

PUBLIC FINANCES IN THE EURO AREA: GROWTH SHOCKS AND STRUCTURAL FACTORS

Helvi Kinnunen and Pasi Kuoppamäki *

1 Introduction

In the run-up to the start of the Third Stage of EMU nearly all EU member states made major adjustment efforts in order to reduce their public deficits. In 1995 only three member states had deficits that were below the 3 per cent limit whereas at the end of 1997 only one country exceeded the limit. However, the margin by which public deficits were below the reference value was quite small in many countries. Furthermore, only in four member states was the debt ratio below the reference value. Even though strong economic growth and lower interest rates seem to have led to further improvement in public finances, most of the countries which entered monetary union at the beginning of 1999 did so with a deficit of more than 2 per cent. This indicates that these countries still have some way to go before they meet the medium-term objective of the Stability and Growth Pact. The risk of unsustainable development in public finances cannot be excluded in the event of unfavourable economic conditions. Moreover, structural factors such as population ageing will place an extra burden on public finances in most member states in the longer term. Pressures deriving from international tax competition and the need for tax harmonization will limit the room for fiscal policy in countries where there are heavy pressures to lower the average tax rate.

* Suomen Pankki – Finlands Bank.

This article is based on a study by Kinnunen and Kuoppamäki (1998) analysing the budgetary situation and sustainability of public finances in Finland and four major euro area countries, Germany, France, Italy and Spain. The article analyses the effects of growth and interest rate variation and structural factors on budgetary balance. The analytical framework is based on the intertemporal budget dynamics, which makes it possible to demonstrate long-run outcomes under various growth and interest rate assumptions. This framework is supplemented by assuming growth shocks and taking exogenously into account cost pressures caused by population ageing. In addition, the room for fiscal adjustment in different countries is evaluated under different average tax rates.

2 Sustainability of public finances: baseline case

Calculations based on the intertemporal budget dynamics provide a simple tool for analysing whether a given fiscal policy will keep public finances on a sustainable path¹. Fiscal policy is defined to be sustainable if it leads to a stable or decreasing government debt ratio in the long run. If the debt ratio is on an expanding path, this indicates that the current policy must be tightened sooner or later. In the budget dynamics framework, the difference between the interest rate and the growth rate, the primary balance (the difference between revenues and expenditures excl. interest payments) and the debt ratio determine the condition for sustainability. A sustainable debt position requires a primary fiscal surplus in the medium to long run, when the interest rate is higher than the real growth rate of the economy. The size of the required surplus varies according to the difference between the real rate of interest and the real rate of growth and according to the magnitude of the debt ratio and the primary balance. Variation in the growth rate and interest rate produces different debt paths and different requirements as regards the adjustment of fiscal policy. This budgetary arithmetic also provides a

¹ The idea of sustainability is based on the dynamic government budget constraint. In terms of GDP ratios, it can be expressed as $\Delta b = g + h - t - (r - \theta)b = d + (r - \theta)b$, where Δb denotes the change in the government debt ratio, g is government spending, h is transfers, t is government revenues, r is the real interest rate, d denotes a primary deficit and θ is the GDP growth rate. The dynamics of public sector finances are discussed in more detail by Blanchard (1990).

convenient tool for assessing the fiscal policy constraints laid down in the Stability and Growth Pact².

The sustainability calculations cover the period from 1998 to 2005. Projections are based on the assumption that the actual fiscal position for 1997, corrected for one-off measures³, will prevail in the future. In the baseline calculations, macroeconomic developments were assumed to be uniform across countries, with real GDP growth of 2.5 per cent, an inflation rate of 2 per cent and a long-term interest rate of 4 per cent.

Continuation of the fiscal policy that prevailed in 1997 would lead to declining deficit ratios in all countries, but it is difficult to achieve the objective of the Stability Pact under the given assumptions and initial conditions (Chart 1). Only Finland and Italy seem to be able to achieve a balanced budget on average in the period 2000–2005. France, Germany, and to a lesser extent Spain, may encounter problems in meeting the Stability and Growth Pact criteria in the medium term. The debt ratio declines in all countries except France, where it increases slowly. This follows directly from the fact that France had a primary deficit and the other countries a primary surplus in 1997. The decline in the debt ratio is most rapid in Finland and Italy.

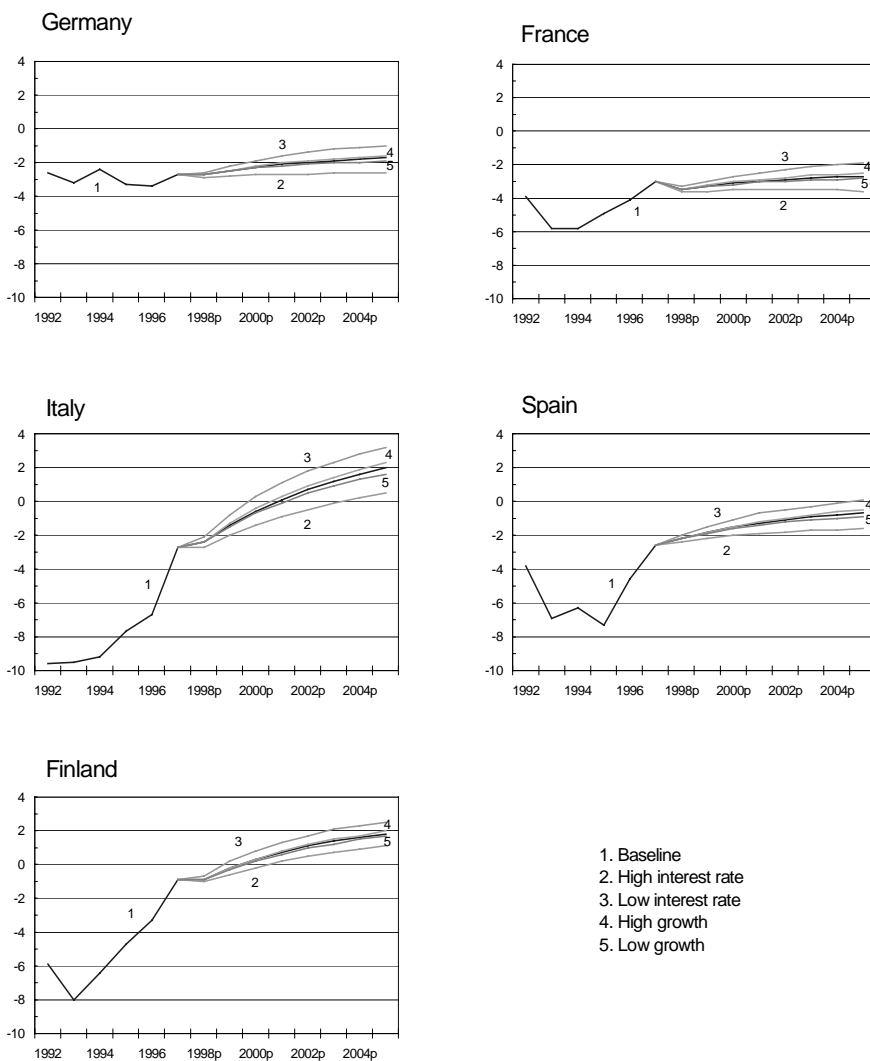
Tax gap indicators provide a more accurate picture of the pressures on fiscal policy caused by the sustainability and balanced budget conditions (Table 1). They describe how much the tax rate should

² The key element of the Pact is a 3 per cent upper limit on the deficit and a medium-term objective of a government budget that is roughly in balance. This is meant to ensure that there will be enough room for automatic stabilizers to operate in normal business cycles. The Stability and Growth Pact allows the deficit to exceed the limit only temporarily under severe economic circumstances.

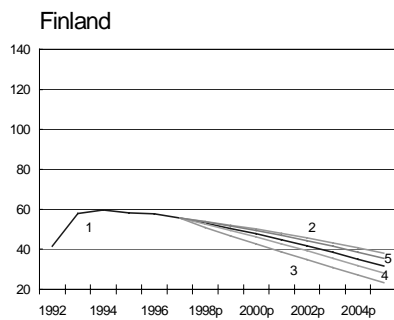
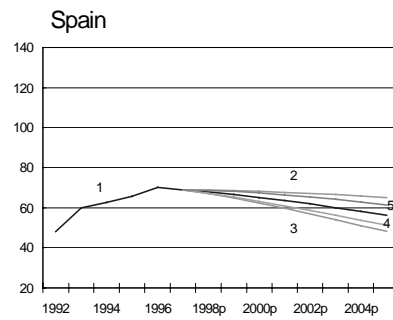
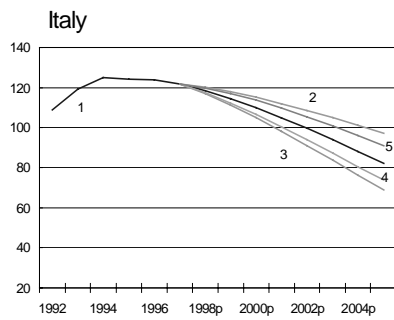
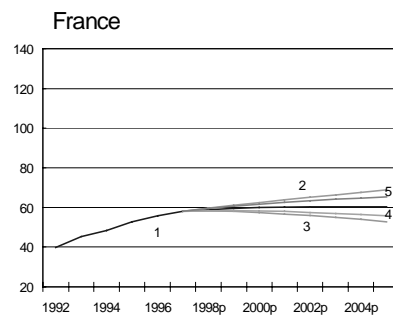
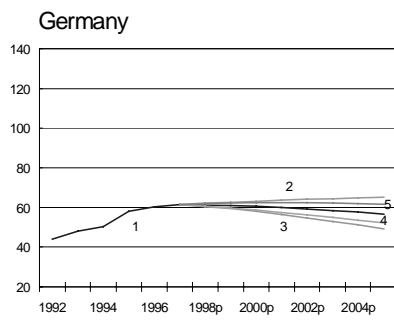
³ The data series for general government are based on the National Accounts. In the case of Finland, the social security funds had to be treated separately because their surplus reduces public debt only when they invest in government securities. In recent years these funds have invested the major part of their assets in government bonds; hence the following calculations are based on the assumption that in the future this share will diminish, albeit only slowly. One-off measures are defined as deficit-reducing measures that are effective for a limited period and which in some cases imply a burden on future budgets. Estimates are based on the European Monetary Institute's Convergence Report 1998.

Chart 1. Baseline projections and deficit and debt ratio under different growth and interest rates

Deficit ratio under different growth and interest rates, per cent of GDP



Debt ratio under different growth and interest rates, per cent of GDP



- 1. Baseline
- 2. High interest rate
- 3. Low interest rate
- 4. High growth
- 5. Low growth

be changed to achieve the stated goals, ie sustainability and the Stability Pact criteria. Given the 1997 expenditure level, the tax rate should be increased by nearly two percentage points in France and Germany in order for these countries to achieve and maintain a balanced budget; tax pressure is less severe in Spain.

Table 1. Tax gaps

Criteria	Germany	Italy	Spain	France	Finland
Sustainability	-0.4	-5.2	-1.5	0.4	-3.5
Stability Pact	1.9	-1.5	1.3	1.8	-2.0

These results are subject to many reservations. First of all, actual growth and interest rates could differ significantly from the baseline assumptions. Secondly, the primary deficit for 1997 may not be a valid measure of feasible fiscal policy. For example, if the starting point were the average primary deficit during the period 1980–90, the projections for Italy and Spain would not be quite as favourable as was found here. In Italy the primary balance began to deteriorate in the early 1960s and led to a deficit in excess of 10 per cent of GDP by the mid-1980s. In France the primary balance has been weak owing to a significant expansion in public spending from the early 1970s until the mid-1980s, which was not matched by increased revenues. Thus the 1997 French budget seems slightly tighter than it has been on average. Compliance with EMU criteria was partly achieved by sizable one-off measures. The German fiscal position in 1997 is close to the historical average. In Finland the primary surplus for 1997 is about the average for 1980–90.

Moreover, the results would be different if the one-off measures become permanent – as has been the case in the past for some taxes that were initially intended to be temporary. Thus, if the starting point is the actual balance, ie one-off measures are assumed to become permanent, this increases the size of the primary surplus in all countries and the French primary deficit also turns into a surplus. However, the French deficit ratio does not show any clear signs of disappearing even in the better case. The latest preliminary figures, which indicate that the general

government balance in Finland was already positive in 1998, imply that the baseline estimates would be more favourable for Finland and Spain also. For all the other countries the situation seems to be much the same as in 1997.

3 Sensitivity of public finances to growth and interest rate variation

The reactions of public finances to interest rate and growth variation differ between countries depending on the magnitude of automatic stabilizers and the debt level. The sensitivity calculations indicate that the response of the public debt and deficit ratios is stronger with respect to interest rate changes than it is to growth changes. Small changes in the growth rate do not change the outcome significantly compared with the baseline (Chart 1). However, a GDP growth rate that is one percentage point lower than the baseline rate prevents the German debt-to-GDP from declining. Budgetary conditions in France worsen, but budget positions in other countries survive the slowdown without reverting to a downward spiral.

Interest rate variation has the largest effect on the fiscal position in Italy, indicative of the fact that it is a highly indebted country (Chart 1). However, a strong positive primary balance prevents Italy from embarking on an explosive debt path. From the point of view of the Stability Pact, an interest rate that is one percentage point higher than the baseline rate also causes problems for the fiscal balance in France and Germany. Finland would have no problem coping with the higher interest rate. On the other hand, a one percentage lower interest rate would shift the deficit ratio on to a clearly declining path even in France. In Italy the surplus would be nearly 3 per cent in 2005, which is 1.5 percentage points higher than in the baseline projection. Clearly, a low interest rate is the factor that can prevent fiscal balances from deteriorating under conditions of slow growth.

The results illustrate the interdependence between public finances and interest rates in indebted countries. For example, there is a risk that a rise in the interest rate could easily push the deficit too high in terms of the objectives of the Stability Pact. In our calculations this risk cannot be excluded in the cases of France and Germany. Another critical

issue from the point of view of the Stability Pact concerns growth shocks, which may have harmful effects on fiscal balances lasting several years.

4 The effects of growth shocks on public finances

One obvious effect of the Stability and Growth Pact is that it might hinder the operation of automatic stabilizers during recessions, especially if the budget is already in deficit before the shock. If a country is hit by an asymmetric, country-specific economic disturbance, there is a danger that it might be induced to undertake procyclical measures in order to avoid breaching the 3 per cent deficit ceiling.

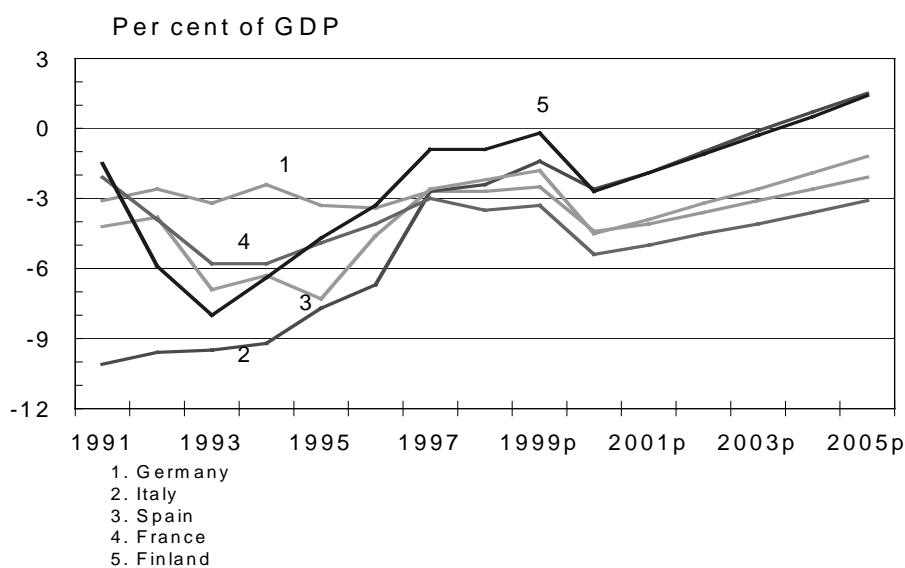
Recessionary shocks affect public finances through several channels. Most importantly, deviations of growth from trend affect tax revenues and expenditures by increasing or decreasing taxes and social security transfers. Debt-to-GDP ratios change because of the instant growth effect. Furthermore, over a longer time horizon, the debt ratio is affected by the intertemporal budget dynamics. Since revenue and expenditure changes derive mainly from changes in unemployment, it is clear that the economy will return only slowly to its pre-shock position. Thus labour market hysteresis is also reflected in public finances. This kind of effect is taken into account in the following calculations by assuming that public expenditures and revenues as a share of GDP return to the pre-shock level in five years.

A recessionary shock (zero growth) in 2000 would lead to temporary public finance problems in all countries and continuous deficit growth in France. The rise in the debt-to-GDP ratio in Germany would not level off until 2004, and the shock would force the debt ratio in France to peak at over 73 per cent in 2005. All countries except France would be able to bring their deficits down slowly to 3 per cent within five years. The situation would be most critical in France where the deficit ratio would rise to nearly 6 per cent in 2000. Finland's and Italy's budgetary positions would not come under serious attack, but in the other countries excessive deficits would ensue for several years (Chart 2).

A severe recession involving a 2 per cent decline in output in 2000 causes a similar but more pronounced reaction; ie a 4.5 percentage point shortfall from trend growth would lead to temporary problems in public finances in all countries and continuous deficit growth in France.

The rise in the debt-to-GDP ratio in Germany would not level off until 2004, and the shock would force the debt ratio in France to peak at over 75 per cent in 2005. All countries except France would be able to bring their deficits down slowly to 3 per cent within five years. Finland would

Chart 2. Deficit ratios with no change in GDP in 2000



be able to reduce its deficit to less than 3 per cent in two years, which indicates that it could withstand even a severe recession without significant risk of incurring a penalty for an excessive deficit as defined in the Stability Pact.

In summary, public finances in the countries studied do not at present seem to be such that they could withstand significant shocks. The room for fiscal discretion is very limited in most of the countries, which portends difficult problems in the event of a severe growth shock. The long-run implication is that only countries with a sound budget balance in 'normal' times and the political discipline necessary to maintain primary surpluses will be able to absorb large shocks.

5 Tax competition and budget balance

Country comparisons, which rely on very rough fiscal policy indicators, do not necessarily tell us much about the constraints that policymakers actually face. In fact the scope for fiscal policy also depends on the size and structure of the public sector. Measured by the expenditure-to-GDP ratio, the public sector has been about 12 percentage points smaller in Spain than in Finland. The public sector is also relatively large in France and Italy. These size differences are reflected directly in differences in the tax burden. The average tax rate in Finland is about 8 percentage points above the average for the other countries, and Italy and France also have high tax rates. On the other hand, taxation is relatively light in Spain.

A potentially critical constraint for fiscal policy is the pressure that tax competition could place on tax rates in euro area countries. It is possible that the pressure to harmonize national tax rates across the euro area will increase with the changeover to the single currency. Pressures for harmonization would require further adjustment efforts in highly taxed countries. For example, if tax ratios were to converge to the average level for the euro area (25 per cent of GDP), this would imply an increase in tax-to-GDP ratios of about two percentage points in Germany and Spain. By contrast, Italy and France would have to lower their tax ratios by 3 and 2 percentage points respectively. And Finland would have to reduce its tax ratio by 8 percentage points.

Lower taxation would worsen fiscal balances in Finland and Italy to the extent that budget balance could not be achieved without spending cuts (Chart 3). In Germany and especially Spain the situation is the reverse, and France's budgetary position would remain difficult.

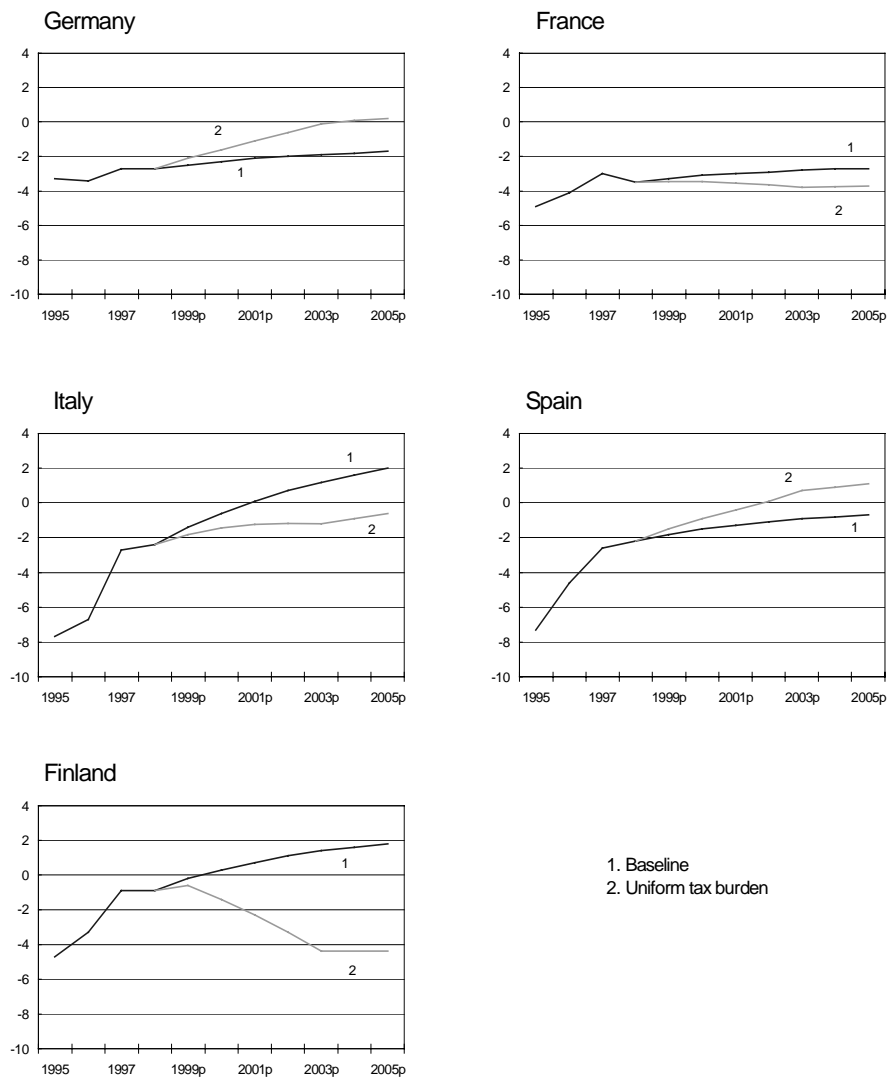
6 Population ageing and sustainability

Population ageing poses a major challenge for public finances in the future. In two or three decades, the baby boom generation will be retiring and leaving productive work to smaller generations in most EU states. The rising dependency ratio will place a burden on future generations because the funding rate for public pensions has been relatively low in most countries and because ageing also typically increases health care costs. Moreover, as the population ages, productivity tends to decline,

resulting in a lower output growth rate. There is some evidence that ageing will lead to lower saving rates, thus putting upward pressure on real interest rates. From the point of view of sustainability of fiscal policy, the question arises as to whether prevailing fiscal policies can be maintained in the face of changing demographic trends and fixed benefit shares.

Chart 3. Deficit in baseline with a shift to a more uniform tax burden

Per cent of GDP



The projected increase in pension expenditures⁴ shows that ageing imposes the heaviest cost burden on public finances in Finland and Italy and the lowest in Spain (Table 2). As above, a strong primary balance is imperative for sustainable public finances. Countries with a weak balance, ie France and Germany, face exploding deficits when pension expenditures start to increase soon after 2000, assuming no additional measures are taken (Chart 4). By contrast, Italy, with its strong primary surplus, would be able to pay off its debt by 2030. For Spain and Finland, the debt ratio stabilizes below 60 per cent of GDP even under the simulated pension pressures. For Finland, the greatest pension pressures occur after 2020, but some effects are already discernible by 2010. Under this scenario all countries except Italy face higher debt ratios compared with the baseline scenario.

Table 2. Pension expenditures, per cent of GDP

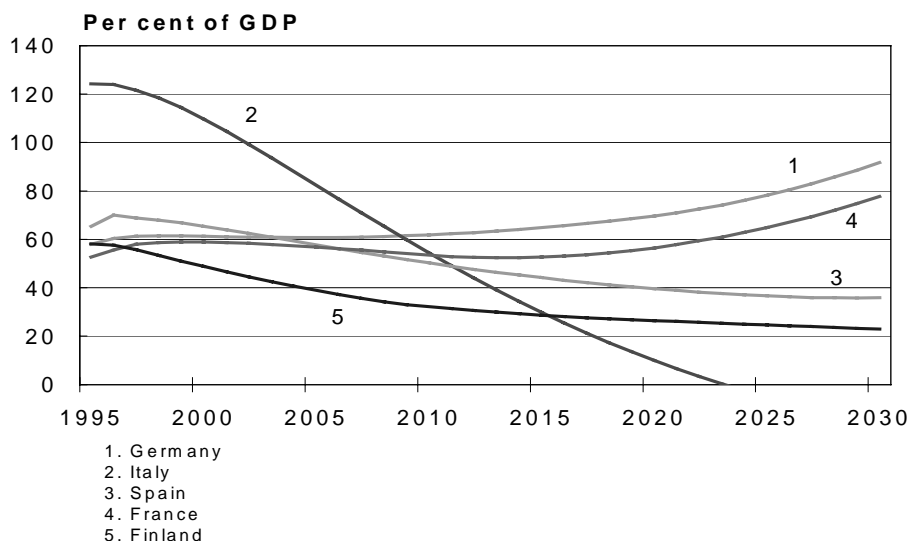
Commission	1995	2000	2010	2020	2025	2030	2040
Germany	10.1	10.7	11.7	12.5	13.5	14.6	n.a.
Italy	15.5	15.3	16.0	17.2/17.7	17.8/18.6	18.1/19.4	17.8/19.7
Spain	9.9	10.0/10.1	10.0/10.6	10.1/11.2	10.1/11.5	10.3/12.0	n.a.
France	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.	n.a.
Finland	14.0	13.4/14.8	14.6/17.4	16.5/17.9	16.8/17.9	17.1/17.9	n.a.
OECD	1995	2000	2010	2020	2025	2030	2040
Germany	11.1	11.5	11.8	12.3	n.a.	16.5	18.4
Italy	13.3	12.6	13.2	15.3	n.a.	20.3	21.4
Spain	10.0	9.8	10.0	11.3	n.a.	14.1	16.8
France	10.6	9.8	9.7	11.6	n.a.	13.5	14.3
Finland	10.1	9.5	10.7	15.2	n.a.	17.8	18.0

Split figures (x/y) indicate (best/worst) scenarios.

⁴ The calculations utilize forecasts made by the European Commission (Franco and Munzi 1997). These scenarios are based on national estimates and differ to some extent from OECD calculations (Roseweare et al. 1996), which are made using model-based simulations. Our computations add the increase in pension expenditures in a piecewise linear manner to the expenditures in the baseline case.

If the countries studied want to reduce their debt ratios, they will have to adjust their fiscal policies. The mechanical calculations used here are, however, too rough to provide any measure of the necessary adjustments in current fiscal policy. They do show, however, that there is some time – at least a decade – in which to reform pension schemes before the problems become acute.

Chart 4. Long-run debt ratios



7 Concluding remarks

Given a single currency, fiscal balances will certainly have a more critical effect on economic developments than has been the case so far. Under a common monetary policy, the ability of a single country to smooth out its economic cycles becomes more dependent on the state of its government's fiscal balance. The Stability and Growth Pact places a three per cent ceiling on fiscal deficits. A combination of a weak fiscal position and a large structural deficit means that there will be no room for

fiscal response during an economic downturn. In the worst case, the countries may have to react in a pro-cyclical manner to growth disturbances.

In this article we have analysed whether current fiscal policies are sufficient to lead to government fiscal balances that are strong enough from the point of view of sustainability and the requirements of the Stability and Growth Pact. The medium-term calculations showed that the fiscal position prevailing in 1997, under given interest rate and growth assumptions, would lead to a non-increasing debt ratio in all the countries except France. The latest preliminary figures for 1998 are broadly similar to the 1997 figures for most countries; the figures for Finland indicate that the fiscal balance has already shifted into surplus. But given a future trend growth rate that is below the past trend growth rate, debt ratios could start to grow in all of the countries, including Germany and Spain. By contrast, if the tight fiscal positions in Finland and Italy in 1997 were to continue, it would lead to a rapid decrease in debt under all scenarios. However, Italy, which is a deeply indebted country, is sensitive to changes in interest rates.

The calculations also showed that just one severe recession shock would lead to prolonged fiscal imbalances in France, Germany and Spain. It seems that only Finland and Italy would not violate the Stability Pact in the event of zero growth in 2000. On the other hand, if tax competition were to intensify in the euro area, fiscal positions would deteriorate mainly in Finland and Italy, where the tax burden is heavy as compared with the average for the euro area. In France too the budgetary position would remain problematic. The situation is just the reverse in Germany and especially in Spain. Population ageing tends to increase deficit and debt ratios in all the countries studied in the long run (after 2010). Maintaining sustainable development of public finances would require more restrictive fiscal policies than in 1997, especially in France and Germany.

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