are ranked in descending order according to their capital expenditure ratios in 1991 (see Chart 7). The chart shows that increases in capital expenditure ratio have mostly taken place in countries with below average capital expenditure.

The composition of expenditure in individual countries shows some clear changes over the decade considered (Chart 8). The chart shows the expenditure composition for its main items (primary current, capital and interest expenditure) in 1991 and 2001. As expected, capital expenditure increased in countries that recorded relatively lower capital expenditure ratios to total expenditure during the period considered. This has been particularly the case in Greece, Ireland, Portugal and Sweden. Furthermore, countries with higher debt ratios have benefited more from the decline in interest spending. This has been particularly the case for

Belgium, Greece, Ireland, Italy and Portugal. In a number of countries the decline in interest spending has somewhat compensated a larger share in current expenditure. This has been so in Belgium, Denmark and Italy. In other countries, such as Greece, Ireland and Portugal, lower interest expenditure has created more room for capital expenditure. However, given that changes of opposite signs have taken place in different countries, taken together for the EU-15 and the euro area-12 the composition of the budget by main items remained broadly constant.

2.5 Revenue based adjustment preceded expenditure based adjustment

Budgetary adjustments implemented by EU countries from 1991 until 2001 can be described according to three distinct periods (see Charts 9a, 9b and 9c, where the portions of the quadrant with a positive sign indicate a budget improvement and vice versa). From 1991 until 1995, the cyclically adjusted primary budget balance, as ratio to GDP, improved only slightly on average in both the EU-15 and the euro area. The moderate budgetary consolidation was largely based on revenue adjustments, partly offset by increases in expenditure. This is shown in chart 9a, where positive changes in the cyclically adjusted revenue to-GDP ratio have been partly offset by changes in the cyclically adjusted primary expenditure to-GDP ratio. As a result, the variation of the cyclically adjusted primary budget balance ratio in the EU-15 and the euro area-12, respectively, lies in the portion of the quadrant denoted by a positive sign, pointing to the budget improvement recorded in the period considered. Furthermore, the observed values fall in the first quadrant, illustrating that budget adjustment was revenue based.

The average picture hides individual countries' developments to some extent. Almost all countries increased their tax revenues. However, four countries (Spain, Italy, Luxembourg and Finland) matched policies of higher revenue with expenditure restraint, thus reinforcing their budgetary adjustment. By contrast, in four countries (Belgium, Germany, Greece and Portugal) revenue increases were partially offset by expenditure increases, while in three countries (Denmark, France and Austria) expenditure overrun more than offset tax based adjustment. As a result, only eight of the 15 EU countries succeeded in implementing fiscal consolidation in the period considered. In the case of Ireland and the Netherlands, moreover, tax rebates came together with expenditure restraints, thus allowing a broadly neutral stance over the period considered.

In the years 1996 to 1997, the cyclically adjusted primary budget ratio improved significantly on average in the EU-15 and euro area-12 (see Chart 9b). Both expenditure restraints and revenue increases contributed to budget consolidation, with a larger contribution from the

expenditure side relative to the revenue side in the EU-15 as a whole, and a more balanced contribution from both sides in the euro area-12. In the chart, the observed values in fact fall in the second quadrant, indicating both revenue and expenditure based adjustments. With the only exception of Portugal, all countries implemented policies to curb expenditures, which allowed a reduction of the expenditure to-GDP ratio or its stabilisation. However, revenue increases also contributed to budget adjustments in a number of countries (Belgium, Germany, Spain, France, Italy and Sweden), thus strengthening the effects of expenditure restraints. With the only exceptions of Portugal and Finland, all countries implemented restrictive policies in the period considered.

In the period 1998 until 2001, the structural primary budget balance ratio remained broadly constant on average in the EU-15, reflecting a broadly balanced reduction of the average expenditure and revenue ratios, and declined somewhat in the euro area (see Chart 9c). Looking at individual countries, most of them adopted policies aimed at simultaneously lowering structural revenue and expenditure. As a result, most countries have maintained a broadly neutral fiscal stance showing greater concern for issues such as quality of public finances, budget composition and the size of government, than for further needed consolidation. This is illustrated by Chart 8c, where most countries lie along the bisect (neutral stance) and in the third quadrant (negative changes of both revenue and expenditure ratios). Notable exceptions were Ireland, Italy and Portugal, which recorded some deterioration in their structural budgets. By contrast, Greece, Finland and the United Kingdom pursued some further consolidation.

A number of countries recorded a setback in fiscal consolidation in the aftermath of their budget consolidation. In terms of budget balance deterioration, the setback was stronger in Belgium, Germany, Italy, the Netherlands and Sweden. With the only exception of Sweden, those countries have relied more on tax based adjustments than on expenditure based adjustments.

A tentative conclusion one can draw from the observation of budgetary adjustments in EU countries, is that revenue based adjustments have generally preceded expenditure based adjustments. One possible explanation is that the commitment to budget discipline enshrined in the Maastricht Treaty and the inevitable approach of the Convergence doomsday might have produced a "Maastricht effect" which urged countries to pursue rapid and significant budget consolidation. Hence, governments chose to implement tax increases before expenditure cuts because of their immediate impact on the budget deficit, while effects from expenditure cuts generally lag behind. This has been particularly the case of countries with large imbalances.

2.6 Composition of adjustment also reflects initial budget conditions

One might like to ask whether there were significative differences in the composition of the budget adjustments adopted by the various countries within the periods considered. Different policies could have reflected different sources of budget vulnerability for the various countries. For instance, when benefits from social security systems mature, curtailing current expenditure is not in the immediate control of government. Or else, in some countries, measures to curtail capital spending have more difficulty gaining acceptance politically. Furthermore, initial budget conditions, such as serious budget imbalances or budget composition not in line with the EU average might have prompted structural adjustments in countries' budgets. Analysis by simple graphical means suggests that the overall process of budget adjustments over the entire period 1992-2001 have followed broadly similar patterns. Chart 9d shows that at the end of the period considered, all countries observations lie in the portions of the quadrant denoted by a positive sign. The dispersion of countries' observations, with reference to the entire period considered, appears to be smaller than in each of the sub-periods considered.

In order to see if initial budget conditions have influenced policies adopted by the various countries, chart 10 illustrates the prevailing revenue and expenditure ratios in the various countries in 1991. Observations located in the first and second quadrant indicate countries which had revenue ratios above the EU-15 and euro area-12 average, such as Sweden, Finland, Denmark, the Netherlands, Austria, France and Luxembourg. Looking at the overall adjustment for the entire period, one can see that countries with higher revenue ratios have been keener to reduce their revenue ratios or have recordedsmallr tax increases. By contrast, countries like Portugal and Greece, starting from relatively low revenue ratios, have recorded the highest revenue increase. In conclusion, there is some qualitative evidence that initial budget conditions, including both the magnitude of fiscal imbalances and budget composition, might have affected the choice of budget policy. This would further confirm a "Maastricht effect" in terms of convergence of budget structure. However, over the long run, differences in the composition of budgetary adjustments appear to reflect a different timing of implementation of a given fiscal policy rather than uncorrelated fiscal policies.

3 The macroeconomics of fiscal consolidation in the run up to EMU

3.1 An overview of the main issues

One relevant aspect of the assessment of fiscal consolidation processes is the analyses of

the interaction between growth and fiscal policy. The economic literature has deeply analysed the issue against the background of episodes of fiscal consolidation undertaken in the past and current decades. The literature emphasises that, in the short run, a restrictive fiscal policy would generally imply contractionary effects on the aggregate demand. However, expansionary effects are also possible if fiscal policies prompt a change in the expectations of economic agents about their future wealth (demand side effects) and/or contribute to improve the competitiveness of the economy (supply side effects).

A number of crucial assumptions must be satisfied for a restrictive policy to produce expansionary effects. According to the expectation view, fiscal adjustments must come as a surprise and modify people's expectations about the need for more disruptive future fiscal restriction and, hence, future wealth. Tax systems also play a role, with higher distortionary effects attached to larger and more disruptive consolidations. Government must be committed to fiscal discipline in a credible way, thus strengthening intertemporal effects of restrictive fiscal policy on expected wealth and demand. In order to determine possible expansionary effects, the crucial aspects of a budget adjustment are its size, composition, graduality of implementation and initial conditions of public finances.

The paper claims that the new institutional framework of budget discipline enshrined by the Maastricht Treaty has raised new elements of interest in the analysis. In particular, some conditions might have been satisfied according to which contractionary fiscal policies might have minimised their contractionary effect on growth.

In order to find support for these claims, the next section analyses the economic and budget conditions under which countries have undertaken their budgetary consolidation in the run up to EMU. Fiscal consolidation undertaken by almost all EU countries over the same years, and therefore under similar economic conditions, provides a consistent framework to analyse the budgetary adjustments adopted by the various countries. Based on qualitative analyses, the section highlights that specific features of the consolidation process could have made its effects on growth less detrimental. It illustrates conditions according to which consolidation in the run up to EMU might have been less detrimental for growth and points at some evidence that consolidation fatigue in the aftermath of monetary union was stronger for tax based than expenditure based adjustments.

3.2 Economic conditions underpinning budget consolidation

Chart 11 illustrates fiscal consolidation undertaken by EU countries in the 1990s against the underlying economic conditions, real GDP growth and output gap (negative values of the output gap indicate the existence of margins of unexploited excess productive capacity). The

chart clearly shows that, in the run up to EMU, most countries undertook budget adjustments under unfavourable economic conditions, i.e., under large unexploited margins of productive capacity. Hence, restrictive policies were run by countries in a procyclical stance. This was quite a change compared with the very beginning of the decade, when policies broadly maintained a countercycle stance. This had been, for instance, the case in Italy, performing fiscal adjustments in the favourable years of growth 1991 and 1992, and in Sweden, loosening its fiscal stance over the same years, in coincidence with a large output gap. It is also worth noting that, over the decade, the largest budget adjustments were carried out by countries with the largest fiscal imbalances, as measured by the stock of debt and deficits. Countries like the Netherlands and Ireland, which already implemented a front loaded fiscal consolidation in the early nineties, could reap the benefits of lighter adjustments in later years. By contrast, countries like Sweden and the United Kingdom, which let their budgets work in a fully countercyclical way during the downturn of the early nineties, had to face sizeable fiscal adjustments in late years, following the serious deterioration of their public finances.

According to the expectation view, for fiscal consolidation to have expansionary effects, fiscal adjustments must come as a surprise and modify people's expectations of more disruptive fiscal restrictions in the future and hence wealth. The sizeable budget adjustment implemented by the various countries in the run up to EMU, even in a period of slow growth, might have, to some extent, run counter to common expectations. Therefore, fiscal consolidation could have caused people to switch their expectations about future consolidation and their expected wealth. Furthermore, the new institutional framework might have increased the credibility of governments' commitment to fiscal discipline, thus strengthening intertemporal effects of restrictive fiscal policy on expected wealth and demand.

As seen in the previous paragraph, revenue based adjustments preceded expenditure based adjustments. However, tax reforms undertaken since the late 1980s have made tax systems less distortionary. Hence the distortionary effects of tax consolidation might have lessened somewhat in the 1990's. Furthermore, some wealth effects might have arisen, assuming that economic agents expected larger and more disruptive consolidation in the future. Expenditure restraints coming thereafter had reinforced policy credibility and made the adjustment more persistent.

Comparing the information relative to the composition of budget adjustments detected in the previous section and the underlying economic conditions, one notes that countries which were recording declining margins of excessive capacity, or whose output gap was declining,

have generally made a smaller recourse to primary expenditure cuts and larger use of tax hikes, than countries which have performed their budget consolidation in periods of a large output gap. However, as seen in the previous paragraph, the composition of the budget adjustment might also have been driven by a broad convergence of revenue ratios across countries, thus lessening the distortionary effects of high revenue ratios.

A tentative conclusion is that sizeable budget adjustments undertaken under unfavourable economic conditions and the new institutional framework might have induced a change in people's expectation about future fiscal policy. As suggested by the expectation view literature, this could have paved the way for less detrimental effects on growth.

3.3 Stylised facts and policy issues

This paragraph presents a stylised analysis. The analysis identifies, for each country, episodes of fiscal consolidation which took place in the run up to EMU. It focuses on relevant episodes of fiscal consolidation, broadly defined as a budget adjustment of at least 1 percentage point of GDP, or somewhat smaller if the adjustment has lasted longer than one year. This is broadly in accordance with the methodology adopted by the existing empirical literature on the subject. The criterion singles out 13 episodes of fiscal consolidation, taking place, in the majority of cases, over the years 1996 and 1997.

In table 7, countries are ranked in descending order following the size of the fiscal tightening adopted in their respective fiscal adjustment episodes. For each country, the table presents the change in the structural primary budget balance and debt ratio over the consolidation period. It also provides the value of the debt ratio in the year when the consolidation episodes started. Furthermore, this section provides information about the average real GDP growth rates in the period before, during and after the consolidation episode.

From the qualitative evidence presented, one can detect the following stylised facts. Fiscal consolidation, as measured by the change in the cyclically adjusted primary balance ratio, are not correlated with the size of the debt ratio. Larger fiscal consolidation implied higher reductions of the debt ratio over the period selected. This is not however, a one-to-one correspondence, with some countries enjoying a large debt reduction in the presence of limited fiscal tightening (e.g. Belgium) and vice versa (e.g. France). In fact, the evolution of the debt is also driven by other factors, such as the differential rate between interest on debt and real GDP growth and a host of financial transactions, which affect the debt evolution without modifying the budget balance. Furthermore, comparing the average growth rates during and after the fiscal consolidation illustrates that, only in very few cases (Denmark, Italy and Portugal) was real growth lower in the aftermath of the budgetary restriction compared to

the consolidation period.

In section a) of table 8, countries are ranked in descending order according to the change in the cyclically adjusted primary expenditure. For each country, the table presents the change in the structural primary expenditure and structural primary balance over the consolidation period. It also shows the primary expenditure and debt ratio in the year when the consolidation episodes started. The expenditure adjustment is correlated with the level of the expenditure ratio, before the consolidation episode. The correlation coefficient is in fact of some -0.6. The fiscal stance is also correlated with the size of total expenditure, suggesting more sizeable adjustments have taken place in countries with higher expenditure ratios (coefficient of correlation is 0.4). However, across countries, the size of expenditure restraints is not related to the size of the debt. The last column shows the deviation of growth after consolidation with respect to growth during consolidation. Almost all countries recorded higher real growth rates in the 2-year period after the fiscal episode, compared with the average real growth during the fiscal episodes. The only exceptions are Denmark, Italy and Portugal. A visual inspection of the data shows the largest positive deviation of growth in countries that have implemented the largest expenditure based adjustments (see Chart 12a).

Section b) of table 8 ranks countries in descending order, according to the change of the structural revenue ratio. For each country, the table presents the change in the structural revenue and structural primary balance over the consolidation period. It also provides the total revenue in the year when the consolidation episodes started. The table provides some evidence that countries with the lowest revenue ratio have relied more than others on tax increases. In fact, the correlation coefficient is -0.4. One main exception is Sweden, which recorded increases in the revenue ratio higher than the EU-15 average, while having the highest revenue to-GDP ratio. Across countries, revenue increases are to some extent, positively related to the size of the debt ratio. By a visual inspection of the table, one would also reckon that countries, which relied more than others on tax increases, recorded the smallest positive deviation of growth in the years after the consolidation or even suffered from a lower growth rate (see Chart 12b).

The descriptive analyses presented in the current and previous sections allows some broad conclusions to be drawn. In the run up to EMU, a number of conditions relating to the institutional and economic environment (such as credible governments' commitment to fiscal discipline and sizeable budget adjustments) appear to have minimised detrimental effects of sizeable fiscal consolidation on growth. Countries which more than others have relied on revenue based adjustments, have suffered more from setbacks in fiscal consolidation. Furthermore, in these countries, in the aftermath of consolidation, the deviation of the rate of

growth with respect to previous periods is less favourable if compared with expenditure based adjustments.

4 Summary and conclusions

This paper has taken a close look at a host of stylised facts describing the main features of budget consolidation implemented by the various Member States in stage two and three of monetary union. The aim was to inquire, in a rather descriptive fashion, whether the signing of the Maastricht Treaty has affected the process of budgetary adjustments undertaken by the various EU countries. As a closely related issue, the paper inquires about the conditions under which fiscal contractions minimised their negative effects on growth.

From the stylised facts characterising the process of budget consolidation, the paper draws the following broad conclusions. In the run up to EMU, the fiscal stance became restrictive in the euro area countries, with larger adjustments in countries that had experienced the largest imbalances at the beginning of the nineties.

Owing to the consolidation process, revenue and expenditure ratios have converged somewhat towards the EU-15 and euro area-12 average. Across countries, the standard deviation of cyclically adjusted revenue ratios and primary expenditure ratios, respectively, have declined in the course of the 1990s. Regarding capital expenditure, there is some evidence that countries with historically low capital expenditure aimed at improving their infrastructure, as shown by the increase in their capital expenditure.

The experience of consolidation in the nineties can be organised into three periods. From 1991 until 1995, the moderate budgetary consolidation recorded on average in the EU-15 and euro area, respectively, was largely based on revenue adjustments, partly offset by increases in expenditure. In the years 1996 until 1997, the structural primary budget improved significantly on average in the EU-15 and euro area-12, respectively. The budget consolidation was based on both lower expenditure and higher revenue in the EU-15 as a whole. In the period 1998 until 2001, the structural primary budget remained broadly constant in the EU-15 average and declined somewhat in the euro area-12 average, when policies were aimed at reducing the size of budgets and excessively high revenue ratios.

However, differences in the composition of budgetary adjustments across countries are also apparent. They appear to reflect the different timings of implementation of a given fiscal policy rather than uncorrelated fiscal policies. Furthermore, they might have depended on the different initial budgetary position and budget composition in the various countries.

This paper also claimed that the new institutional framework enshrined by the Maastricht Treaty has raised new elements of interest in the analysis. The framework of budget

discipline together with the sizeable budget adjustments implemented by the various countries in the run up to EMU might have increased the credibility of governments regarding their commitment to comply with the fiscal parameters requirement. Hence, the new institutional framework could have made intertemporal effects of fiscal policy more likely, thus strengthening potential wealth effects. Although the paper does not inquire into the issue in depth, some qualitative analyses points at the following evidence.

Fiscal restrictions, as measured by the change in the cyclically adjusted primary balance ratio, are not correlated with the size of the debt ratio. The fiscal stance is instead correlated with the size of total expenditure, suggesting more sizeable adjustments have taken place in countries with higher expenditure ratios. There is also some evidence that countries with the lowest revenue ratios have relied more than the others on tax increases.

Looking at the composition, revenue increases initially played a more substantial role than expenditure cuts. Revenue based adjustments have well known distortionary effects on the labour market. However, these effects may have been limited, as the reforms undertaken since the late 1980's have lessened their distortionary effects.

Comparing the average growth rates during and after the fiscal consolidation illustrates that only in very few cases (Italy and Portugal) was real growth lower in the aftermath of the budgetary restriction compared to the consolidation period. This is particularly the case for countries that have relied on tax hikes less than the others.

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FISCAL CONSOLIDATION IN EU COUNTRIES IN THE NINETIES: NEW FACTS AND POLICY IMPLICATIONS[1]

Tables and Charts

July 2002

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Table 1

General government budgetary position in EU countries and the euro area

(as a percentage of GDP)

	Deficit/surplus				Primary deficit/surplus				Government debt			
	1991	1995	1997	2001	1991	1995	1997	2001	1991	1995	1997	2001
Belgium	-7.3	-4.4	-2.0	-0.3	3.9	4.9	6.0	6.2	126.7	129.8	124.7	107.0
Denmark	-2.4	-2.3	0.4	2.2	4.9	4.1	6.1	5.9	62.3	69.3	61.2	43.2
Germany	-3.0	-3.5	-2.7	-2.5	-0.1	0.2	0.9	0.7	40.3	57.0	61.0	60.0
Greece	-11.5	-10.2	-4.7	-0.4	-2.1	1.0	3.6	6.2	91.2	108.7	108.3	100.4
Spain	-4.5	-6.6	-3.2	0.1	-0.6	-1.4	1.6	3.3	43.9	63.2	66.6	58.0
France	-2.4	-5.5	-3.0	-1.6	0.6	-1.8	0.7	1.6	35.2	51.9	59.3	57.1
Ireland	-2.9	-2.5	0.6	2.4	4.8	3.2	5.3	4.3	92.4	80.8	65.1	34.4
Italy	-11.7	-7.6	-2.7	-1.2	0.2	3.9	6.7	5.0	100.6	123.2	120.2	108.2
Luxembourg	1.5	2.3	3.4	4.3	1.9	2.7	3.7	4.6	4.0	5.6	6.0	5.1
Netherlands	-2.7	-4.2	-1.1	1.3	3.4	1.7	4.1	4.6	75.7	75.5	69.9	51.8
Austria	-3.0	-5.2	-1.9	-0.2	1.2	-0.8	2.0	3.2	57.0	68.0	64.7	62.3
Portugal	-6.0	-4.5	-2.7	-2.0	1.8	1.8	1.5	1.1	66.1	64.7	58.9	53.5
Finland	-1.1	-3.7	-1.5	4.8	0.8	0.3	2.7	7.0	22.7	56.9	54.1	42.7
Sweden	-1.1	-7.7	-1.6	3.8	4.0	-0.8	4.9	7.3	51.4	75.4	73.1	52.3
United Kingdom	-3.1	-5.8	-2.2	1.2	0.1	-2.1	1.5	3.8	35.1	52.0	50.8	39.3
Euro area-12	-4.5	-5.1	-2.6	-1.1	0.6	0.5	2.5	2.8	57.9	71.6	75.3	68.8
EU-15	-4.2	-5.2	-2.5	-0.5	0.8	0.2	2.5	3.1	54.9	69.6	71.0	62.5

Source: European Commission, Autumn 2001 and our elaboration

Note: Data exclude proceeds from the sale of UMTS licenses

Table 2

Changes in the general government budgetary position in EU countries and the euro area

(in percentage points of GDP)

	Deficit/surplus				Primary deficit/surplus				Government debt			
	1992-95	1996-97	1998-01	1992-01	1992-95	1996-97	1998-01	1992-01	1992-95	1996-97	1998-01	1992-01
Belgium	3.0	2.4	1.7	7.1	1.0	1.1	0.3	2.3	3.1	-5.1	-17.7	-19.7
Denmark	0.1	2.6	1.9	4.6	-0.7	1.9	-0.1	1.1	7.0	-8.1	-18.0	-19.2
Germany	-0.5	0.7	0.2	0.4	0.3	0.7	-0.2	0.8	16.6	4.0	-1.0	19.7
Greece	1.4	5.5	4.3	11.1	3.1	2.6	2.6	8.3	17.5	-0.4	-7.8	9.3
Spain	-2.1	3.5	3.3	4.6	-0.8	3.0	1.7	3.9	19.3	3.4	-8.6	14.1
France	-3.1	2.5	1.5	0.9	-2.3	2.4	0.9	1.0	16.7	7.4	-2.1	21.9
Ireland	0.4	3.1	1.8	5.3	-1.6	2.1	-1.1	-0.5	-11.7	-15.7	-30.7	-58.0
Italy	4.1	4.9	1.5	10.5	3.8	2.7	-1.6	4.9	22.6	-3.0	-12.0	7.6
Luxembourg	0.8	1.1	0.9	2.8	0.8	1.1	0.8	2.7	1.6	0.4	-0.9	1.2
Netherlands	-1.5	3.0	2.4	4.0	-1.7	2.3	0.6	1.2	-0.2	-5.6	-18.1	-23.9
Austria	-2.2	3.3	1.7	2.8	-2.0	2.8	1.2	1.9	11.0	-3.3	-2.4	5.4
Portugal	1.5	1.8	0.7	4.0	-0.1	-0.2	-0.4	-0.7	-1.4	-5.8	-5.4	-12.6
Finland	-2.6	2.2	6.3	5.9	-0.4	2.4	4.3	6.3	34.2	-2.7	-11.4	20.0
Sweden	-6.5	6.0	5.4	5.0	-4.8	5.7	2.4	3.3	24.1	-2.4	-20.8	0.9
United Kingdom	-2.7	3.6	3.4	4.3	-2.2	3.6	2.3	3.7	17.0	-1.3	-11.5	4.2
Euro area-12	-0.6	2.4	1.5	3.3	0.0	2.0	0.3	2.2	13.7	3.8	-6.5	10.9
EU-15	-1.0	2.7	2.0	3.7	-0.6	2.3	0.6	2.3	14.7	1.4	-8.5	7.6

Source: European Commission, Autumn 2001 and our elaboration

Note: Data exclude proceeds from the sale of UMTS licenses

Table 3
Fiscal stance in EU countries and the euro area

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

	Cyclically adjusted primary balance											
	Ratios to GDP				Changes in ratios				Annual average changes in ratios			
	1991	1995	1997	2001	1992-95	1996-97	1998-01	1992-01	1992-95	1996-97	1998-01	1992-01
Belgium	2.6	5.3	6.2	5.8	2.8	0.9	-0.5	3.2	0.7	0.4	-0.1	0.3
Denmark	5.5	4.3	5.6	5.6	-1.3	1.3	0.0	0.0	-0.3	0.7	0.0	0.0
Germany	-2.0	-0.1	1.4	0.9	2.0	1.4	-0.4	3.0	0.5	0.7	-0.1	0.3
Greece	-2.9	1.6	4.0	5.8	4.5	2.4	1.9	8.8	1.1	1.2	0.5	0.9
Spain	-3.1	-0.6	2.1	2.8	2.5	2.8	0.6	5.9	0.6	1.4	0.2	0.6
France	-0.2	-1.3	1.5	1.3	-1.1	2.8	-0.1	1.6	-0.3	1.4	0.0	0.2
Ireland	4.8	4.3	5.4	2.3	-0.5	1.0	-3.0	-2.5	-0.1	0.5	-0.8	-0.2
Italy	-0.5	4.0	6.9	5.0	4.5	2.9	-1.9	5.5	1.1	1.4	-0.5	0.6
Luxembourg	1.0	3.3	3.8	3.3	2.3	0.5	-0.5	2.2	0.6	0.3	-0.1	0.2
Netherlands	2.0	2.6	4.4	4.2	0.6	1.8	-0.2	2.1	0.1	0.9	-0.1	0.2
Austria	0.6	-0.7	2.4	3.1	-1.3	3.1	0.7	2.5	-0.3	1.5	0.2	0.2
Portugal	0.3	2.6	1.8	0.7	2.3	-0.8	-1.1	0.4	0.6	-0.4	-0.3	0.0
Finland	1.3	3.6	2.9	5.7	2.3	-0.7	2.7	4.3	0.6	-0.3	0.7	0.4
Sweden	2.9	-0.2	6.2	6.5	-3.1	6.5	0.2	3.6	-0.8	3.2	0.1	0.4
United Kingdom	0.6	-1.9	1.3	3.5	-2.5	3.2	2.2	2.9	-0.6	1.6	0.6	0.3
Euro area-12	-0.9	0.8	3.0	2.6	1.7	2.2	-0.4	3.5	0.4	1.1	-0.1	0.3
EU-15	-0.4	0.5	2.8	2.9	0.8	2.4	0.1	3.3	0.2	1.2	0.0	0.3

Source: European Commission, Autumn 2001 and our elaboration

Note: Data exclude proceeds from the sale of UMTS licenses

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

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

	Revenue							
	Ratios to GDP				Changes in ratios			
	1991	1995	1997	2001	1992-95	1996-97	1998-01	1992-01
Belgium	46.7	48.5	49.4	49.0	1.8	0.9	-0.4	2.3
Denmark	55.4	58.0	58.3	54.8	2.6	0.3	-3.5	-0.6
Germany	44.1	46.1	46.6	46.0	2.0	0.5	-0.6	1.9
Greece	33.8	40.3	40.0	48.1	6.5	-0.3	8.1	14.3
Spain	40.7	38.4	39.0	39.6	-2.3	0.6	0.6	-1.0
France	49.1	49.7	51.9	51.2	0.6	2.2	-0.8	2.0
Ireland	42.0	39.4	38.6	34.6	-2.6	-0.7	-4.1	-7.4
Italy	43.8	45.8	48.4	46.3	2.0	2.6	-2.1	2.4
Luxembourg	48.3	47.8	46.3	43.8	-0.4	-1.5	-2.5	-4.5
Netherlands	52.2	47.3	47.1	45.9	-4.9	-0.2	-1.3	-6.3
Austria	51.2	52.1	52.1	52.7	0.9	0.0	0.6	1.5
Portugal	36.4	40.5	41.6	42.7	4.0	1.1	1.1	6.3
Finland	57.3	56.2	55.3	53.3	-1.1	-0.9	-2.0	-4.0
Sweden	61.6	60.0	61.6	60.8	-1.6	1.6	-0.8	-0.8
United Kingdom	41.7	39.8	39.6	41.6	-2.0	-0.2	2.0	-0.1
Euro area-12	45.2	46.5	47.6	46.8	1.3	1.1	-0.8	1.6
EU-15	45.4	46.2	46.9	46.4	0.9	0.7	-0.5	1.0

Source: European Commission, Autumn 2001 and our elaboration

Note: Data exclude proceeds from the sale of UMTS licenses

Table 5
General government expenditure in EU countries and the euro area
(as a percentage of GDP)

	Total expenditure				Interest expenditure				Primary expenditure			
	1991	1995	1997	2001	1991	1995	1997	2001	1991	1995	1997	2001
Belgium	54.0	52.8	51.4	49.3	11.3	9.2	8.0	6.5	42.8	43.6	43.4	42.8
Denmark	57.8	60.3	58.0	52.6	7.3	6.4	5.7	3.7	50.6	53.9	52.3	48.9
Germany	47.1	49.6	49.3	48.6	2.8	3.7	3.6	3.2	44.2	45.9	45.7	45.3
Greece	45.3	50.5	44.7	48.5	9.4	11.1	8.3	6.6	35.9	39.3	36.5	41.9
Spain	45.1	45.0	42.2	39.5	3.9	5.2	4.8	3.2	41.3	39.8	37.4	36.4
France	51.6	55.2	55.0	52.7	3.0	3.8	3.7	3.2	48.6	51.5	51.3	49.5
Ireland	44.8	41.5	37.4	32.1	7.6	5.4	4.2	1.8	37.2	36.2	33.3	30.3
Italy	55.5	53.4	51.1	47.5	11.9	11.5	9.4	6.2	43.7	41.9	41.7	41.2
Luxembourg	46.8	45.5	42.9	39.5	0.4	0.4	0.3	0.2	46.4	45.2	42.6	39.2
Netherlands	54.8	51.4	48.2	44.5	6.1	5.9	5.2	3.3	48.7	45.5	43.1	41.2
Austria	54.2	57.2	54.0	52.9	4.2	4.4	3.9	3.4	49.9	52.9	50.1	49.5
Portugal	42.4	44.9	44.2	44.7	7.9	6.3	4.2	3.1	34.6	38.7	40.0	41.6
Finland	58.5	59.9	56.8	48.5	1.9	4.0	4.3	2.3	56.6	55.9	52.6	46.2
Sweden	62.7	67.6	63.2	57.0	5.1	6.9	6.5	3.5	57.6	60.8	56.7	53.5
United Kingdom	44.8	45.5	41.7	40.4	3.2	3.7	3.7	2.5	41.6	41.9	38.1	37.8
Euro area-12	49.7	51.6	50.2	47.9	5.0	5.6	5.1	3.9	44.6	46.0	45.1	44.0
EU-15	49.5	51.4	49.4	46.9	5.0	5.4	5.0	3.6	44.5	46.0	44.4	43.3

Source: European Commission, Autumn 2001 and our elaboration

Note: Data exclude proceeds from the sale of UMTS licenses

Table 6
Changes in general government expenditure in EU countries and the euro area
(in percentage points of GDP)

	Total expenditure				Interest expenditure				Primary expenditure			
	1992-95	1996-97	1998-01	1992-01	1992-95	1996-97	1998-01	1992-01	1992-95	1996-97	1998-01	1992-01
Belgium	-1.2	-1.4	-2.1	-4.7	-2.0	-1.3	-1.5	-4.8	0.8	-0.1	-0.6	0.0
Denmark	2.5	-2.3	-5.4	-5.2	-0.8	-0.7	-2.0	-3.5	3.3	-1.6	-3.4	-1.7
Germany	2.5	-0.2	-0.7	1.5	0.8	0.0	-0.4	0.4	1.7	-0.2	-0.3	1.1
Greece	5.2	-5.8	3.8	3.2	1.7	-2.9	-1.6	-2.8	3.5	-2.9	5.5	6.0
Spain	-0.1	-2.9	-2.6	-5.6	1.4	-0.5	-1.6	-0.7	-1.5	-2.4	-1.1	-4.9
France	3.6	-0.2	-2.2	1.2	0.7	0.0	-0.5	0.2	2.9	-0.2	-1.7	1.0
Ireland	-3.3	-4.1	-5.3	-12.7	-2.3	-1.2	-2.3	-5.8	-1.0	-2.9	-3.0	-6.9
Italy	-2.1	-2.3	-3.6	-8.1	-0.3	-2.2	-3.1	-5.6	-1.8	-0.2	-0.5	-2.4
Luxembourg	-1.2	-2.6	-3.5	-7.3	0.0	0.0	-0.1	-0.1	-1.2	-2.6	-3.3	-7.2
Netherlands	-3.4	-3.2	-3.7	-10.3	-0.2	-0.7	-1.9	-2.8	-3.2	-2.5	-1.8	-7.5
Austria	3.1	-3.3	-1.1	-1.3	0.1	-0.5	-0.5	-0.9	2.9	-2.8	-0.6	-0.4
Portugal	2.5	-0.7	0.5	2.3	-1.6	-2.0	-1.1	-4.7	4.1	1.3	1.6	7.0
Finland	1.5	-3.1	-8.3	-10.0	2.1	0.2	-2.0	0.4	-0.7	-3.3	-6.3	-10.3
Sweden	4.9	-4.4	-6.2	-5.7	1.7	-0.3	-3.1	-1.7	3.2	-4.1	-3.1	-4.0
United Kingdom	0.7	-3.8	-1.4	-4.5	0.5	0.0	-1.2	-0.7	0.2	-3.8	-0.2	-3.8
Euro area-12	1.9	-1.4	-2.3	-1.7	0.6	-0.4	-1.2	-1.1	1.3	-0.9	-1.0	-0.6
EU-15	1.9	-2.0	-2.5	-2.6	0.4	-0.4	-1.3	-1.3	1.5	-1.6	-1.2	-1.2

Source: European Commission, Autumn 2001 and our elaboration

Note: Data exclude proceeds from the sale of UMTS licenses

Table 7

Episodes of fiscal consolidation in EU countries and the euro area: Fiscal stance

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

		Differences in ratios		Ratios to GDP	Average real GDP growth rates		
	Episodes of consolidation	Primary balance cycl-adj	Debt	Debt before consolidation episodes	2-year before consolidation (a)	During consolidation (b)	2-year after consolidation (c)
Sweden	1995-98	10.7	-6.0	75.4	0.9	3.4	4.1
United Kingdom	1995-98	6.6	-2.1	52.0	3.6	2.0	2.5
Greece	1996-99	4.4	-4.1	111.3	2.1	3.1	4.2
Italy	1995-97	4.1	-3.6	123.2	0.7	2.0	1.7
Luxembourg	1994-96	3.5	0.4	5.4	6.6	3.9	7.5
Austria	1996-97	3.1	-3.3	69.2	2.1	1.8	3.2
France	1996-97	2.8	7.4	57.1	1.9	1.5	3.2
Spain	1996-97	2.8	3.4	68.1	2.6	3.2	4.2
EU15	1996-97	2.4	1.4	72.1	2.6	2.1	2.8
Germany	1996-99	2.4	4.4	59.8	2.0	1.5	1.8
Euro area 12	1996-97	2.2	3.8	75.4	2.3	1.9	2.8
Netherlands	1996	2.0	-0.3	75.2	2.8	3.0	4.1
Belgium	1996-98	1.7	-10.5	130.1	2.7	2.3	3.5
Portugal	1995	1.6	2.0	64.7	-0.5	4.3	3.9
Denmark	1996-97	1.3	-8.1	65.1	4.1	2.7	2.4

Note: Countries are ranked in descending order, according to the change of the cyclically adjusted primary balance
Source: European Commission, Autumn 2001 and our elaboration

Table 8

Episodes of fiscal consolidation in EU countries and the euro area: Underlying factors

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

(a) Cyclically adjusted primary expenditure

		Differences in ratios		Ratios to GDP		Deviation of average growth rate in the 2-year period after consolidation compared with the consolidation period
	Episode of consolidation	Primary expenditure cyclically adj.	Primary balance cyclically adj.	Primary expend. before consolidation	Debt before consolidation	
Sweden	1995-98	-8.8	10.7	60.8	75.4	0.7
United Kingdom	1995-98	-5.7	6.6	41.9	52.0	0.5
Austria	1996-97	-2.9	3.1	52.4	69.2	1.4
Luxembourg	1994-96	-2.7	3.5	44.4	5.4	3.7
Spain	1996-97	-2.4	2.8	38.4	68.1	1.0
EU15	1996-97	-1.6	2.4	45.6	72.1	0.7
Netherlands	1996	-1.5	2.0	44.1	75.2	1.1
Denmark	1996-97	-1.4	1.3	53.7	65.1	-0.3
Italy	1995-97	-1.4	4.1	41.9	123.2	-0.3
Euro area 12	1996-97	-0.9	2.2	45.8	75.4	0.9
Germany	1996-99	-0.6	2.4	46.6	59.8	0.3
Belgium	1996-98	-0.4	1.7	44.0	130.1	1.2
France	1996-97	-0.3	2.8	51.5	57.1	1.7
Greece	1996-99	1.5	4.4	35.3	111.3	1.1
Portugal	1995	1.7	1.6	38.7	64.7	-0.4

Note: Countries are ranked in ascending order, according to the change of the cyclically adjusted primary expenditure

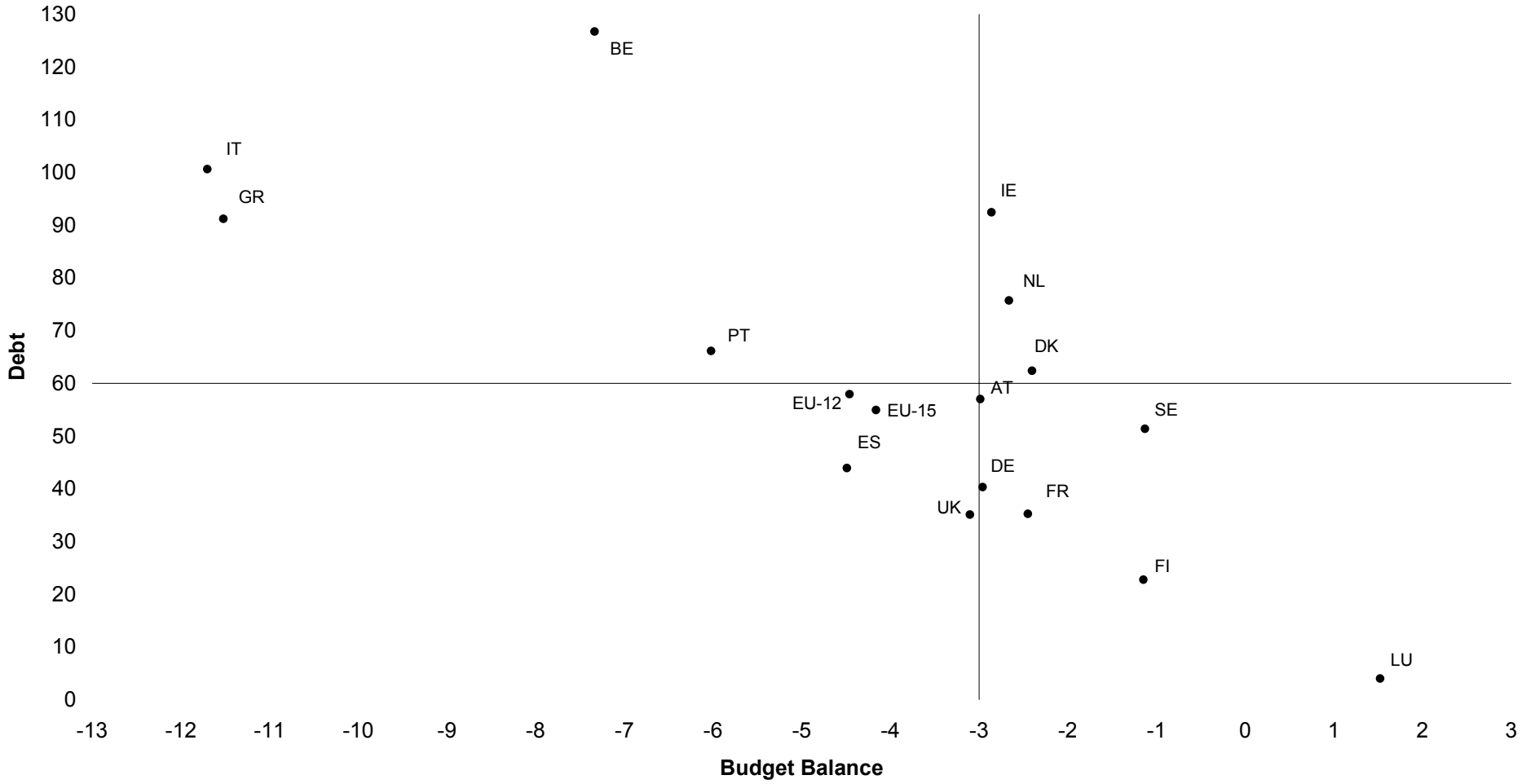
(b) Cyclically adjusted revenue

		Differences in ratios		Ratios to GDP		Deviation of average growth rate in the 2-year period after consolidation compared with the consolidation period
	Episode of consolidation	Total revenue cyclically adj.	Primary balance cyclically adj.	Total revenue before consolidation	Debt before consolidation	
Greece	1996-99	6.2	4.4	38.1	111.3	1.1
Portugal	1995	3.4	1.6	40.5	64.7	-0.4
Italy	1995-97	2.7	4.1	45.8	123.2	-0.3
France	1996-97	2.5	2.8	51.4	57.1	1.7
Sweden	1995-98	2.0	10.7	60.0	75.4	0.7
Germany	1996-99	1.8	2.4	46.8	59.8	0.3
Euro area 12	1996-97	1.3	2.2	47.2	75.4	0.9
Belgium	1996-98	1.3	1.7	49.1	130.1	1.2
United Kingdom	1995-98	0.9	6.6	39.8	52.0	0.5
EU15	1996-97	0.8	2.4	46.9	72.1	0.7
Luxembourg	1994-96	0.8	3.5	47.7	5.4	3.7
Netherlands	1996	0.5	2.0	47.8	75.2	1.1
Spain	1996-97	0.4	2.8	38.8	68.1	1.0
Austria	1996-97	0.3	3.1	52.8	69.2	1.4
Denmark	1996-97	-0.1	1.3	58.8	65.1	-0.3

Note: Countries are ranked in descending order, according to the change of the cyclically adjusted total revenue

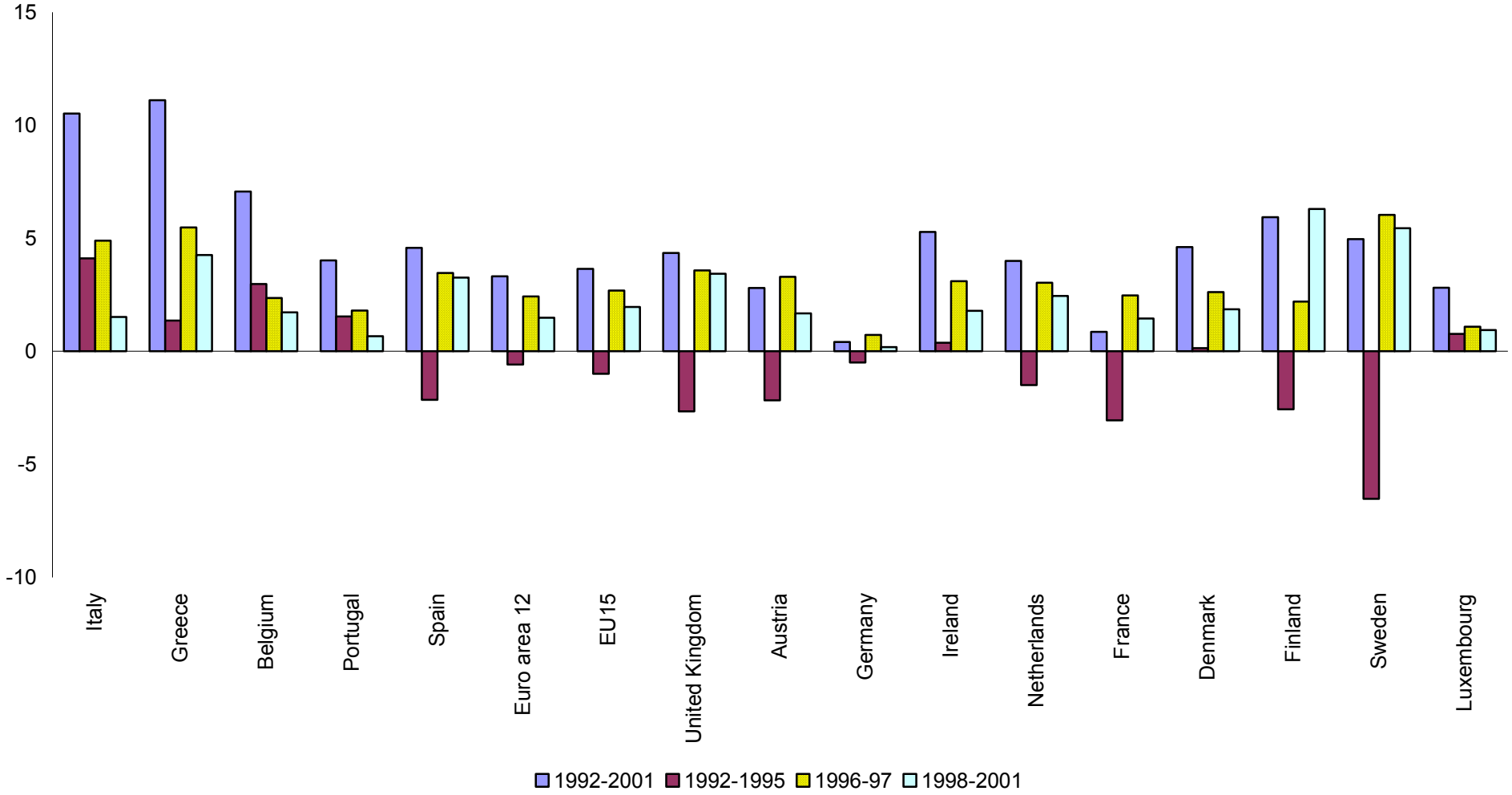
Source: European Commission, Autumn 2001 and our elaboration

Chart 1: Debt ratio and budget balance, in 1991
(as a percentage of GDP)



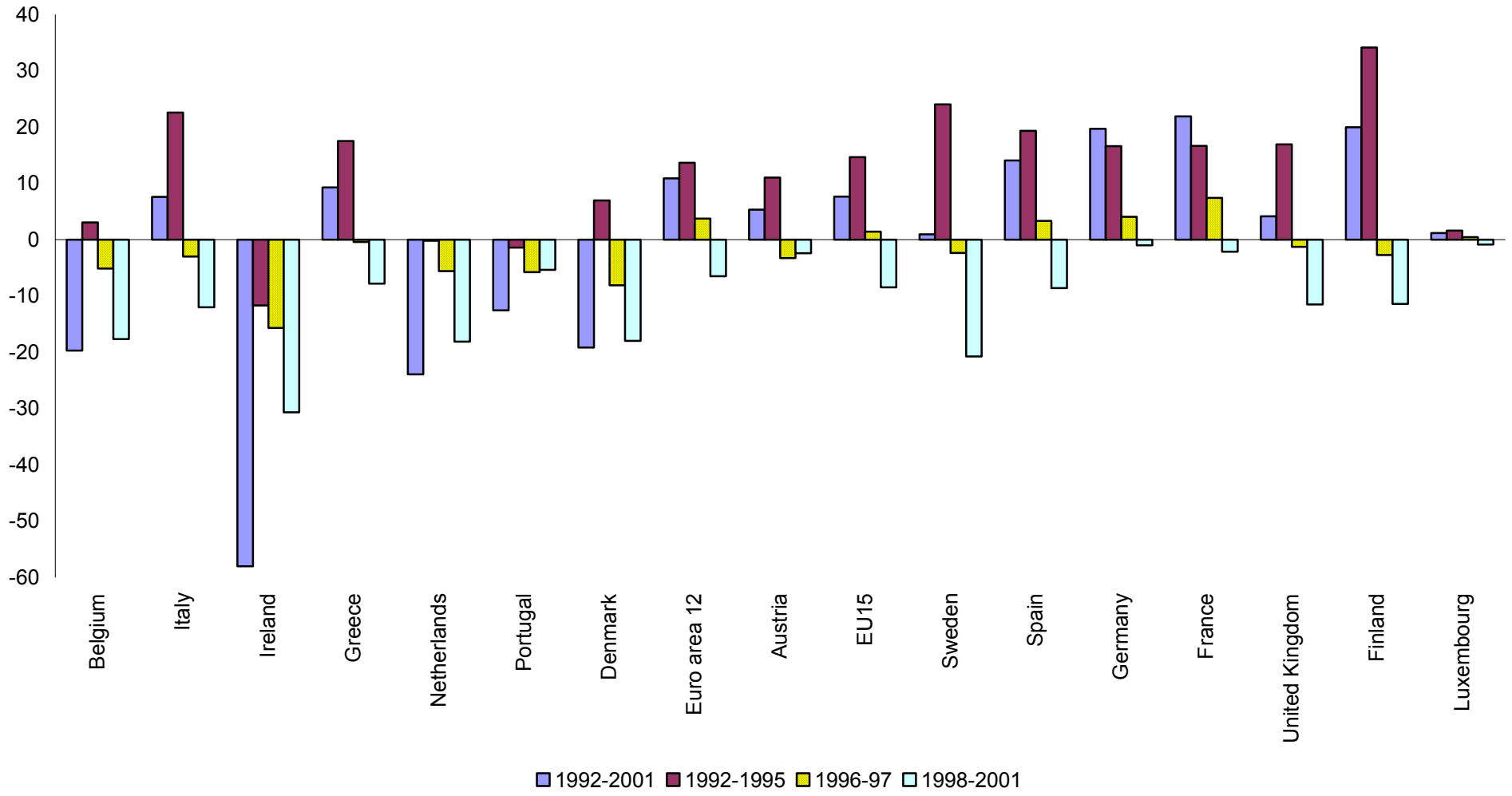
Source: European Commission, Autumn 2001 and our elaboration.

Chart 2: Changes in general government budget balance (as a percentage to GDP)



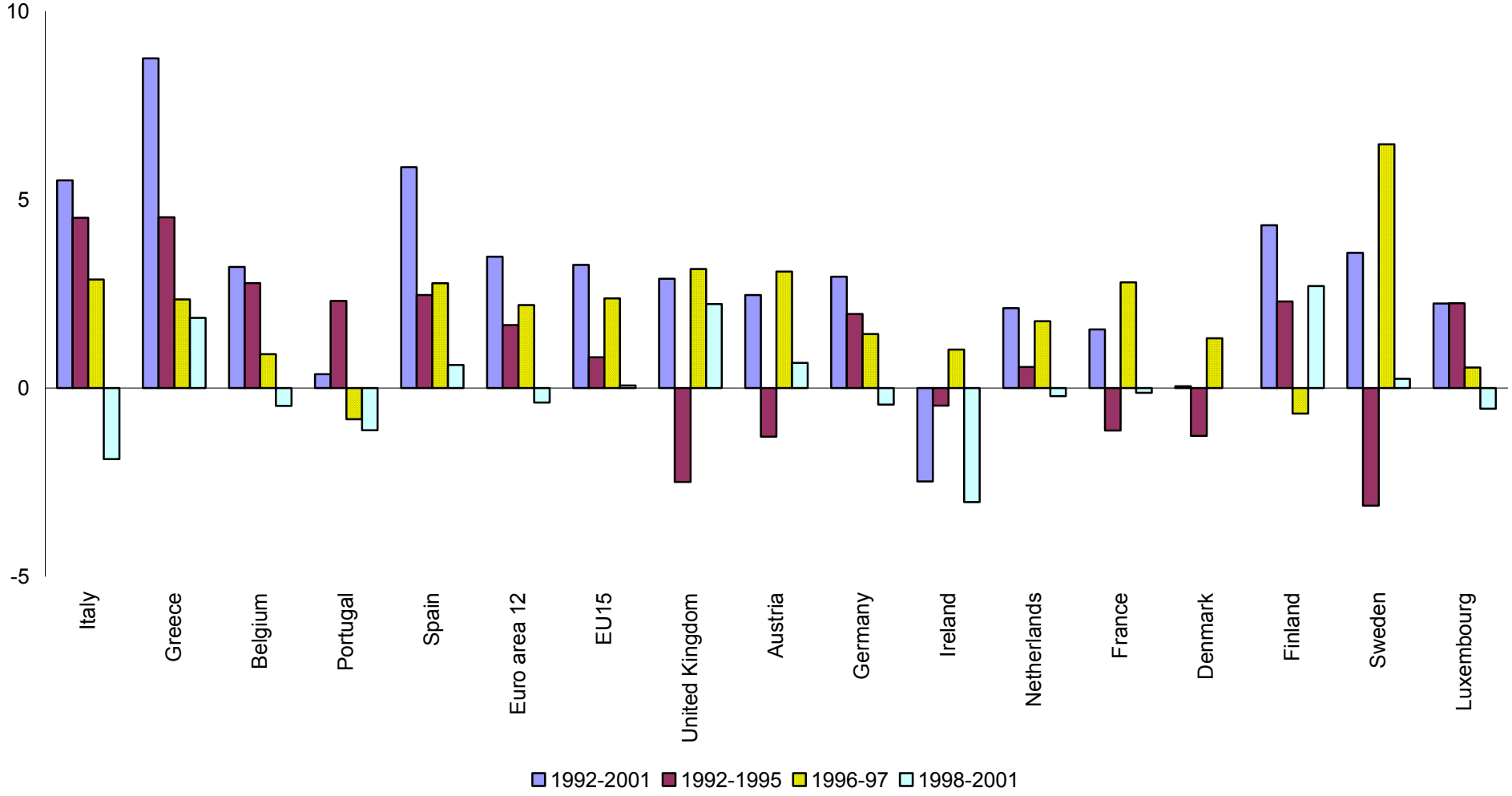
Source: European Commission, Autumn 2001 and our elaboration.
Note: Countries are ranked in descending order according to the size of their debt ratio in 1991. Data excludes proceeds from the sale of UMTS licenses.

Chart 3: Changes in general government debt ratio
(as a percentage to GDP)



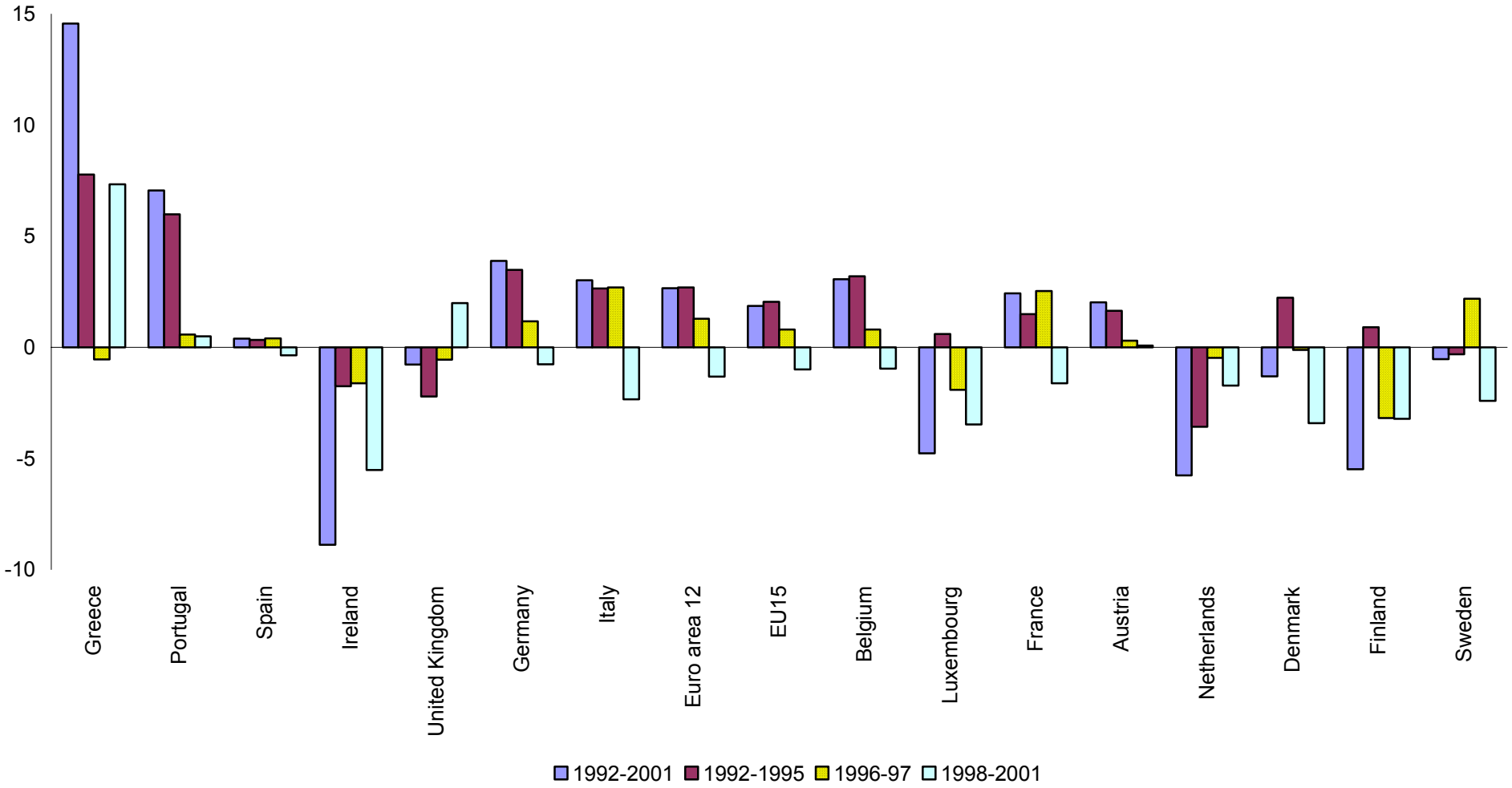
Source: European Commission, Autumn 2001 and our elaboration.
Note: Countries are ranked in descending order according to the size of their budget deficit in 1991. Data excludes proceeds from the sale of UMTS licenses.

Chart 4: Changes in general government cyclically adjusted primary budget balance (as a percentage to GDP)



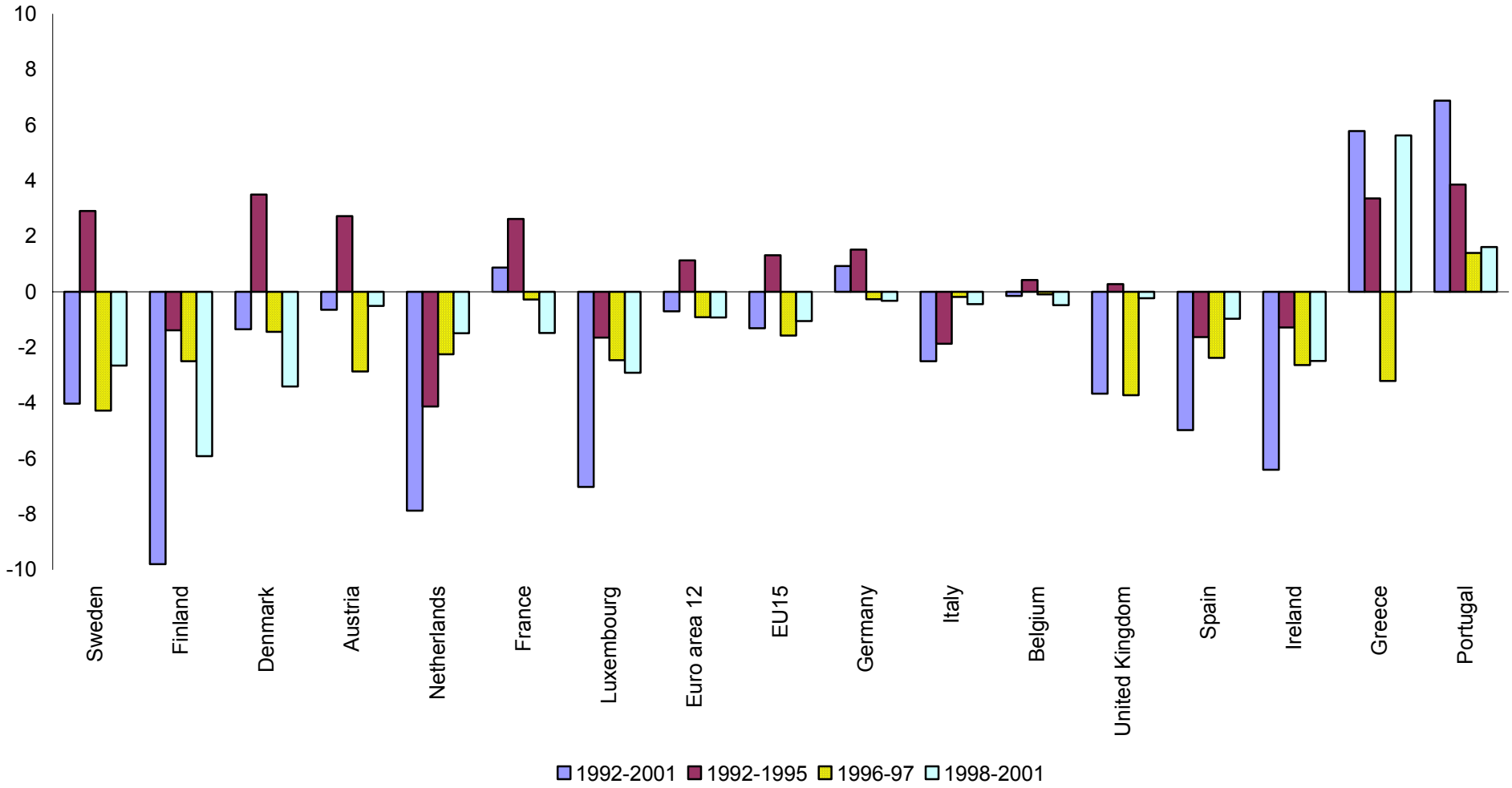
Source: European Commission, Autumn 2001 and our elaboration.
Note: Countries are ranked in ascending order, according to the size of their cyclically adjusted revenue ratio in 1991. Data excludes proceeds from the sale of UMTS licenses.

Chart 5: Changes in general government cyclically adjusted total revenue (as a percentage to GDP)



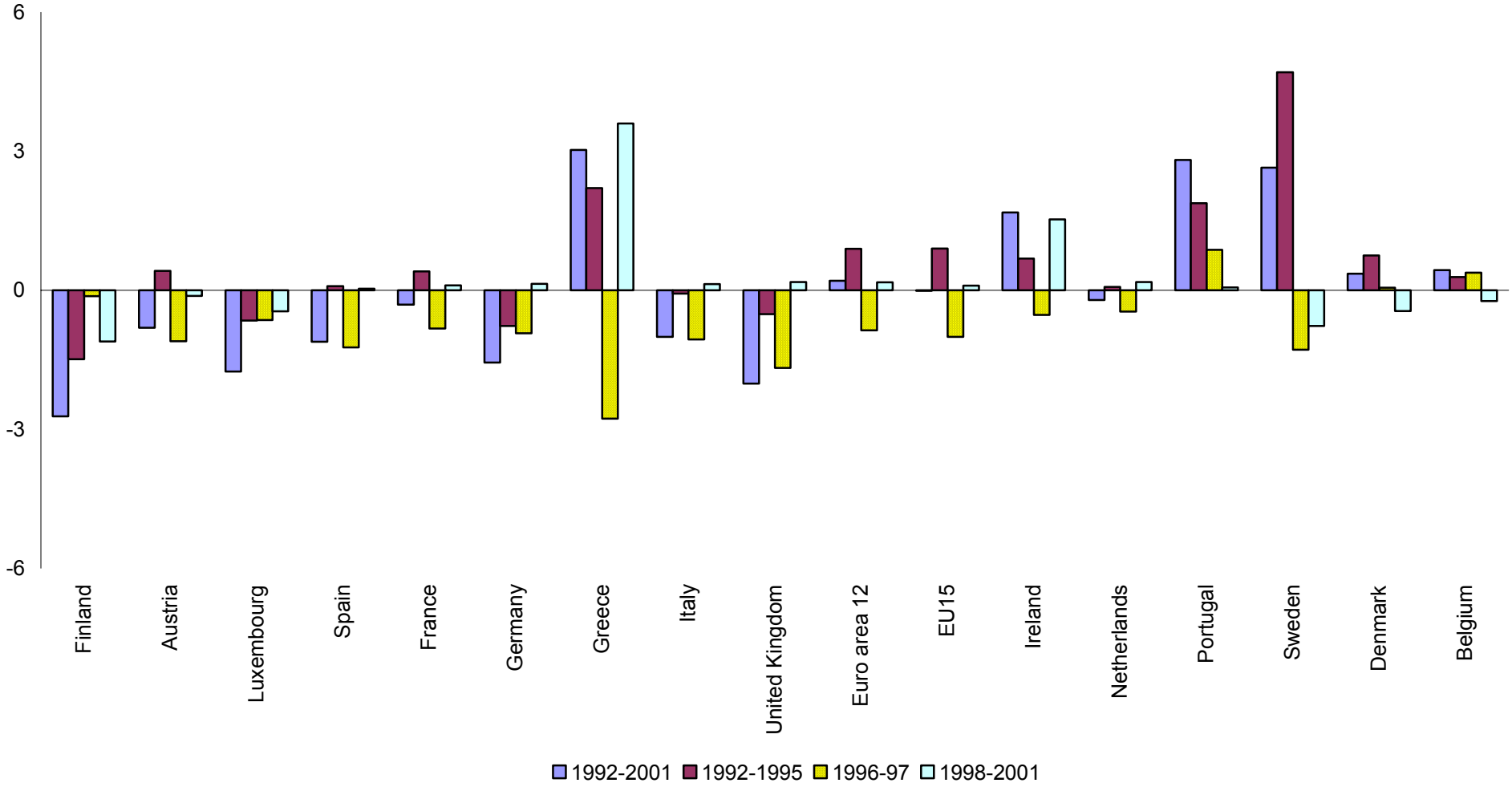
Source: European Commission, Autumn 2001 and our elaboration.
Note: Countries are ranked in descending order according to the size of their structural primary expenditure ratio in 1991. Data excludes proceeds from the sale of UMTS licenses.

Chart 6: Changes in general government cyclically adjusted primary total expenditure (as a percentage to GDP)



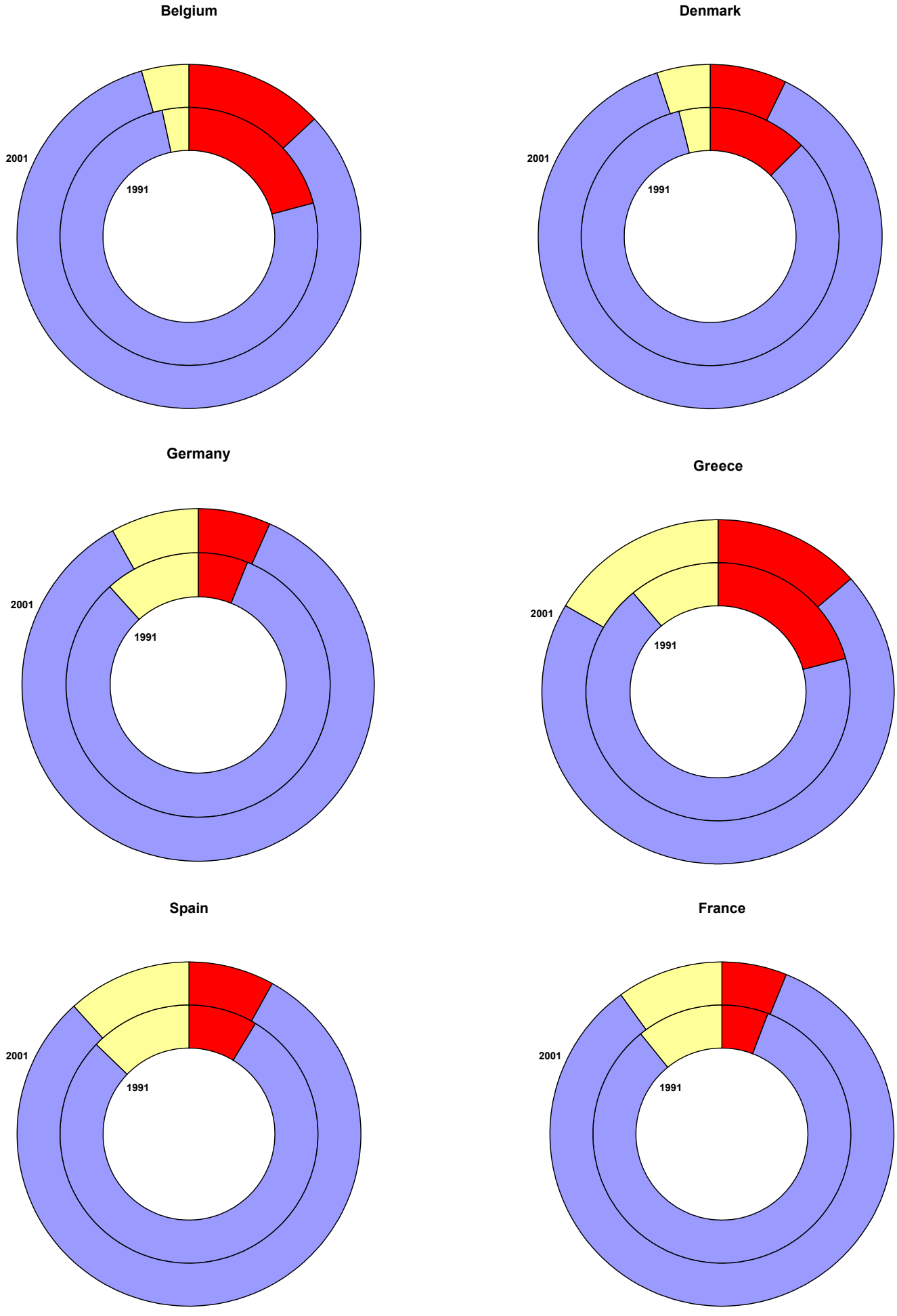
Source: European Commission, Autumn 2001 and our elaboration.
Note: Countries are ranked in descending order according to their expenditure ratio in 1991. Data excludes proceeds from the sale of UMTS licenses.

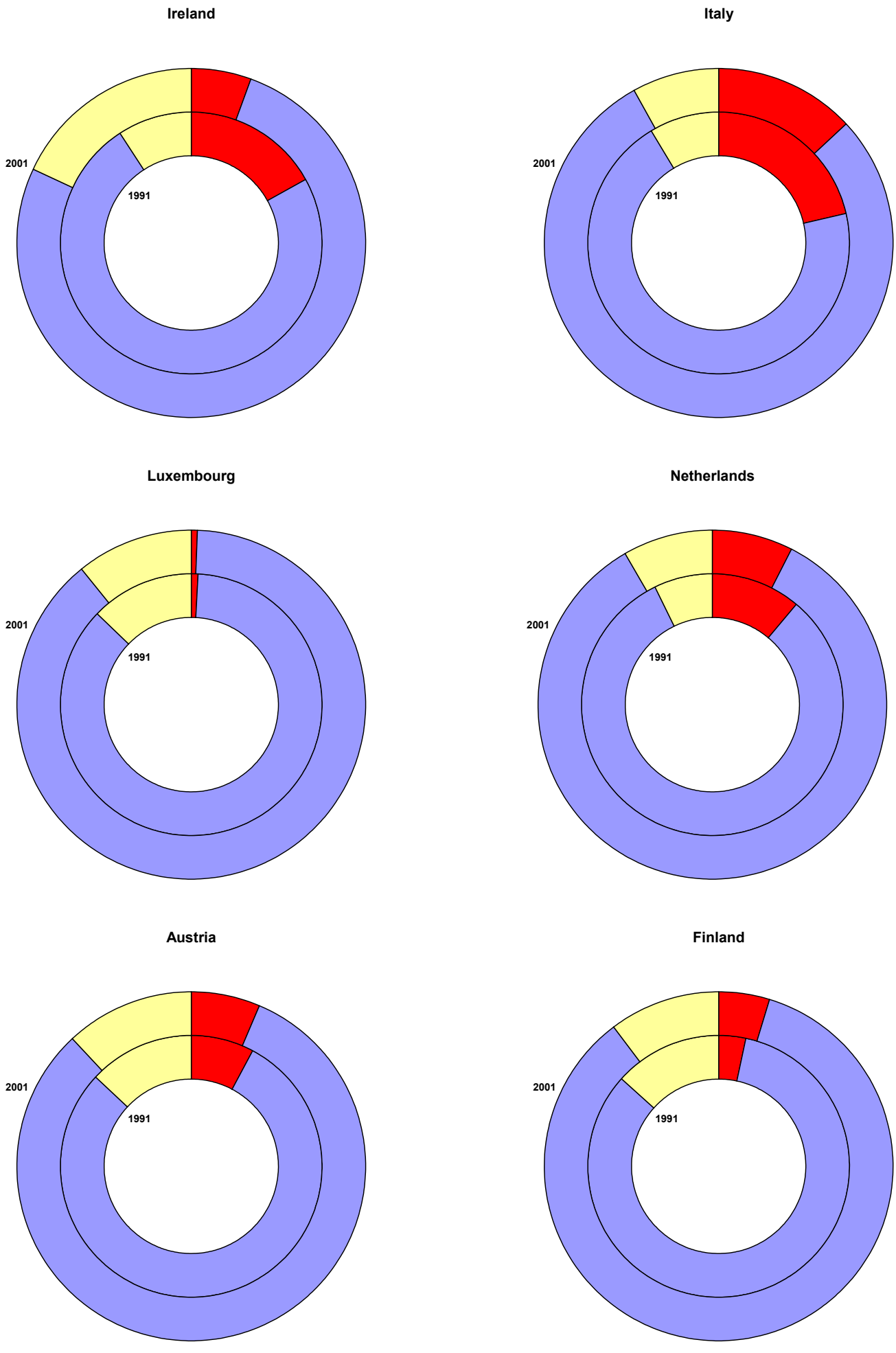
Chart 7: Changes in general government capital expenditure (as a percentage to GDP)



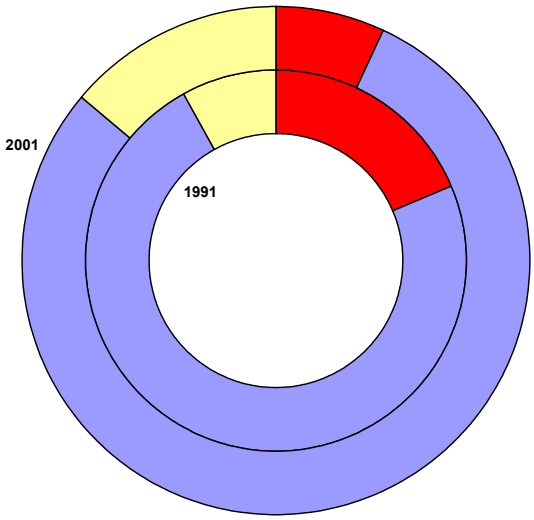
Source: European Commission, Autumn 2001 and our elaboration.
Note: Countries are ranked in descending order according to their capital expenditure ratio in 1991. Data excludes proceeds from the sale of UMTS licenses.

Chart 8: Composition of budget expenditure (as percentage of the total expenditure)

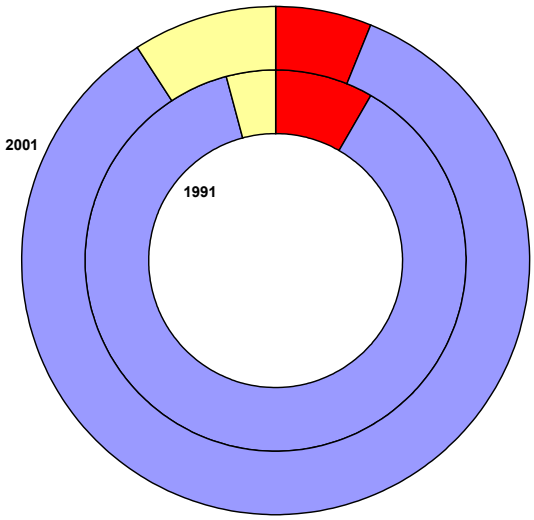



Ireland
2001
1991
Italy
2001
1991
Luxembourg
2001
1991
Netherlands
2001
1991
Austria
2001
1991
Finland
2001
1991
Interest expenditure
Primary current expenditure
Capital expenditure

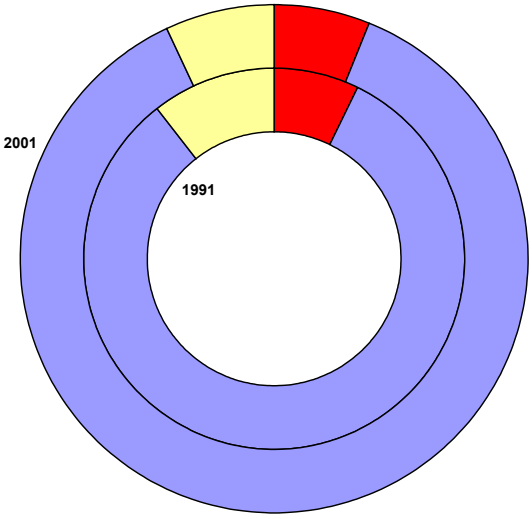
Portugal



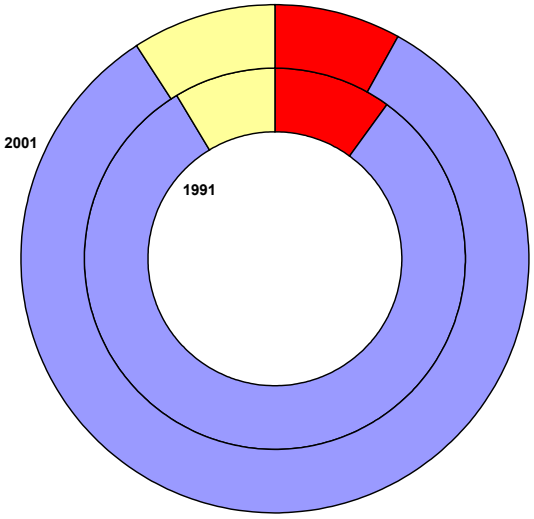
Sweden



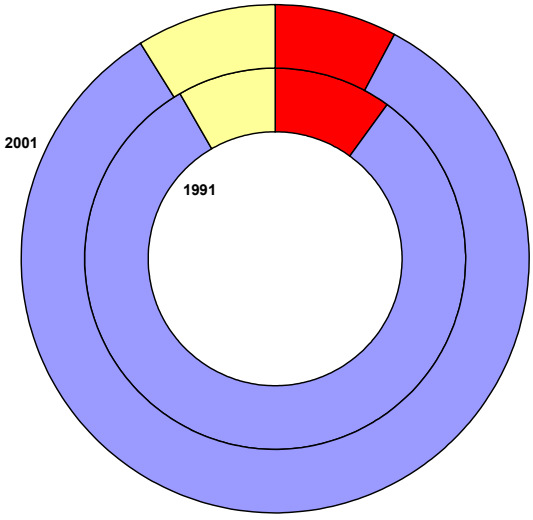
United Kingdom



EU12



EU15

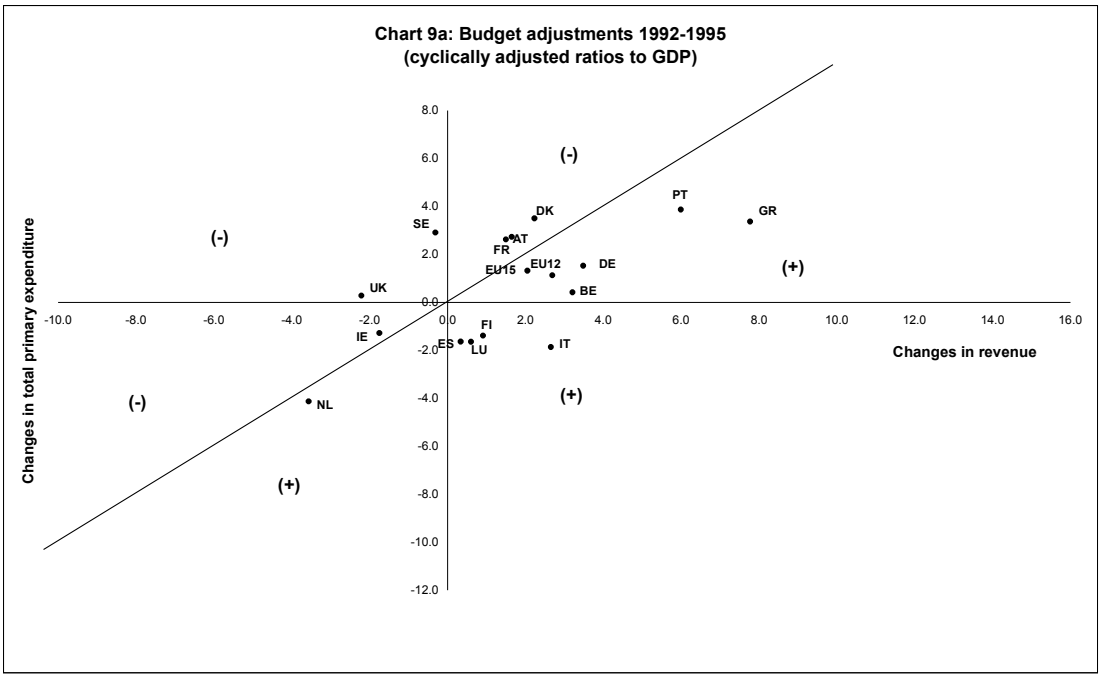


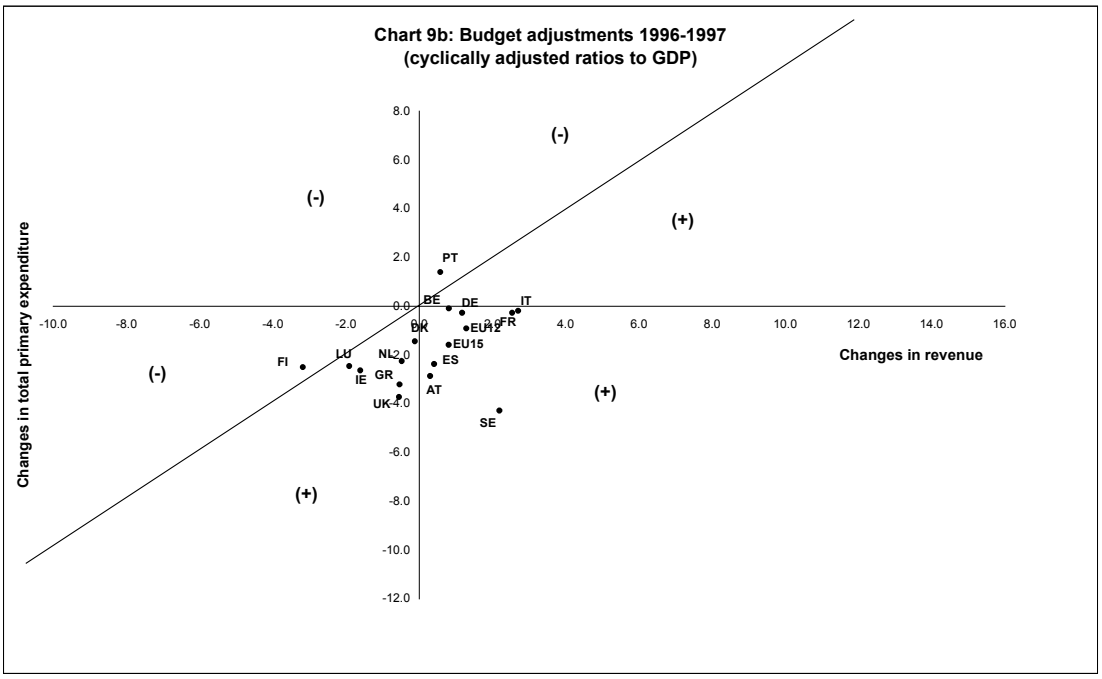
Source: European Commission, Autumn 2001 and our elaboration.

Interest expenditure

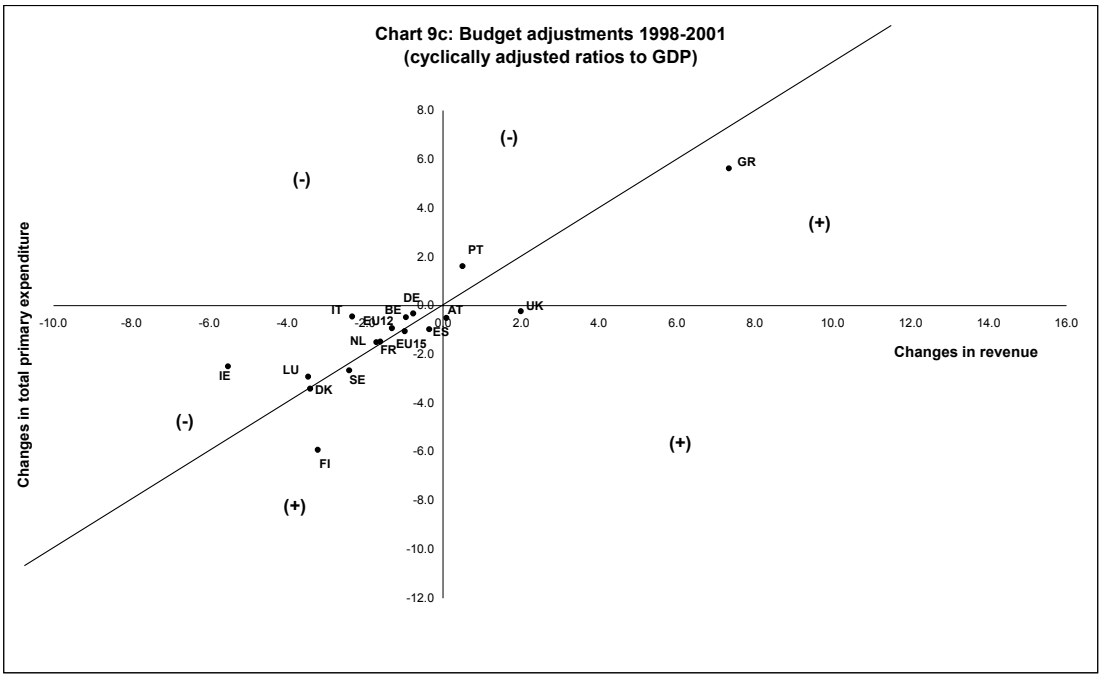
Primary current expenditure

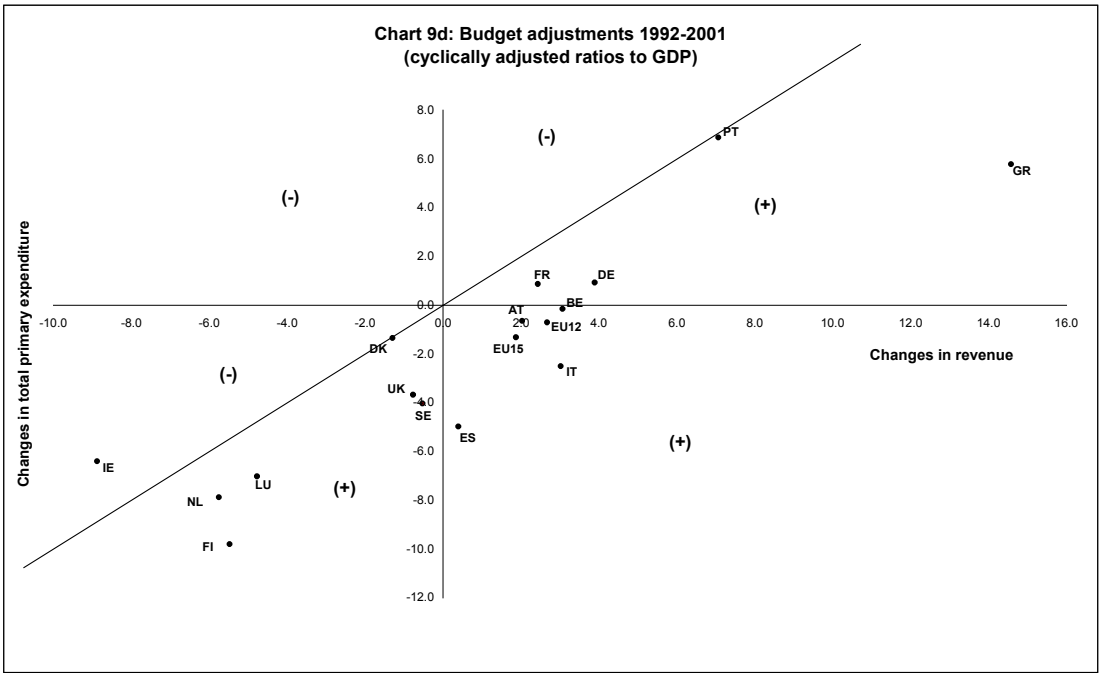
Capital expenditure





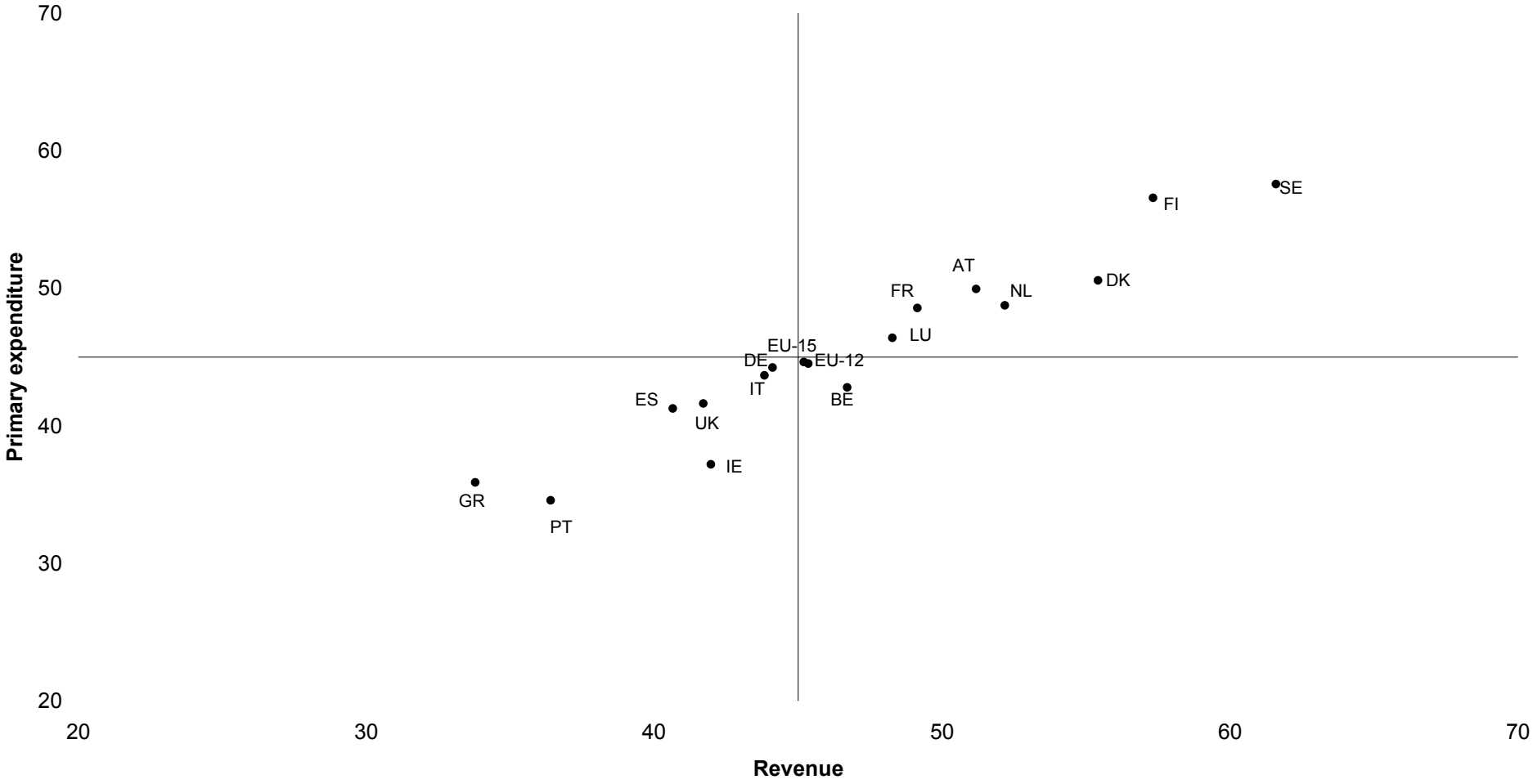
Source: European Commission, Autumn 2001 and our elaboration.
Note: (+) Values on the positive side of the quadrant indicate a tightening of the fiscal stance and vice versa.





Source: European Commission, Autumn 2001 and our elaboration.
Note: (+) Values on the positive side of the quadrant indicate a tightening of the fiscal stance and vice versa.

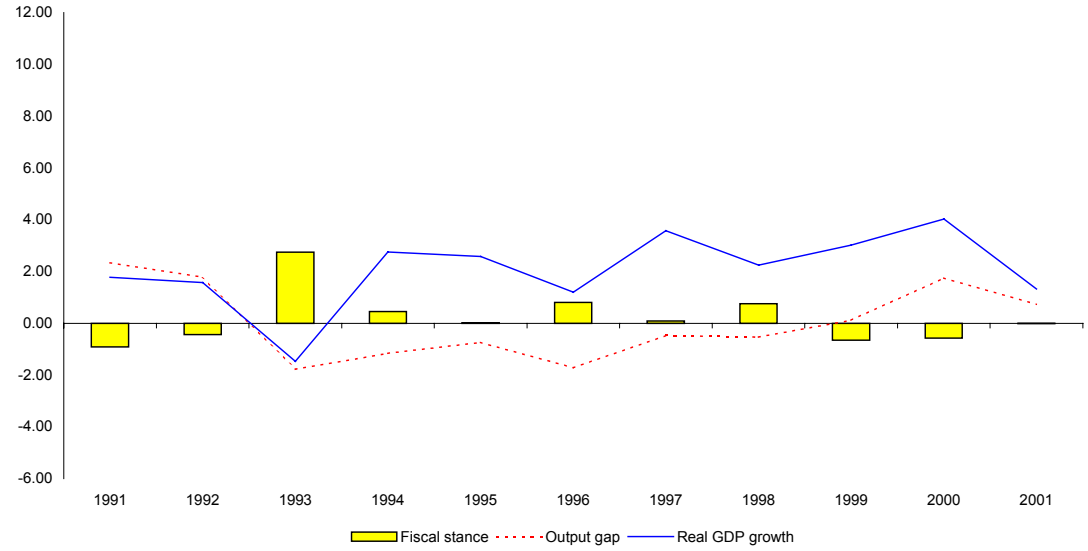
Chart 10: Revenue and primary expenditure in 1991
(as a percentage of GDP)



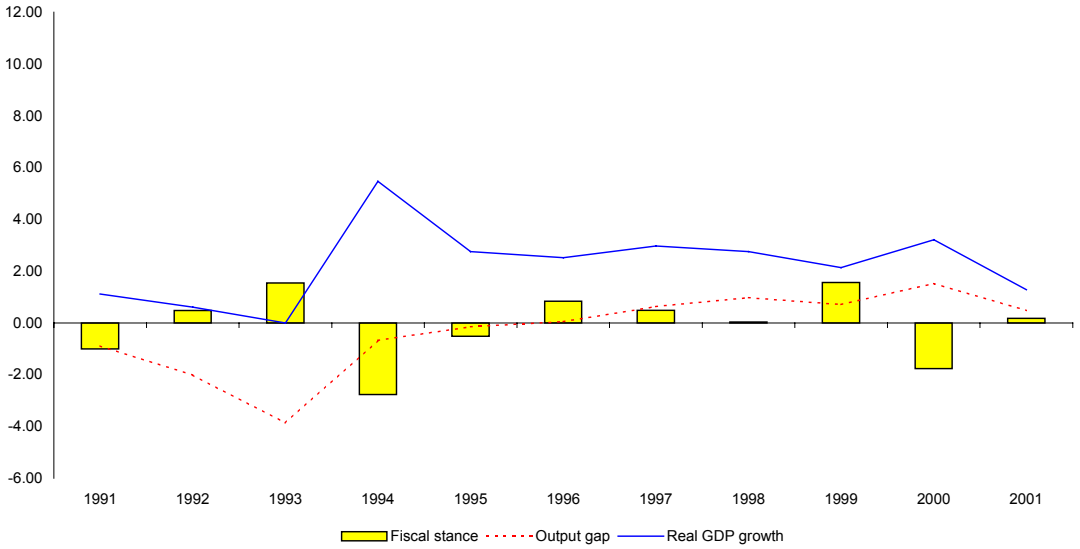
Source: European Commission, Autumn 2001 and our elaboration.

Chart 11: Fiscal consolidation and growth performance

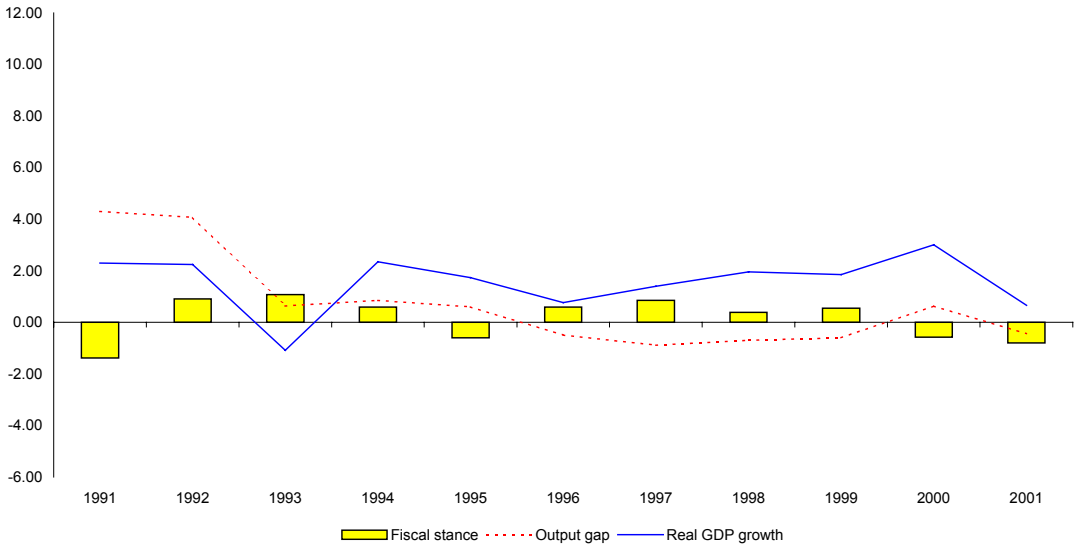
Belgium



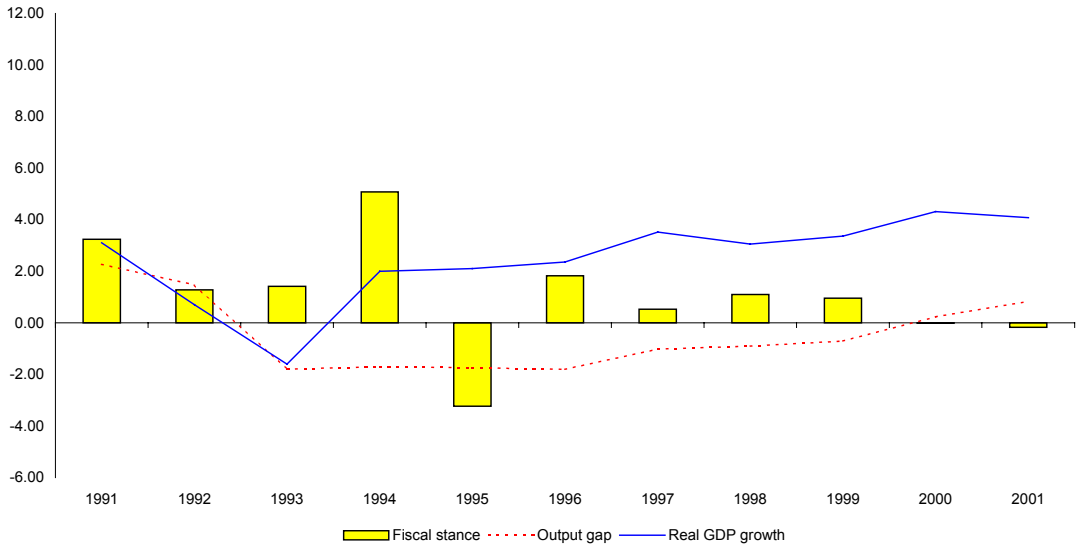
Denmark



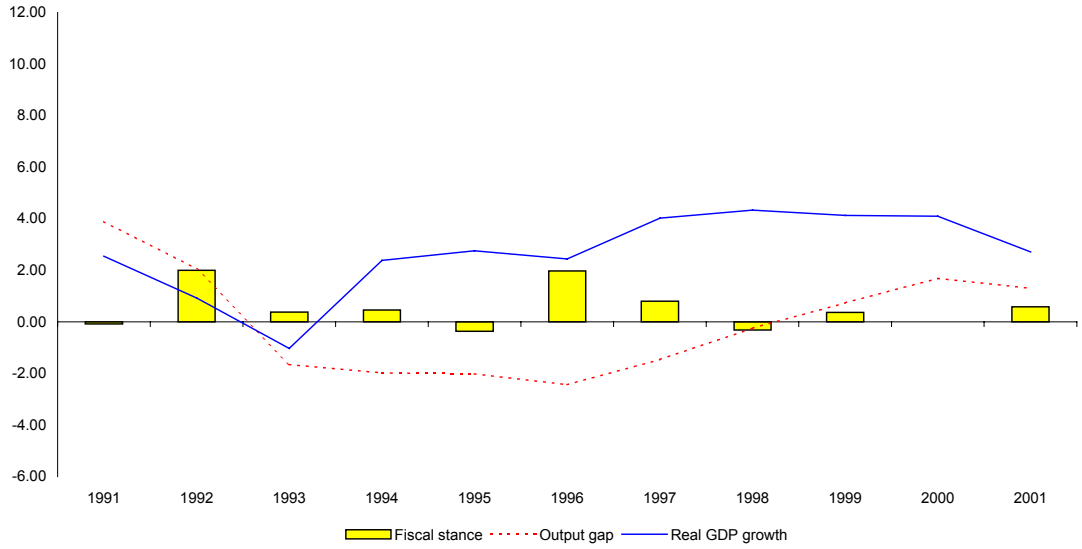
Germany



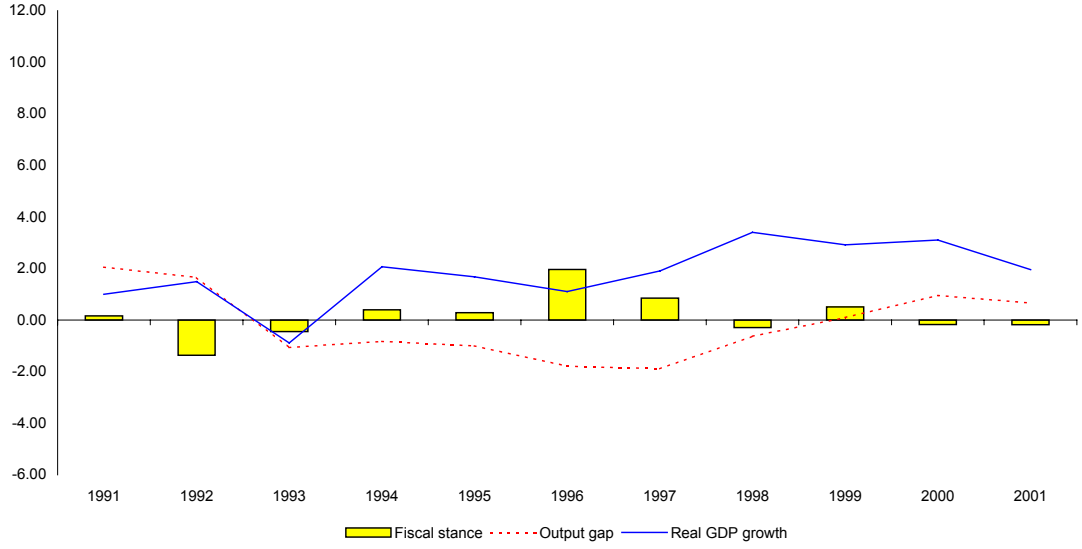
Greece



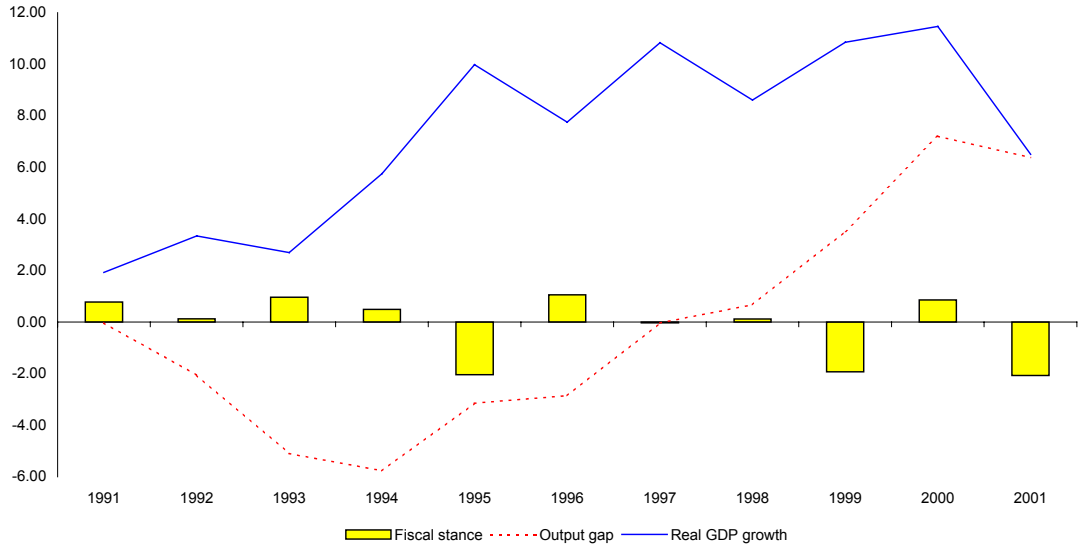
Spain



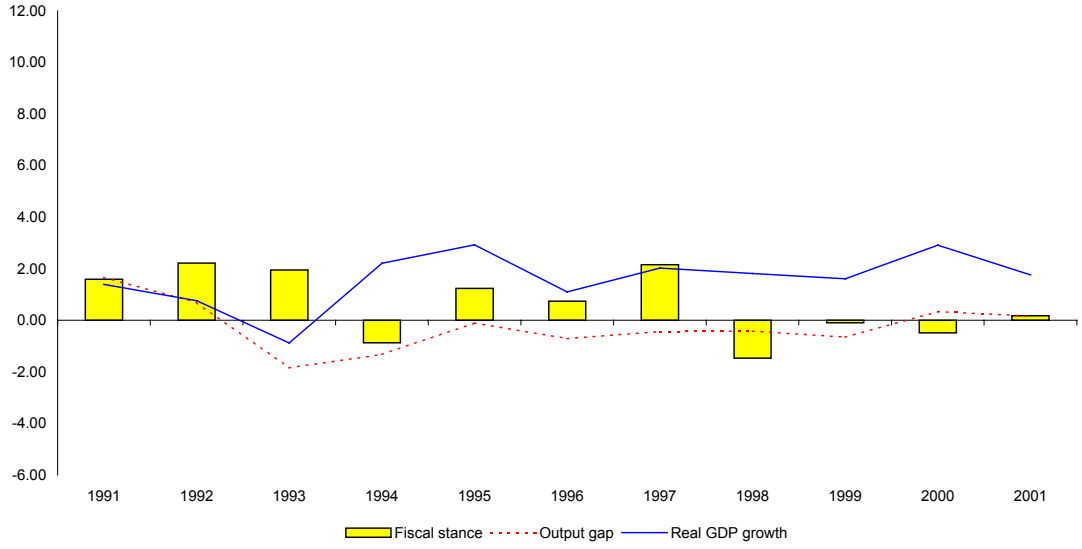
France



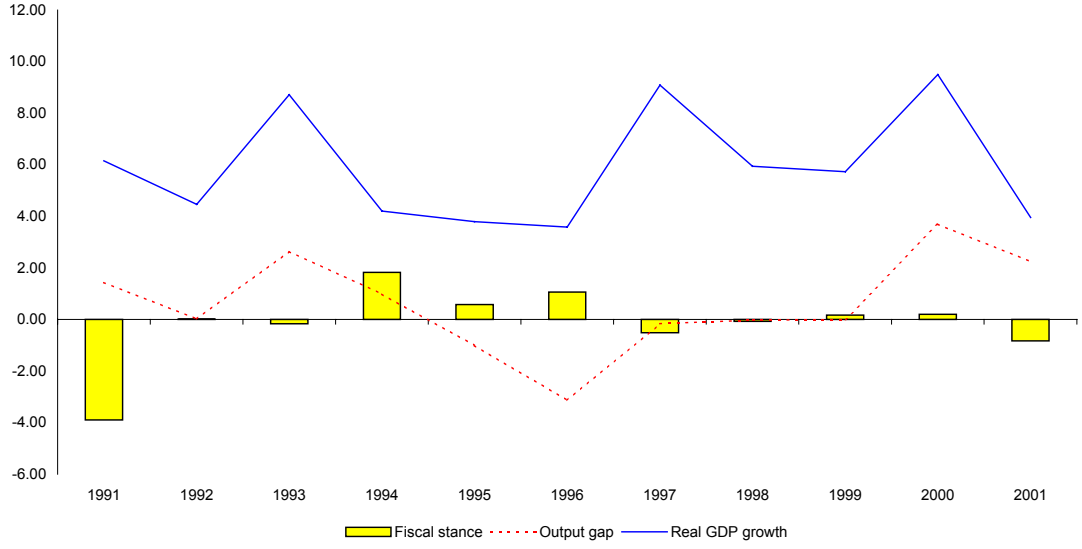
Ireland



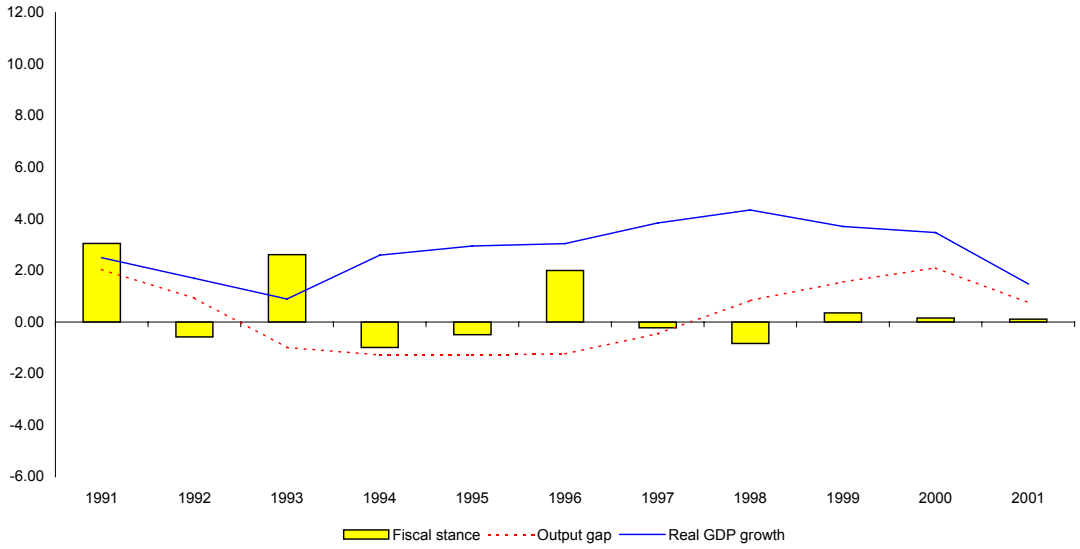
Italy



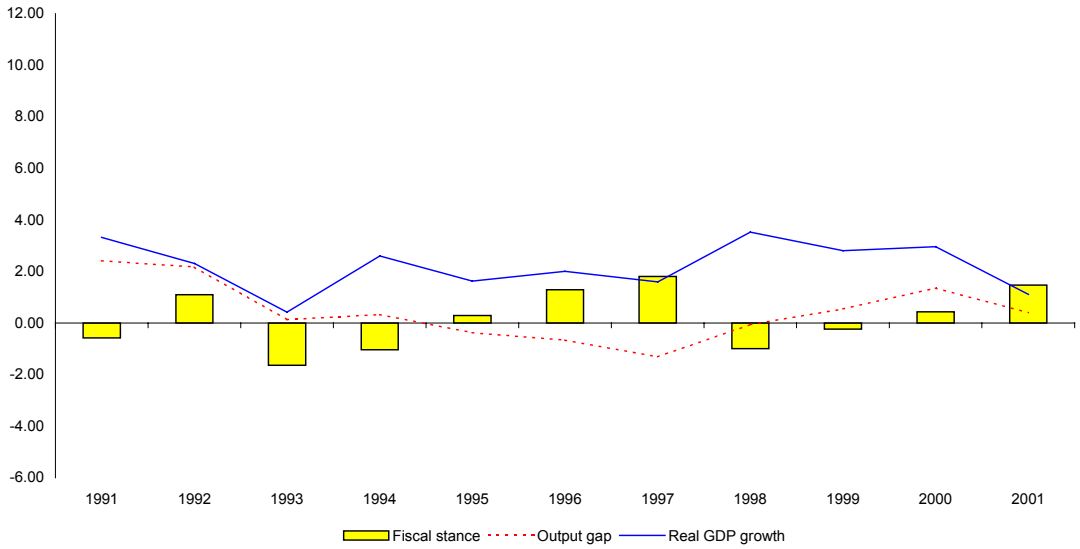
Luxembourg



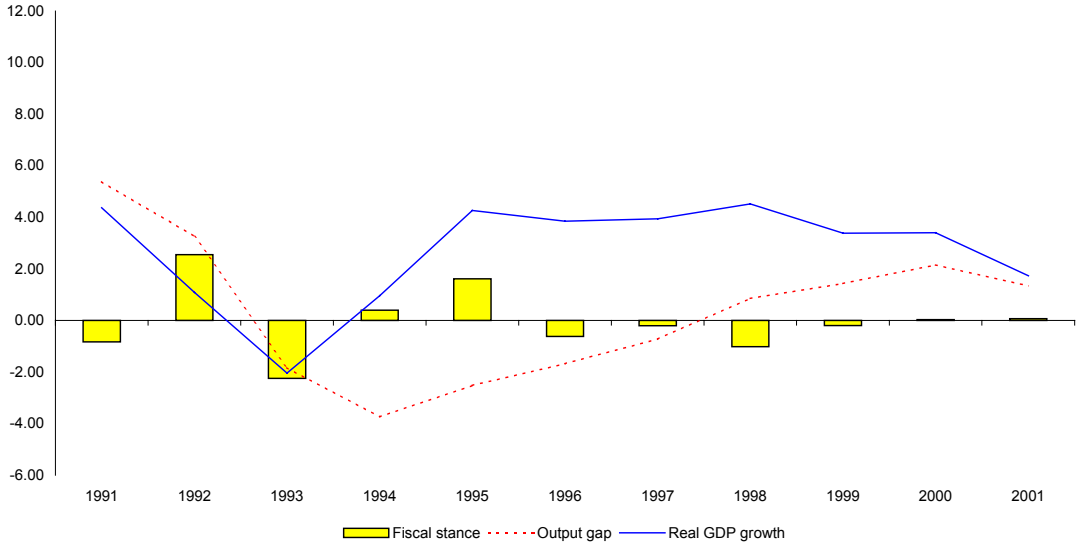
Netherlands



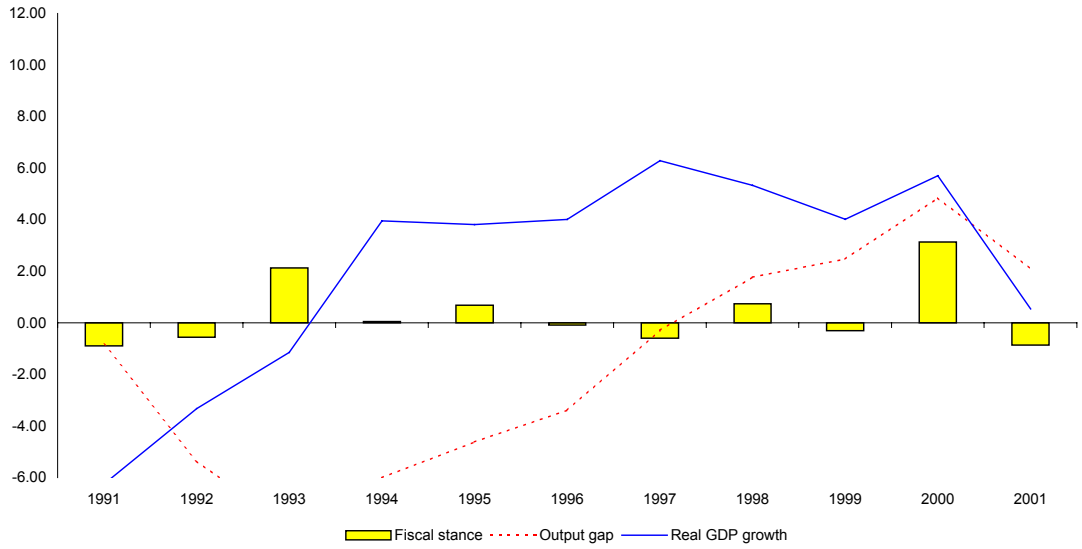
Austria



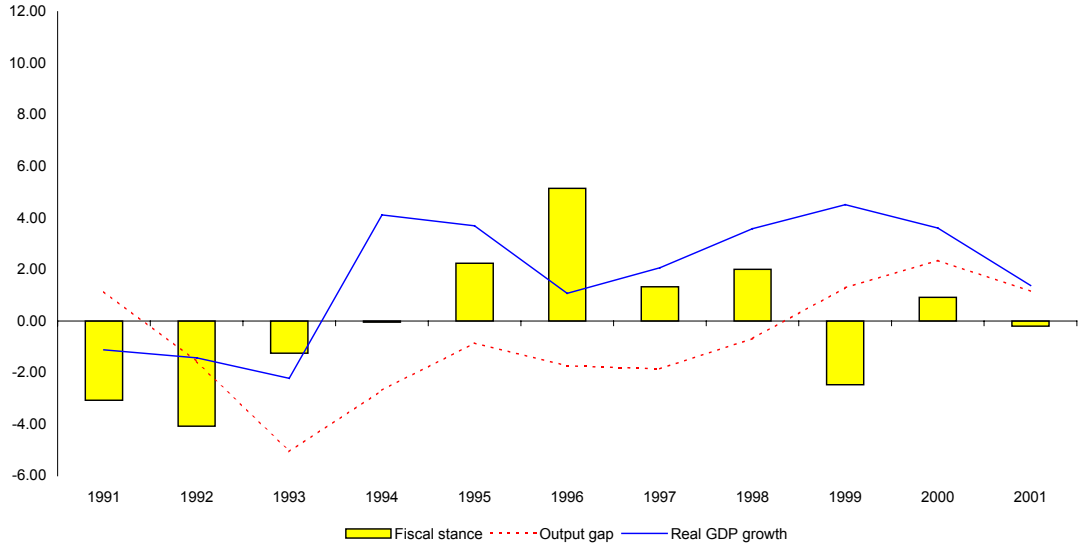
Portugal



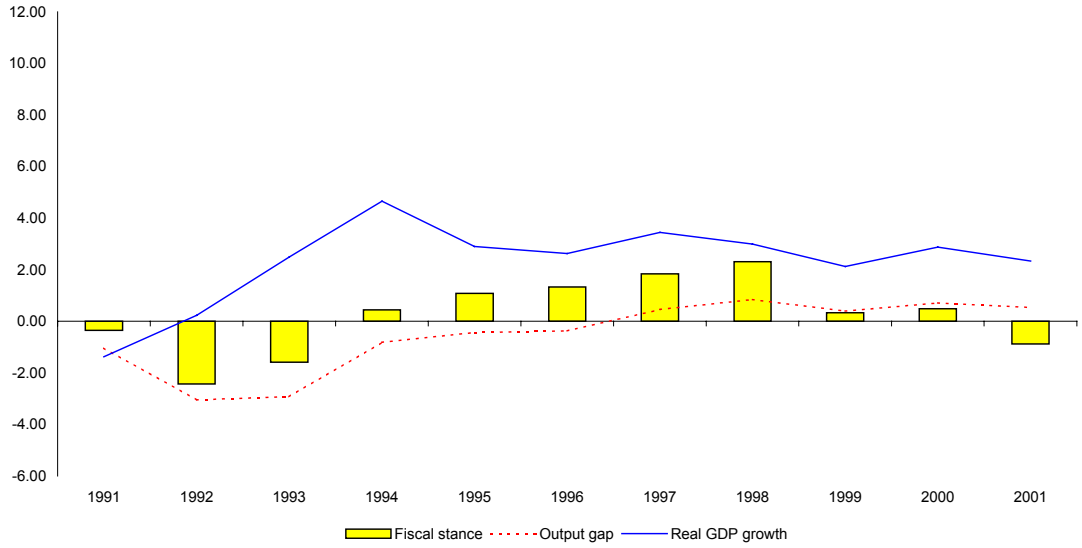
Finland



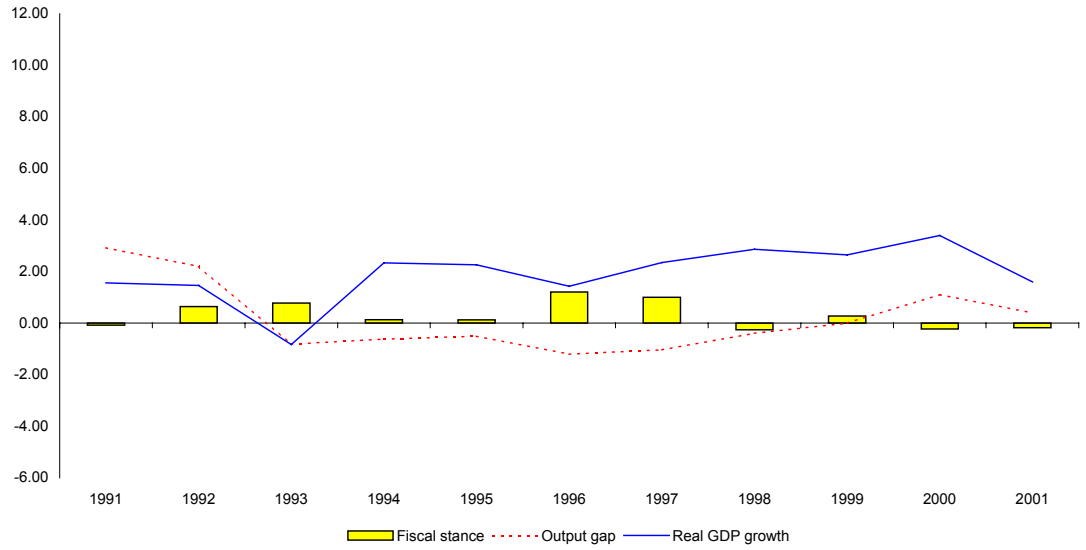
Sweden



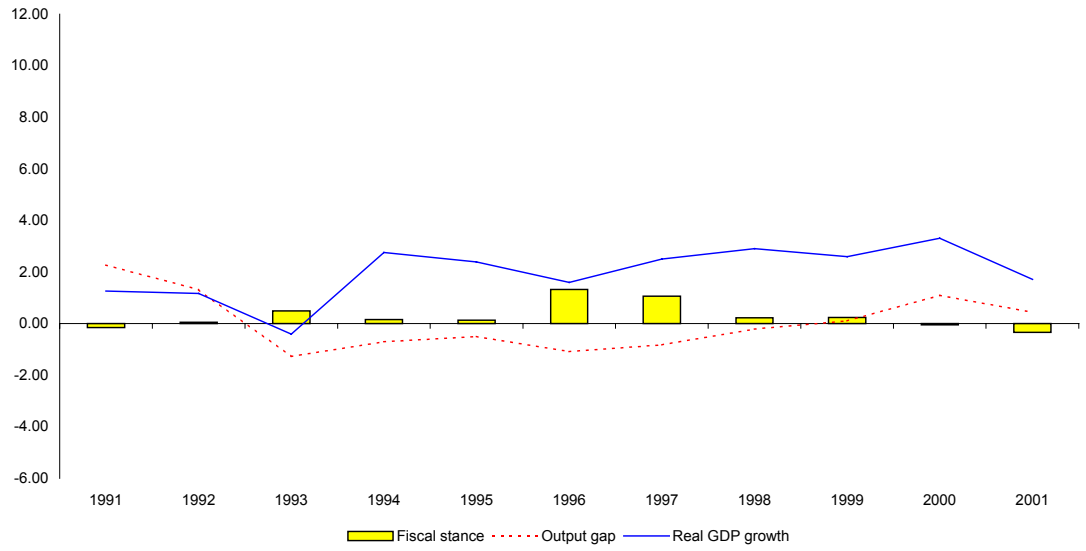
United Kingdom



EU12



EU15



Source: European Commission, Autumn 2001 and our elaboration.

Chart 12a: Changes in cyclically adjusted primary expenditure and growth deviation (as percentage points of GDP)

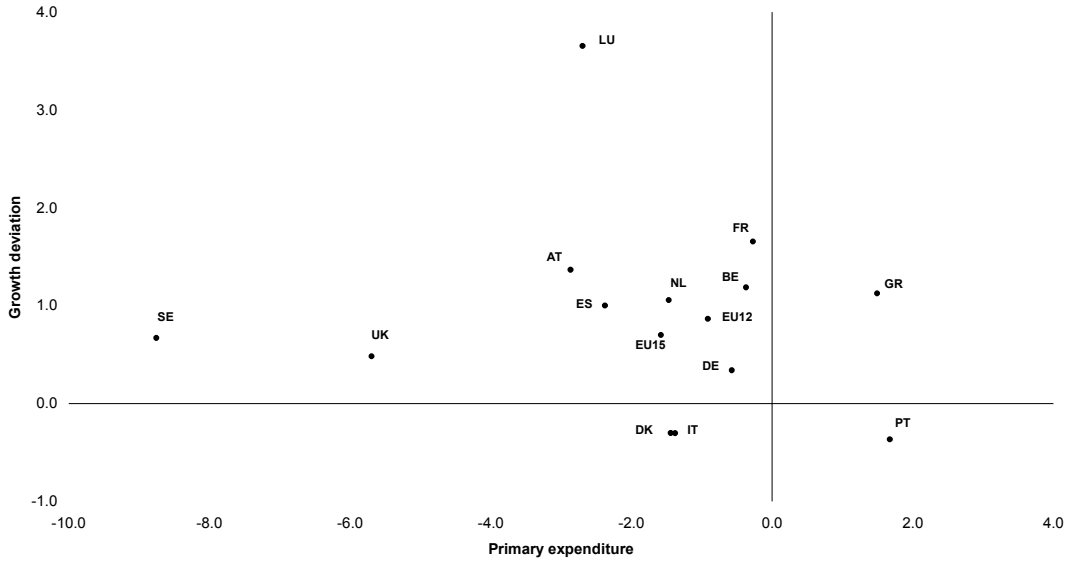
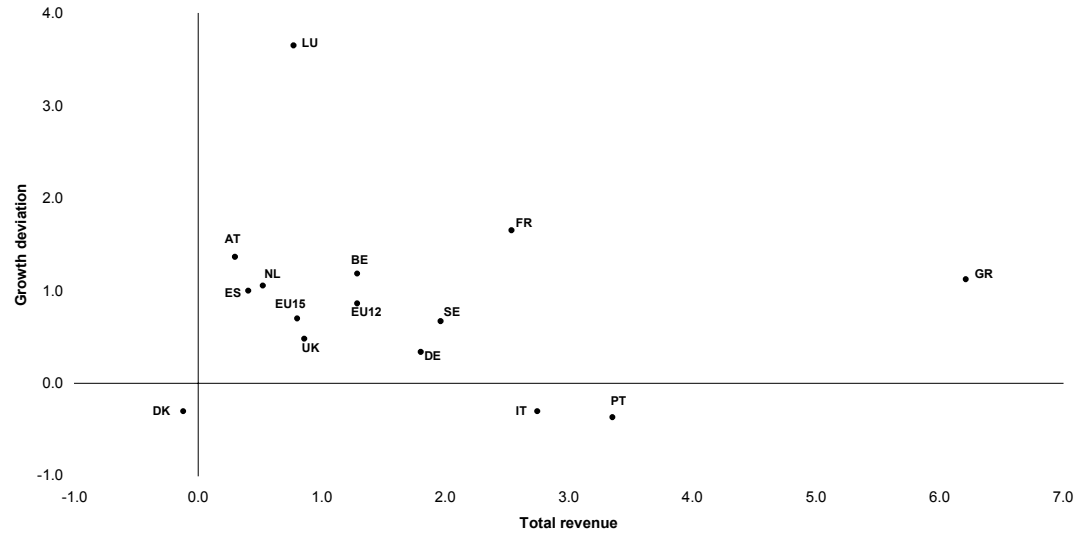


Chart 12b: Changes in cyclically adjusted revenue and growth deviation (as percentage changes)



Source: European Commission, Autumn 2001 and our elaboration.
Note: Changes of cyclically adjusted variables refer to relevant episodes of fiscal consolidation in the run-up to EMU. Growth deviation is the deviation of the average growth rate in the 2-year period after consolidation compared with the consolidation period.