Fiscal policy in a currency union*

Henry Ohlsson

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Abstract

If Sweden becomes member of the European currency union, the conditions for fiscal policy will change. The stabilization policy objectives will, however, hardly change with a membership. At the same time it is not clear if the need for stabilizing the Swedish economy will increase or decrease. National fiscal policy will, however, have to carry a bigger burden than before in stabilization policy as there no longer will exist national monetary and exchange rate policy. Fiscal policy will also be more effective in affecting real variables such as production and employment. Counteracting forces such as a flexible exchange rate and an own interest rate do not exist any longer. Fiscal policy will, at the same time, meet new and changed formal and economic restrictions. As member of the currency union we will face sanctions if our fiscal policy does not keep within the limits for the public sector’s net lending and consolidated gross debt which apply within the EU. Increased

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mobility of tax bases and tax competition are examples of economic restrictions that may become more strict. Members of the currency union cannot finance deficits by printing money. This is not important, however, in the sense that the Central Bank Law already today stops that this source of finance is used. The fiscal policy instruments and institutions will need to be reformed. My conclusion is that fiscal policy will not be enormously much affected if Sweden becomes a member of the currency union. The pressure, to do what we anyway should do, will increase however. The paper finishes with a fiscal policy agenda with twelve items.

Keyword: fiscal policy, convergence criteria, economic and monetary union, currency union, policy instruments, policy implementation

JEL classifications: E6, F3, H6

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Fiscal Policy: Institutions vs. Rules

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1 Introduction

Faith in the ability of macroeconomic policies to effectively erase business cycles and foster growth has long been oscillating, and it is now at a low point. During the last decade policy activism has been rejected, increasingly replaced by rules of various kinds. Most central banks now only accept responsibility for price stability and most governments put budget balance at the forefront of their concerns.

This impressive change from the trigger-happy 1970s can be traced back to both facts and academic research. Double-digit inflation and record levels of public debts in peace time have exposed the excesses of unconstrained policy-making. Academic research has analyzed the limits of discretion and, in the field of fiscal policy, given respectability to the principle of Ricardian equivalence which denies any stabilizing role to discretionary actions. Work on the political economy has shaken the view, already challenged long ago by Buchanan and Tullock (1962), that government is good as long as it is subject to democratic control (Drazen, 2000; Persson and Tabellini, 2000). In the presence of government failures, policies justified by the existence of market failures may do more harm than good. The not-so-new conventional wisdom seems to be that governments can help, a little, and if properly constrained.

Nowhere is this wisdom seen more at work than in the world of central banking. Central banks have been made independent and given a very precise mandate, price stability. The result has been a much reduced ability to make wide-ranging policy choices. Now central bank are increasingly required to be transparent and accountable. Views on fiscal policy are following similar lines, with a lag. The active counter-cyclical use of fiscal policy, ‘fine tuning’ as it is often referred to, is almost universally frowned upon for being at worst inefficient and quite possibly misguided. Big government is generally seen as bad, largely driven by political interest aiming at chosen segments of the electorate.

Formal changes, so far, have been less dramatic in the area of fiscal policy than in the area of monetary policy, but the tendency is clear. Rules have been adopted in several countries. In the

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1 See the Symposium on Keynesian Economics Today in the Winter 1993 issue of the Journal of Economic Perspectives.

2 For a survey of the changing world of central banking, see Blinder et al. (2001).
OECD area, multiannual limits on spending have been introduced in the Netherlands, New Zealand, Sweden, the UK and the US. Debt rules have been introduced in New Zealand and Poland. Perhaps the most daring innovation has been the adoption by EMU member countries of the Growth and Stability Pact. The Pact, which formalizes the excessive deficit procedure specified in the Maastricht Treaty, aims at a balanced budget and relies on a combination of gentle peer pressure and aggressive fines. How effective it will be, and how judicious it is, remains to be seen and is discussed below.

The paper looks only at the OECD countries, with Europe closely in mind. The evolution in macroeconomic policies is reviewed in the next section. Section 3 analyses the particular difficulties faced when trying to reform fiscal policy-making. Section 4 develops a number of principles to be considered for any wide-ranging reform. Four arrangements are developed in Section 5, and the conclusions are presented in Section 6.

2 The Broad Facts: Fiscal Policies Then and Now

Since the early to mid 1980s, most OECD countries have reduced their deficits and many have started to cut down the size of government. At the same time, the counter-cyclical use of both fiscal and monetary policies is said to have declined. This section checks and documents these trends.

2.1 Rising and Receding Public Debts

Starting in the late 1970s in Europe, and the early 1980s in the US, debt levels have started to rise quickly. Figure 1, which presents gross debt-to-GDP ratios, documents this pattern. The Swedish debt follows a trend similar to that of the rest of Europe, but with a marked decline halfway in the 1980s, sharply reversed in the wake of the economic and banking crisis of 1990–1.

The general upward trend of the 1970s and early 1980s was clearly unsustainable, and concern was rising both on financial markets and within the population. Starting in the mid 1980s, most governments have started to shift gears. Bringing public indebted-
ness to the top of the economic policy agenda has resulted in a sharp trend reversal, less marked in the European Union than in the US.

Figure 1. Gross Public Debt (% of GDP)

Why did governments so generally fall in the debt trap in the first place? Figure 2 shows that, in the US and Europe, spending has risen ahead of revenues. The rectangles identify the periods between the cyclical peaks and troughs. In the US, each cyclical downswing is marked by a sharp increase in spending, which is corrected over the ensuing upswing, until the massive Reagan boost to spending definitely tipped the odds of keeping the debt under control. In Europe, spending and revenue are less affected by the business cycle - with the notable exception of the mid 1970s. Spending is simply increased every year without corresponding adjustment in tax intakes. Most of that increase consisted of hard-to-reverse welfare payments. The Swedish situation resembles that of Europe as far as the continuous rise in spending is concerned, but revenue is actually increased more than sufficiently, except during the two cyclical downturns of the early 1980s and 1990s which open a financing gap.
Figure 2. Government Spending and Revenue (% of GDP)
The correction of the 1990s generally takes the form of severe spending cuts which eventually allow for a more modest reflux of revenues once budget balance is restored and the debt GDP starts declining. It remains to be seen whether the emerging pattern of the early 2000s represents a new era, one where discipline is established but where the will to cut spending is eroded and replaced with a new emphasis on rolling back revenues. This new trend would be one where spending reductions barely follow tax cuts, under the constraint that budgets be kept in balance, just about. This would leave growth as the engine of reductions in debt-to-GDP ratios.

2.2 Countercyclicality of Fiscal Policies?

The challenge of fiscal policy is to achieve debt sustainability while running counter-cyclical policies. Assuming that fiscal policy is effective - more below - counter-cyclical actions is the reason often advanced to temporarily err away from discipline. Has it been
the case, in fact? Do budget deficits systematically rise during periods of slowdown and, if so, are they corrected during the cyclical upswings? And if counter-cyclicality is achieved, is it through tax or spending adjustments, and does it go beyond the automatic stabilizers?

The European Commission (2001) – see also Buti at al. (1997) – claims that fiscal policies in Europe have been characterized by "pro-cyclical activism". This conclusion is based on a graphical analysis where the 1990s play an important role. Melitz (2000) finds instead that they are counter-cyclical, but to a much smaller extent than asserted in the previous literature.3 Visual inspection of Figures 1 and 2 offers few clues. This section examines the statistical linkage between fiscal policy and the cycles in four countries: the US, France, Germany and Sweden.

In order to detect whether fiscal policies have systematically been counter-cyclical, three budgetary indicators – public spending, public revenue and the budget balance (revenue less spending) – are regressed against their own lags as well as the output gap (actual less potential GDP as estimated by the OECD).4 If fiscal policy is counter-cyclical we expect that, when the output gap increases, spending declines, revenue increases, and therefore the balance increases too. In order to test for the debt-stabilization motive, the lagged debt-to-GDP ratio is also used on the right hand-side. If fiscal policy is systematically adjusted to reduce the public debt when it has risen, we expect to see a negative coefficient in the spending regression, a positive sign in the revenue regression, and a positive sign in the balance regression.

The results shown in Table 1 also test two frequently suggested hypotheses. First, it is asserted that fiscal policy is asymmetric over the cycle, being more relaxed in downswings than it is tightened in upswings. This can be tested by allowing the output gap to enter separately in years when it is declining (the gap is interacted with a

3 A well-known “0.5 rule of thumb”, mostly derived from OECD estimates, asserts that for any 1 percentage point decline in GDP, the deficit increases by 0.5% of GDP (see Eichengreen and Wyplosz, 1993 and the review of the literature in Melitz, 2000). Melitz (2000), in line with Wyplosz (1999), finds instead a coefficient of 0.1−0.2. This may be an effect of the extension of the sample period to include the 1990s, an atypical period of low growth and closing down of the deficit to meet the Maastricht convergence criteria. It may also reflect the combination of the counter-cyclical automatic stabilizers, with an elasticity of 0.5, with discretionary pro-cyclical actions. Causality may be an important issue here as highly autocorrelated restrictive fiscal policies may have led to low growth during the 1990s. Most of the evidence is obtained through panel data estimation.

4 To account for lags, and to avoid the endogeneity problem, the lagged output gap could be used. The results thus obtained are not different from those presented here.
dummy variable which takes the value of 1 when the gap declines, 0 when it increases). A stronger counter-cyclical reaction in downswings would correspond to the interacted gap variable appearing with a coefficient of the same sign as the gap itself.

Second, it has been claimed that, over the 1990s, to meet the Maastricht convergence criteria until 1998 and then the Stability Pact requirement, debt stabilization has led to a lesser counter-cyclical use of fiscal policy, possibly even to fiscal policy becoming pro-cyclical. To test for this possibility, the output gap is also interacted with a dummy variable that takes the value 1 over the period 1992–2001, 0 otherwise. Pro-cyclicality would require the corresponding coefficients to be of the opposite signs and larger than those for the output gap alone. If the coefficients are smaller but of the same sign, we would conclude that fiscal policy remains counter-cyclical, but weaker. It could also be expected that during 1999–2001 fiscal policy has been less smooth. This is tested by checking whether the coefficient of the lagged dependent variable is negative when interacted with the same dummy.5

Finally, at the purely technical level, it can be objected that the variables used are not statistically stationary. In order to meet this objection, for each of the three policy indicators, Table 1 displays two regressions: in the first one all variables are used in level, in the second one they are all – including the gap – first-differenced. The results provide for a varied set of conclusions.

First, the evidence that the budget balance systematically moves counter-cyclically is weak, except for the US where a 1 percentage point decrease in GDP is met in the short run with a decline in the deficit of 0.4% of GDP. The effect is weaker (about 0.2) and very imprecisely estimated for France and Sweden. It is negligible for Germany where, however, the response is found to be asymmetric, with a relatively strong counter-cyclical reaction in downswings, but at best a weak correction in upswings.

Second, except for Sweden, spending is counter-cyclical and revenues are either acyclical (US, Sweden) or pro-cyclical (France, Germany). This may come as a surprise, since taxes are thought to be the main channel for the automatic stabilizers. As Melitz (2000) observes, some taxes may indeed be sensitive to cyclical conditions, but when all public revenues are put together, the automatic...
stabilizers may have been systematically thwarted by discrete policy actions on other taxes. The combination of counter-cyclical spending and pro-cyclical revenues explains why the overall stance of fiscal policy is, at most, weakly counter cyclical.

Third, in France and Sweden, the public debt exerts a significant disciplinary effect on the size of the deficit. Except for the US (where the evidence is conflicting), spending declines when the debt rises. In Sweden it is taxes that seem to respond most and rise when the debt is high, while they decline in Germany.

Fourth, there is little evidence of an asymmetry over the cycle. For the budget balance indicator, the estimated coefficients of the gap interacted with the downswing dummy suggest more counter-cyclicality during downswings, but they are never statistically significant. The exception is Germany where pro-cyclicality during the downswing cannot be ruled out, and can be traced back to public revenues.

Finally, do we detect a different pattern in the 1990s? In the US, the deficit seems to have become considerably more counter-cyclical, although the evidence is not clear cut. This could be the coincidental result of the two “Clinton miracles”: unusually fast growth and the end of the era of large federal deficits. In France and Sweden, it seems that spending, and the overall budget, have become asymmetric, reacting counter-cyclically to downswings and pro-cyclically to upswings. There is no clear change in Germany.\textsuperscript{6}

\textsuperscript{6} This stands in contrast to the view of the European Commission (Buti, 2001; Buti, Franco and Ongena, 1997) which claims that fiscal policy has turned procyclical in the 1990s and concludes that the Stability and Growth Pact will improve things by making fiscal policy at least neutral and possibly countercyclical when the automatic stabilizers are allowed to operate.
Table 1. Cyclical behavior of fiscal policy

USA

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301
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### 2.3 Policy Effectiveness and the Ricardian Equivalence

An important contribution to current thinking about fiscal policy is the increasingly popular view that it has not delivered on its promises, that its effects are small, slow and irregular or even that it fails to affect the macroeconomy. The background for much of this change of heart is the growing realization that most macroeconomic decisions are intertemporal, i.e. that private decisions - to spend or save, to invest in productive equipment or acquire assets, to work or leave the labor market, etc. - are subject to forward-looking considerations.

The extreme implication of the intertemporal approach is the principle of Ricardian equivalence according to which every euro spent by the government is offset by an equivalent decline in private spending. Whether the extra public spending is financed through higher taxes or through a deficit is irrelevant since today's
borrowing represents future taxes. Budget deficits simply don’t matter and fiscal policy does not affect aggregate spending.

The verdict on Ricardian equivalence remains largely undecided after a massive research effort spread over more than two decades. On the theory side, the assumptions required for fiscal policy to be ineffective are too demanding to be met in practice. Ricardian equivalence fails in the presence of such realistic features as uncertain lifetime, non-altruistic bequest motives, credit rationing, distortionary taxation. On the other side, the picture that emerges from a host of empirical studies is muddy: Ricardian equivalence is not easily rejected although complete equivalence is rarely found.

Without attempting to directly test the Ricardian equivalence, Blanchard and Perotti (1999) estimate the output effects of fiscal policy in the US. They find that the aggregate effects are qualitatively standard – spending increases and tax cuts raise output – but quantitatively small and with lags that vary quite significantly according to circumstances. In addition, the current account seems to offset a significant part of fiscal policy, suggesting even smaller effects in small open economies.

2.4 Synthesis

The reflux of public deficits and debts observed in the OECD area during the 1990s in both Europe and the US is often interpreted in two ways. According to the first interpretation, fiscal policy has been found to be too weak and unreliable to be of significant use. According to the second one, high debt levels have forced governments to change their behavior and put a premium on debt reduction.

The empirical evidence presented above does not quite back either interpretation. There is little doubt that fiscal policy is less effective than previously thought, yet it is far from powerless. The automatic stabilizers have a role to play, they are an important element of fiscal policy even if they do not require explicit action. Their role has been thwarted in recent years by pro-cyclical discretionary actions that reflected the wish to re-establish budgetary discipline. Counter-cyclical discretionary actions may be helpful

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8 For evidence that people ignore the size of the public debt, and that the cost of this ignorance is likely to be trivial enough to be near-rational, see Gruen (1991).
too. The existence of lags (in recognition, decision and implementation) argues against frequent manipulation, but it does not apply to the automatic stabilizers, not does it rule out the usefulness of occasional actions. In fact, if the main problem lies with lags – so that the problem is not the instrument itself but the timing of its use – it ought to be directly confronted, as suggested below.

Two conclusions follow. First, fiscal policy has been muted not because it is useless but because debts had risen too far. Second, discipline finally set in, but too late and, possibly, too much. A good illustration is the parallel evolution of public debts in fast-growth USA and slow-growth Europe (Figure 1).

The question is whether the new wisdom reflects an optimal combination of long-run discipline and short-run flexibility. The answer is negative. Discipline had been overlooked over the 1960s and 1970s, but it may have been overemphasized over the 1990s. For example, the pro-cyclical pattern observed in Germany did not translate into budgetary discipline.9 The challenge is to find a new and better balance.

It is fairly straightforward to see how fiscal policy can be used as a macroeconomic instrument without necessarily bringing about deficits and growing debts: deficits ought to be balanced over the cycle while being as strongly counter-cyclical as needed. The search for a better balance is already under way. Many countries, and the Eurozone, have established rules that precisely aim at a better balance. The problem with rules is that they tend to be rigid and artificial (arbitrary debt or deficit limits, golden rules based on thin air and falsifiable accounts), which makes them ultimately impossible to defend in the face of public opinions. Blaming politicians for transgressing the rules that they previously established is always pleasurable, but it fails to recognize the role of incentives. The appropriate response is to build institutions which create the proper incentives. This is the path that the rest of the paper explores.

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9The procyclical pattern of German fiscal policy may be only apparent. Von Hagen et al. (2001) note that the Kohl government has increasingly made use of off-budget items.
The Challenges of a New Fiscal Policy

3.1 Short and Long Term Objectives

Budgetary discipline means that the public debt must not be allowed to rise continuously, as was the case during the 1960s and 1970s. For countries still saddled with high debts, discipline additionally means bringing the debt down to more comfortable levels (for which there can be no accurate definition). This is clearly not an objective to be met in any particular year, but a constraint to be satisfied in the long run. At the same time, in the short run fiscal policy can play a useful output and inflation stabilization role.

The challenge, therefore, is to credibly combine long term commitments with short term flexibility. This is not a new challenge, but one that has not often been met in the past. Experience has shown how easily the long term can be overlooked when debt levels are low. Europe in the 1990s has largely overlooked the short term when the convergence program has put debt stabilization at the top of the political agenda.

This challenge is not specific to fiscal policy. Monetary policy faces exactly the same dual concern: it aims at delivering price stability in the long run, but it can help stabilize output in the short run. On the basis of demonstrated relative effectiveness, Taylor (2000) concludes that monetary policy can usually achieve both goals, so that fiscal policy could be left to operate through the automatic stabilizers. This conclusion may be valid for the US - even though the very recent US experience suggests that discretionary fiscal policy may be needed in severe circumstances10 - but not for Europe for two main reasons. First, the evidence reviewed in the previous section suggests that the stabilizers are not efficient in Europe, in contrast with the US. Second monetary union members have given up national monetary policies, which leaves fiscal policy as the sole national macroeconomic instrument.

In recent years, central banks have found a way of combining their short and long term objectives. Section 4 draws the lessons for fiscal policy-making suggested by the progress achieved with monetary policy, but some important differences between the two instruments are first outlined in the remainder of the present section.

10 Note, however, that under the Stability and Growth Pact the US would likely not be allowed to claim "special circumstances", i.e. a drop of GDP of 2%, an illustration of how severe are the constraints imposed by the Pact.
3.2 The Economic Complexity of Fiscal Policy

In comparison with monetary policy, fiscal policy is relatively ineffective. Not only is its impact rather slow and (too) long lasting (Blanchard and Perotti, 2000), it is also uncertain. The debate on Ricardian equivalence underlines that much depends on how economic agents perceive fiscal policy actions. Temporary tax measures are understood to be largely ineffective, for agents adjust their saving behavior. “Permanent” tax measures are of limited credibility. Spending actions raise the question of how they are to be financed, which may elicit partially offsetting private reactions. In the extreme case where the debt path is seen as unsustainable, restrictive fiscal policies have been observed to exert an expansionary effect if they are seen as stabilizing an otherwise explosive public debt (Giavazzi, Jappelli and Pagano, 2000).

Monetary policy is more efficient primarily because it acts not on quantities (spending, private income) but on an important price, the real interest rate. This crucial difference should not be exaggerated, though. As the Japanese experience suggests, monetary policy may be ineffective when banking sector balance sheets call into doubt its stability. Both monetary and fiscal policies require that some crucial budget constraints be satisfied.

In the case of fiscal policy, the state’s balance sheet must be compatible with its budget constraint but assessing this condition is not easy. Governments are held accountable to deliver both explicit and implicit entitlements such as welfare payments and the retirement of future generations. Faced with an ageing population, many governments have moved to establish funded pension plans which are meant to deal with the future payment of retirement deficits. While this represents a step forward towards making these future payments explicit and funded, it still leaves open the possibility that the financial performance of the funds will turn out not to provide enough resources for what society will consider a decent retirement income twenty fifty years down the road. In addition, governments often operate with an explicit on-budget side and an implicit off-budget side. This complexity cannot be fully eliminated – nor can banking sector balance sheets be considered as fully transparent – but the effectiveness of fiscal policy can be enhanced by improving the visibility of implicit commitments and by eliminating off-budget items.
3.3 The Political Complexity of Fiscal Policy

Traditionally, fiscal policy is subject to democratic oversight. Every action has to be approved by the parliament. The result is a high degree of politicization which naturally involves differences of opinion but also open the door to lobbying by a myriad of interest groups that care little for the common public good.\(^{11}\) There follows a number of important differences between fiscal and monetary policy.

First, monetary policy actions can be decided virtually instantaneously. Fiscal policy actions, on the other side, must go through a lengthy decision process. Precious time can be lost. In addition, the parliament-sanctioned result may be quite different from the government’s initial intentions, possibly with no action at all. Indeed, one of the strongest arguments against the discretionary use of fiscal policy is that it often is implemented too late, thus destabilizing the economy.

Second, policy is conducted in an uncertain world. Economic forecasts are far from precise and largely unreliable when it comes to identifying the all-important turning points which typically trigger the need for a change of course of policy. Not only this requires rapid action when the situation is becoming less cloudy, but it may also result in the need to reverse gear when previous forecasts turn out to be wrong.\(^{12}\) Central banks are known to be loath to reverse themselves for fear of sending confusing signals – possibly for fear of being seen as confused. Governments simply cannot turn around. At best they can abort an action if it is still under consideration by the parliament.

3.4 Lessons From Monetary Policy

Lesson No.1: less activism

Fiscal policy is a less good instrument than monetary policy. Whenever monetary policy alone can deal with the situation, fiscal policy should remain inactive, relying only on the automatic stabilizers, certainly avoiding to become pro-cyclical.

\(^{11}\) See von Hagen and Harden (1994).

\(^{12}\) The deterioration of economic conditions during the course of 2001 is a case in point.
Lesson No.2: long term debt sustainability ought to be a binding constraint

Most modern central banks are given a clear, explicit mandate to aim at price stability. The equivalent long-term concern for fiscal policy is debt sustainability, and it ought to be made explicit.

Debt sustainability is an imprecise concept. We do not have acceptable theories of the optimum debt level, nor clear guidelines on how soon should a target debt level be achieved. But the same applies to the concept of price stability. Like central banks with their own long-run objective, the fiscal policy authorities have to struggle to define debt stability. This definition may be time-varying: demographic considerations, major upheavals like political disruptions, natural disasters or wars, may warrant some re-basing. Yet, the very fact that an objective is announced that serves two purposes. First, it anchors expectations and provide a clearly understandable policy goal. Second, the debate on the objective itself forces into the open a concern that already exists but that is left for internal debate within the administration. An open democratic debate will not only responsibilize the political players but also alert the broad public to the need for understanding, and hopefully supporting the ultimate constraint faced by fiscal policy.

Lesson No.3: qualified freedom over the business cycle

Like monetary policy, once its long-term constraint is set and serves as an anchor, fiscal policy can be used as a counter-cyclical tool whenever it can make a contribution to economic (price and output) stability.

The difficulty is that a short-term relaxation can trigger a debt buildup. Debt accumulation is an inherently explosive process, which implies that the antidote must be administered at the same time as the medicine. Ideally this would take the form of a multi-year commitment to expand first and then eliminate the resulting debt increase. Given the uncertainty inherent to policy-making, such a commitment cannot be specified in calendar time. But it can be formulated in terms of the business cycle, calling for debt reductions during the next upswing if debt has been allowed to rise in a downswing.13

13 Such a principle has been accepted by popular vote in December 2001 in Switzerland.
Lesson No.4: an ability to respond in real time

Part of the advantage of monetary over fiscal policy is its speed of reaction. Monetary policy can be decided and implemented in a short time. The counter-cyclical use of fiscal policy requires that the automatic stabilizers be powerful enough and, for discretionary actions, that the decision and implementation lags be sharply reduced.

Automatic stabilizers are mostly the by-product of the tax system, with some limited contributions from the expenditure side. One possibility would be reconsider the tax system with an eye to increasing the size of the stabilizers. This is likely to be a daunting undertaking for the tax system is primarily designed to gather resources in the least distortionary way possible and to redistribute income. Both requirements are extraordinarily difficult and politically controversial to put into practice. Adding a third criterion will considerably complicate an already difficult task. For that reason, it is better to accept the stabilizers as they happen to be and focus instead on the essential role of sound discretionary policy.

Current constitutional arrangements typically preclude any fast track possibility of adjusting the budget to cyclical conditions (Germany being a counter-example). In this respect, the contrast between monetary and fiscal policy is striking: monetary policy is subject to ex post democratic control while fiscal policy is subject to ex ante control. One reason for this asymmetry seems to be that the power of taxing is universally seen as a prerogative of the sovereign, hence the need for democratic control. Yet, monetary policy also involves the inflation tax. Another reason is that the allocation of public spending is a deeply political act, but monetary policy too produces allocative effects. The judgment, borne by the history of democratic societies, must be that, in comparison with fiscal policy, the inflation tax and the allocative effects of monetary policy are of a second order of magnitude, at least at low rates of inflation. But that cannot be an absolute judgment as it involves a trade-off between democratic control and policy effectiveness.

The deeper reason for the asymmetry is that the political independence of monetary policy has been realized, after considerable experimentation and much academic research, both of which have documented how counter-productive the political control over monetary policy can be. Much as the legacy of high inflation has tilted the balance towards central bank independence, the
legacy of high debts is now leading to the adoption of constraints on fiscal policy in the form of rules or institutional changes. When designing such a new approach, however, it is important to distinguish between the macroeconomic side of fiscal policy, which resembles monetary policy, and its allocative and structural aspects, which require indeed political oversight.

Lesson No.5: long term commitments must be backed up by specific legal and operational arrangements.

Monetary policy is now typically subject to a clear long-term mandate via legal arrangements. The debt sustainability imperative of fiscal sustainability is rarely backed by a similar legal mandate. Balanced budget requirements have systematically been rejected in most countries. In the US, the Gramm-Rudman Act has largely failed to seriously affect the budgetary process. Europe's Stability and Growth Pact (SGP) is quite unique in this respect, as discussed in more detail below.

One problem with such attempts, possibly including the SGP, is that they may impose too much rigidity on fiscal policy. Combining a long-run debt constraint with short-run fiscal policy flexibility is difficult, at least more so than the comparable monetary policy requirement. It may be that we have not yet fully drawn all the lessons from monetary policy institutions. Monetary policy is not subject to rigid quantitative rules, it is rather entrusted to policy-makers that are independent from political influence and given a clear mandate. What remains to be imagined is an arrangement for fiscal policy that has similar properties and yet fits its specific characteristics. Some steps in this direction are taken in the following section.

4 Principles for a New Approach to Fiscal Policy

A new fiscal policy framework must combine a credible commitment to long-run debt sustainability with sufficient short-run flexibility for policy to operate as a counter-cyclical instrument. To that effect, two steps need to be taken: (1) defining long-run debt
4.1 Defining the Objectives

At the minimum, long-term debt sustainability requires that the debt level not increase as a percent of GDP. A more demanding definition is that the debt level not rise in real or nominal terms, ensuring that it eventually becomes trivial as a proportion of GDP. In a way, the precise formulation matters little for there is no clear definition of what is a reasonable public debt level. The 60% Maastricht convergence criterion, for example, is an accident of history, the average debt level in Europe on the day the Maastricht Treaty was finalized. A high debt level is clearly undesirable since it plays havoc with the budget when interest rate fluctuations affect part of the debt service.

Is zero debt desirable? In principle, because taxes are distortionary, the lowest possible debt level allows to reduce the tax burden, provided of course that the government does not replace debt service with public spending. In practice, there is no indication that the tax burden is lower where debt is smaller. Figure 3 shows that, in the OECD area there is no such link: the partial correlation coefficient is negative (−0.03) and insignificant (t-statistics = 0.42). In addition, under the view that the government borrows on behalf of credit-constrained citizens, some positive debt level is welfare-enhancing. Similarly, with standards of living likely to continue to rise over the foreseeable future, inter-generational equity calls for some negative transfers to richer future generations.

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14 See Perotti et al. (1998) for a discussion of sustainability as well as for useful references. They consider fiscal policy to be sustainable when there is no need for sharp adjustments. These authors conclude that, because sustainability cannot be appropriately defined and measured, attention should shift to controllability. In a sense, this is the view adopted here too, as the focus shifts to institutions which are likely to deliver a debt that remains under control, independently of its size.

15 In high-debt countries, it can be a source of self-fulfilling crisis since concern with debt service may lead markets to ask for higher interest rates, which leads to a deterioration of the budget and an increase in debt, further fueling market concerns.

16 It can be objected that the three Scandinavian countries and Japan are outliers. Without these four countries, the partial correlation coefficient is positive (0.13) and significant (t-statistics = 2.27), but it is not clear why these countries should be excluded. The Scandinavian countries illustrate the main point that a low debt level may be intentionally accompanied by a large tax burden, while Japan shows that small governments can run unsustainable fiscal policies.
All in all, therefore, the only possible conclusion is that a moderate debt level is desirable, but “moderate” cannot be precisely pinned down. We simply have to rely on good judgment. “Judgment” is the crucial word here. It means that human thinking, guided by clear principles, is a superior alternative to binding rules.

Figure 3

Short-term flexibility means that fiscal policy has a role to play in dealing with cyclical movements. Pro-cyclical policies, frequently observed, are clearly undesirable. Beyond that, there is no generally accepted prescription, except that fiscal policy is a blunter instrument than monetary policy, suggesting that its discretionary use should be limited to situations that cannot be handled by monetary policy along with the automatic stabilizers. It is important to keep in mind that the full use of the automatic stabilizers cannot be a source of debt unsustainability. Almost by definition, over the cycle the automatic stabilizers give back what they take.
4.2 Institutions

Long-run constraints are notoriously hard to enforce because of the time inconsistency problem: there will always exist circumstances where giving up a commitment is actually welfare improving, although as seen from the current perspective it is highly undesirable.

One response to the time inconsistency problem is to rely on credibility. When policymakers' credibility is important to their task and is linked to their ability to stick to commitments, especially when the temptation to renegade is high, they are more likely to stick to their initial course of action. This is indeed the case of central bankers whose ability to influence market expectations is directly tied to their credibility. Markets can provide a reinforcement when they price some variables which are associated with the policymakers' performance. Interest and exchange rates, for instance, are often seen as a gauge of a central bank's commitment to price stability. Yet, the record of markets as guardian of the temple is mixed at best. The near-consensus view is that they tend to react too much too late (see e.g. Bayoumi, Goldstein and Woglom, 1995).

Another response is to link policymakers' rewards to their adherence to commitments. Elected policymakers may earn their reputation by resisting calls to change track, and reputation may help for reelection. Populism, however, is far too common to give much credence to this approach. Linking central bankers' salaries to a performance measure has been proposed by Walsh (1995) but has never been applied. A weakness of the arrangement is that the performance rating itself can be changed.

A more promising response is to enshrine commitments in constitutions and institutions. Once more, monetary policy provides a good example. Giving central bankers a clear constitutional mandate and making them independent has reduced the probability that they renegade on their commitments. Such arrangements are not iron-clad either, since laws can always be changed (Persson and Tabellini, 2000). The (imperfect) solution is to include the law in high-level legislation such as the Constitution, which makes it much harder to be changed.17

17 For example, the statutes of the ECB are part of the Maastricht Treaty, so it would take another treaty to reduce its independence or change its mission, a very unlikely prospect. In contrast, the independence of the Federal Reserve is set by an Act of the US Congress, and what the Congress makes the Congress can undo. This explains the importance that Fed
4.3 Defining debt sustainability

Debt sustainability can be defined in two alternative ways:

- It can be an obligation to achieve budget balance on average over a number of years. The number of years should be of the same order as the length of ordinary business cycles (4 to 6 years). It should not be fixed ex ante since cycles are never alike, rather peaks and the troughs should be identified by an independent institution, as the NBER does for the US.

- Countries which start with a high debt, or which face large future commitments (due to an ageing population, for example) can aim at a given reduction of the debt-to-GDP ratio over a given horizon. As before, the horizon ought to be tailored to the length of the business cycles.

Multiyear commitments are essential to allow for short-run counter-cyclical policies. Such an arrangement sets the incentives right. The authorities know ex ante that any budget relaxation will have to be clawed back in the not-too-distant future. As a result, they are likely to adopt a debt-increasing stance only if they think that it will be efficient, not only in the short run but inter-temporally, i.e. if today’s gains outweigh tomorrow’s costs. Similarly, they will take advantage from favorable conditions to garner room for maneuver in anticipation of future adverse shocks. The main danger is that governments use this formulation to act strategically, i.e. to play political tricks: if they expect to lose the next election, they may engage in reckless behavior to create problems for their political opponents in the hope of regaining power at the following election. Finding a solution to limit this risk is an important issue in the following suggestions.

An important aspect of these principles is that they eschew any numerical target for the debt level. As noted above, there is no optimal target level for public debts. Setting quantified targets inevitably elicits criticism, to which the response is to create an artificial “holly cow” which may be difficult to change later on. In addition, as made abundantly clear by the Maastricht convergence
process, artificial targets can be easily flouted precisely because they lack a solid enough basis to be adhered to.\textsuperscript{19}

Finally, a good institution is one that can accommodate extraordinary circumstances. This calls for an escape clause. Escape clauses are dangerous, as has been shown by Obstfeld (1997) in a different context. The mere existence of an escape clause may feed expectations that it will be activated, which in turns may make activation too tempting to be resisted. Yet, there may be cases when clinging to a policy may be so costly, economically and politically, that attempting to do so will irremediably discredit the policy and the principle that it serves.\textsuperscript{20} The definition of debt or deficit targets must be left in safe hands, relying on human judgment rather than on purely mechanical rules.

5 \hspace{1cm} Four Possible Approaches

Drawing on the previous analysis, this section envisions a number of possible ways in which fiscal policy can be reframed. In all cases, the crucial question is which agent of restraint can be used to both guarantee that debt always remains on a sustainable path, and allow for counter-cyclical fiscal policy when needed. The first solution, a constitutional limit on debts or deficits, has long been in place in the US states. This approach may be too rigid for sovereign states. The other solutions rely on outside institutions. One possibility is to establish external control, as with IMF programs or the European Stability and Growth Pact (SGP). Another possibility is to confer the power to exercise judgment to a non-elected body outside of the direct sphere of influence of government, as is the case for monetary policy and central banks. An intermediate solution relies on “wise men” to discipline governments.

\textsuperscript{19} A common problem with quantified constraints, which also applies to balanced-budget laws, is that they can be escaped through creative accounting, including off-budget spending or the creation of separate government agencies exempt from the constraints, see von Hagen (1992).

\textsuperscript{20} The example of the Argentinean currency board is hard to resist. No matter how useful it has been in the past and could be in the future, it has proven to be far too rigid to be a lasting institution. Its very robustness has required extraordinary – and tragic – pressure to bring about its end.
5.1 The US States Approach: Quantitative Limits

All US states governments – with the exception of Vermont, which has one of the smallest debts – are subject to one form or another of constitutional limit, as described in Bayoumi, Morris and Woglom (1995). Some states operate a ceiling on the debt, typical set very low, less than 10% of Gross State Product, and mostly below 5%. Other states rule out any budget deficit. Others still require that the deficit be balanced over a number of years.

Of these three forms, only the last one fulfills the criteria developed earlier. Why, then, have drastic limits been accepted and have successfully passed the test of time? Partly because the US federal government budget is much larger than the state budgets and provide for a significant degree of counter-cyclical transfers, see Sala-i-Martin and Sachs (1992), Italianer and Pisani-Ferry (1994), Bayoumi and Masson (1995), and the review in Kletzer and von Hagen (2001).21 Also, given the high degree of economic integration among states, and the extent of labor mobility across states, the costs of a rigid approach are reasonably small in comparison to the costs of fiscal indiscipline. As clearly shown by Eichengreen and Bayoumi (1994), this approach is unlikely to work for independent states. The repeated rejection of balanced budget acts is a case in point.

5.2 The IMF and Maastricht Approaches: External Restraint and Peer Pressure

If governments cannot be fully trusted for exercising discipline, a natural solution is to use an external source of restraint. The IMF and the Excessive Deficit Procedure (EDP) mandated by the Maastricht Treaty are two prominent examples of this approach.

The EDP binds national governments with an international agreement that is nearly impossible to change since it is part of an international treaty. As such, it is guaranteed to survive a change of heart of domestic policymakers and legislators. This is both its strength and its weakness. Any external restraint runs the risk that citizens may come to balk at the loss of sovereignty, making the

21 Federal transfers alone do no provide sufficient incentive for debt sustainability as seen from the example of Switzerland where several cantons have built up high debts.
arrangement politically unsustainable. Europe's response is peer pressure, designed to dispel the notion of foreign interference.

The IMF agreements provide for two distinct mechanisms: Article IV consultations and loan programs. The annual Article IV consultations — surveillance in IMF parlance — are explicitly designed as peer review. They are conducted by the Fund's staff and approved by the Executive Board which is meant to represent the community of nations. Application to IMF programs is voluntary, meaning that there is no formal loss of sovereignty. In addition, the constraints set by the programs are not set in advance but tailored to each country, and formally agreed upon jointly by the recipient country and the IMF which insists on program's "ownership" by the country. Even so, the external nature of the constraint often leads to criticism that the IMF interferes with national sovereignty.

The crucial question is what gives "teeth" to the external restraint. IMF consultations only work through peer pressure, i.e. shaming countries that misbehave. Until recently the consultation reports were confidential. If the country agrees, they are now posted on the Fund’s website. IMF programs rely on a carrot, external funding, and a stick, no funding or the denial of further loans. In Europe, the Stability and Growth Pact (SGP), which gives operational content to the EDP, similarly rests on peer review in the form of the Broad Economic Policy Guidelines (BEVG) process, and on a stick in the form of fines in case of violation of the constraint.22

At the end of the day, the acid test of external restraints is whether the combination of peer pressure and sanctions delivers good behavior, i.e. long-run discipline and short-run flexibility. The IMF record is mixed, displaying many successes and a few spectacular failures.23 Most successes are characterized by temporary short-run restraints — sometimes characterized as excessive — and a return to sustainable policies. Once an IMF program is concluded, short-run flexibility is recovered but remains subject to Article IV surveillance, and relapses are not

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22 The IMF reviews a broader array of policies than the SGP, since it includes both monetary and fiscal policies. Over the years, the IMF has extended its attention to structural policies, including banking sector regulation and supervision, corruption, and poverty alleviation. A similar creep is now occurring within the BEVG which extend to employment, competition, financial markets, education and the environment policies.

23 This is not the place to review the IMF's track record. For a recent appraisal, see Jeanne and Zettelmeyer (2001).
uncommon. Most failures occur when a government does not abide by the constraints previously agreed to. In such cases, the sticks and the carrots are found not to be powerful enough. Thus the IMF success can be characterized as the result of expert judgment – i.e. no uniformly quantified targets – combined with an appropriate dose of incentives and punishment.

All European countries are subject to IMF surveillance but have decided to adopt the more demanding SGP framework. The SGP differs from the IMF in many respects. As noted, it relies on quantified targets, it offers no carrots and a stick (fines) that is often seen as extremely harsh. This harshness may reflect the view that, in contrast to IMF programs, there can not be any major failure if the monetary union is to remain credible. It is far too early to pass judgment on the SGP, but some weaknesses are already apparent.

One weakness is the battery of quantified criteria (the deficit limit, the triggers for exemption) which lack any solid justification and are therefore difficult to rigorously impose from the outside. Official comments emphasize that the true purpose is to encourage member countries to operate on average a balanced or slightly positive budget, a better understandable and justified aim. It is hoped that common sense will prevail and prevent the testing of the limits. This is not a safe assumption.

Another weakness is that imposing a fine is seen as a step to be taken only in the gravest of circumstances. This is why the mechanism that leads to fines is both lengthy and eventually subject to a political decision. Length increases the odds that the deficit problem will be softly eliminated before sanctions are required. Since fines are decided by the Finance Ministers, there is no automatism, which mitigates the risk of misguided actions, but it gives an uncomfortable political flavor to the procedure. The SGP sanctions can be seen as a deterrent never to be used for fear of triggering dangerous opposition within the country ordered to pay a fine.24 If this view is correct, then the SGP lacks teeth and may turn out to be mostly gentle peer pressure.

It seems fair to conclude that the SGP represents an imperfect attempt at using an external foreign agent of restraint. It suffers from quantified restraints that do not adequately achieve the difficult balance between long-run sustainability and short-run

24 For an analysis of the SGP, see Eichengreen and Wyplosz (1993) and Brunila et al. (2001).
flexibility. Its fine scheme is formally rigid, a feature mitigated by an implementation mechanism that suffers from too much politics, and therefore may turn out to be too soft. The rigid application of the BEPG may easily prevent the appropriate dose of short-run flexibility, as seems to be the case by late 2001.

5.3 The Central Bank Approach: Fiscal Policy Committees

An increasing number of countries have adopted institutional arrangements which deliver a high degree of monetary policy discipline. The common feature of these arrangements is the delegation of power to independent committees mainly subject to a long run constraint, that of delivering price stability. Given the fundamental similarity between the long and short-run aims of monetary and fiscal policies outlined in Section 3.1, it is surprising that similar steps have not been taken regarding fiscal policy. Where changes have been introduced, they rely on rules that aim at preventing governments from engaging again in debt buildup. Delegation of power is nowhere to be seen, except maybe where the relevant treasury or Finance Minister is given more power.25 Why such an asymmetry?

As noted earlier, this is largely because fiscal policy powerfully re-allocates income, which creates the need for direct democratic control. One important distinction is insufficiently appreciated, though. It concerns two aspects of fiscal policy-making: the setting of the budget balance on the one hand, and choices regarding the size of government, the public spending programs and the structure of taxation on the other hand. The bulk of income and wealth redistribution occurs through the latter aspect. In contrast, budget deficits have a limited intra-temporal reallocation effect. They mostly redistribute income across generations, most of which are not yet in existence and play no part in democratic control.26 Democratic control is essential for deciding the size of government, the distribution of spending and the structure of taxation, not the size of the budget deficit.

25 This process is analyzed in von Hagen, Hughes-Hallett and Strauch (2001).
26 It could even be argued that the current generation is ill-suited to provide a fair treatment of future generations.
This distinction carries a crucial implication. Taking the deficit and the debt out of the standard democratic process (design by the government and approval by the parliament) does not imply any serious loss of democratic control where it is fully justified. Once this point is accepted, the similarity between monetary policy and setting the budget deficit becomes even more striking. How then can the key aspects of monetary policy discipline — independence and a clear mandate — be applied to fiscal policy?27

The key step would be to create a new institution, the Fiscal Policy Committee (FPC). Like the central banks’ Monetary Policy Committees (MPC), the FPC would include a small number of qualified persons appointed for long, non-renewable terms of office. FPC members could not be removed from office unless they violate their mandates and they would not be allowed to seek or receive instructions from governments, members of parliaments or any outside person or group. The FPC would be supported by a staff that would produce its own forecasts of economic conditions and budgetary figures.

The FPC would operate under a precise and explicit constraint, that of ensuring debt sustainability over the appropriate horizon. The definition of debt sustainability, and the horizon, would be made precise along the lines of the principles laid out in Section 4.3 above. As explained in that section, over the short run this would leave the FPC free to opt for deficits and surpluses, as justified by their analysis of current and future conditions. They would, however, have to deliver debt sustainability.

The power of the FPC would be limited to set annual deficit figures (say, in percent of planned GDP) ahead of the government budgetary cycle. Their decision would have the force of law, and impose themselves on both the government and the parliament.28 The FPC would have no authority regarding the size of the budget, the tax structure and the allocation of public spending, all matters

27 As I was formulating the present proposal I came upon a nearly identical one by Eichen-green, Hausmann and von Hagen (1999). They go in considerably more details regarding the design and functioning of their proposed National Fiscal Councils.

28 A step in this direction has been adopted in Italy in the early 1990s. The deficit is decided by the government in the summer, and it takes the form a law. When the rest of the budget (size, spending, taxation) is set by the government and discussed by the parliament in the fall, the budget law cannot be modified anymore. von Hagen and Harden (1994) convincingly argue that this step has been crucial in Italy’s successful efforts at stabilizing and reducing its public debt. Another related development is the increased power of the Belgian High Council for Finances which can issue recommendations regarding the size of deficits at the federal and sub-federal levels, see von Hagen (2001).
left to the currently existing political process. The FPC would have to approve the budget bill, checking its spending and revenue projections, before it becomes law.

The constraint on the government and/or parliament could take either of two forms. Any budget that does not comply with the FPC’s decision could be void, and would have to be redrawn. Alternatively, a procedure could be automatically activated to bring the budget in line. This could be either a pro-rata reduction in spending, or a pro-rata increase in (some) tax revenues, or a combination of both, with a view to avoid redistribution. The procedure is to be decided as part of the creation of the new institution.

The FPC would be accountable to parliament. At an agreed-upon frequency, its Chair would have to report on its decisions. The parliament could formally state its approval or disapproval of FPC’s decisions, but it could not censure it unless the FPC fails to deliver budget sustainability as defined in its mandate. In case the FPC fails in this respect, the parliament would be allowed to censure the FPC, possibly including collective dismissal. The rules under which the FPC operate (voting, reporting of its deliberations, collective or individual responsibility) also need to be spelled out.29

It is important to stress that setting up a FPC would not reduce the power of parliament in any meaningful way. The mandate of the FPC, debt sustainability, is not a political objective, rather it is a constraint, but not a new one. It is only the embodiment of the state’s budget constraint, one which imposes itself on all policymakers, in one way or another, sooner or later. Presumably, parliaments do not plan to approve budgets that ex ante violate the state’s budget constraint.

If economic conditions were to change abruptly, the FPC should be able to mandate a change in the budget law. This could take the form of a new deficit figure, leaving again the government and the parliament with the task on adjusting spending and/or revenues. Eichengreen, Hausmann and von Hagen (1999) provide an excellent discussion of the relative merits of fixed review dates vs. discretionary interventions.

Finally, exceptional circumstances – unforecastable, by definition – may warrant a suspension of the debt sustainability obligation. This is what lies behind the over-ride provision discussed in

29 For a detailed discussion of MPC rules, see Blinder at al. (2001).
the case of monetary policy (see, e.g., Roll et al., 1993). As any escape clause, there is a risk that the over-ride be abused. It is besides the point to attempt to draw a list of such exceptional circumstances. On the other side, in the absence of an over-ride, the whole FPC procedure stands to lose credibility and to be abandoned in the midst of unusual and unforeseen events. What is needed is an exceptional procedure that is truly difficult to trigger. For instance, it could require a parliamentary vote with a super-majority.

5.4 The Wise Persons Approach

A solution similar in spirit to the FPC but less politically demanding, is to appoint a Court of Wise Persons (CWP). The Court would share most of the characteristics of the FPC (mandate, tenure, independence, support staff) but its decisions would not have the power of law. The CWP would issue guidelines on the size of the following year’s budget balance and report on the previous year’s budget execution. Its findings and recommendations would be made public, possibly solemnly presented to the government and parliament. The government and parliament could be required to publicly respond to the CWP.

This mellow version of the FPC is essentially internal peer pressure, similar to the BEPG but without the threat of fines. Its weakness is that politicians could find expedient to gang up and diminish its preeminence, treating public disagreements with the CWP as a minor embarrassment. In order to avoid such an outcome, it would be desirable to provide the CWP with at least some of the powers envisioned for the FPC.

For instance, during a legislature the budget law might not be allowed to deviate more than twice from the norms set by the CWP. But the risk is that violations could systematically happen in the final years, resulting in disruptive political business cycles. It could even encourage early dismissal of parliament where it is constitutionally possible. Alternatively, any deviation on the deficit side might have to be corrected within a set period (three to five

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30 Germany is one country which has established a wisemen committee. The German Council of Economic Experts, however, only evaluates the government’s economic policies ex post. Its mission is formally set as advising and educating the public. A superficial observation is that the institution has progressively lost its luster.
years), with the risk that incumbents would intentionally leave a bad inheritance to their successors in government. These examples show that the space between strong and weak fiscal institutions is narrow. Wise persons essentially work by shaming the authorities for bad behavior, which is unlikely to be enough, except maybe in very open societies with high moral standards in politics. Elsewhere, FPCs are more appropriate.

6 Conclusion

Initiatives like balanced-budget proposals or the SGP show that there is now a recognized need for combining long-run discipline and short-term flexibility in the realm of fiscal policy as well. This is always a difficult exercise. The natural tendency is to establish fences, in the form of quantitative ceilings and rules. The problem with fences is that, to be effective, they have to be rigid. In normal times, fences can be set so as to leave a reasonable degree of flexibility but circumstances stubbornly tend to be unusual and to test the best-crafted devices. The risk is that the counter-cyclical use of fiscal policy, already limited, be lost to the quest for sturdiness.

The SGP’s solution to the quandary is to allow for escape clauses. But escape clauses are potentially destabilizing, hence the tendency to design triggers that are excessively severe. On the other side, softer escape clause undermine the constraints. The SGP’s triggers (a GDP decline of 2%, possibly only 0.75%) are very unlikely to be met under most circumstances where a relaxation of the deficit ceiling would be desirable.

Competent and dedicated policymakers are better able than quantitative ceilings and rules to exercise good judgment and deliver the adequate mix of restraint and flexibility. To do so, however, they must be shielded from the temptation and pressures that are part of political life. This is the approach that has been adopted for monetary policy by an increasing number of countries, so far successfully.

Fiscal policy has not yet benefited from a similar treatment because of both traditions and the perception that fiscal policy belongs exclusively to the political sphere. Traditions too were once invoked to keep central banks under the thumb of politicians, but the recent changes show that traditions can be relatively easily
shaken. The challenge for a new type of fiscal policy to emerge is to recognize that some of its aspects indeed ought to remain in the political sphere, but that the deficit and the debt level do not. Monetary policy was freed from political interference when it was recognized that it is neutral in the long run.

The natural implication is that the institutions adopted for monetary policy can and should be applied to fiscal policy as well. Independent Fiscal Policy Committees can play the same role as Monetary Policy Committees, deciding on deficits and the evolution of the debt. To deliver good results, they need to be given a clear mandate, debt sustainability, and to be freed from the temptation and pressures of political life. There is no reason why FPCs would be less successful than the MPCs.

Because independent FPCs run against established traditions, it may be politically difficult to go there in one step. Quantitative rules are already shaking the established view that fiscal policy is an inalienable attribute of national sovereignty. The danger is that they are far too rigid and may give a bad name to attempts to depoliticize the fiscal policy process. Wise Men have much of the required flavor but they are unlikely to provide the required influence unless they have some decision power. Strengthening their power is a short step from a fully-fledged FPC.

References


Fiscal Policy Coordination*

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Abstract

The ongoing international integration process strengthens interdependencies between European countries, and this raises questions concerning the scope left for national economic policies as well as the need for international policy coordination. This paper surveys these issues focusing on interdependencies in fiscal policy arising via both trade channels and a common monetary policy for countries participating in the European Monetary Union. The paper ends by discussing the practical implementation of policy cooperation in the perspective of initiatives taken within EU.

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1 Introduction

European integration is proceeding along several dimensions, and one important question is how this development will affect the scope for economic policy in general and employment oriented policies in particular. One pertinent question is how interdependencies in economic policies will affect policy formation, not least because these interdependencies may be strengthened due to the ongoing European integration process. It is well known that international trade has been increasing rapidly in recent decades. Important facts in this development include that the trade growth is concentrated within Europe, most of the increase is driven by intra-industrial trade, foreign direct investment and outsourcing are of increasing importance, and the production structure tends to become more specialized\(^1\). These developments reflect both a number of specific policy decisions aiming at tighter integration as well as technological changes.

The ongoing integration process may have important consequences for economic policies in general and policies directed towards activity and employment in particular. It is important to stress that this holds even though labour mobility in Europe remains fairly modest, although free mobility of workers within EU is also part of the single market. Labour markets and hence employment are affected even with low labour mobility across Europe, since integration of financial and in particular product markets affect labour markets through a number of channels identified in modern trade theory. In short the integration process means that the competitive pressure among countries is strengthened and this effectively increases job mobility among countries. This may affect the need and scope for economic policies - not least employment policies. Since fiscal policy remains the major macroeconomic instrument available to member countries in the EU, the following focuses on interdependencies in fiscal policy, and the need for coordination of policy initiatives across EU countries. Particular important questions are what kind of interdependencies there are in economic policies and the extent to which these interdependencies are strengthened as a consequence of further integration.

\(^1\)See e.g. Coppel and Durand (1999) on facts concerning trade flows, OECD (1999) on labour mobility, and Midelfart-Knarvik et. al. (2000) on the production structure.
Interdependencies in economic policy also arise via the common monetary policy for member countries of the European Monetary Union. The European Monetary Union is based on a clear division of labour between monetary and fiscal policy - the so-called "Maastricht assignment" (Issing (2000)). Monetary policy is delegated to an independent central bank - the European Central Bank - and its primary objective is to maintain price stability. Fiscal policy remains the responsibility of the single member countries, although there are guidelines for the budget and debt positions (see section 5). One concern is whether the institutional structure with a common or centralized monetary policy and decentralized fiscal authorities poses problems, which potentially can cause a policy-mix with harmful consequences for e.g. an adequate stabilization of business cycle fluctuations.

The present paper surveys arguments for economic policy coordination within EU, with emphasis on fiscal policy in general and employment policies in particular. The paper falls in four parts. Section 2 considers interdependencies affecting the overall fiscal policy stance, that is, how is the level and structure of public consumption and their financing affected by interdependencies? Section 3 turns to stabilization policy in the sense of policy responses induced by business cycle fluctuations, and identifies the channels through which international interdependencies arise in policies directed at mitigating fluctuations. The interdependencies arising between monetary and fiscal policy when the former is centralized and aiming at price stability, and the latter is decentralized is considered in section 4. In the theoretical literature the benchmark for evaluating the consequences of interdependencies in policy making is the cooperative outcome, that is, the difference between the non-cooperative and cooperative policy outcome is used as a metric for the consequences of the failure to cooperate on economic policies in the presence of international interdependencies. While a useful analytical device, it is not necessarily very helpful in identifying operational ways by which to coordinate or

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2 For the European Central Bank, the policy has been formulated as "price stability shall be defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the euro area of 2%" European Central Bank (1999). This is supplemented with the provision that this in practice means that inflation in the medium run should be in the interval between 0% and 2%.

3 Another relevant question is whether these interdependencies are stronger within or outside a monetary union, given that trade links are strong and growing anyway. It falls outside the scope of this paper to address this issue.
harmonise policy making across countries, since implementation has to take into account constraints arising from both political and practical considerations. Section 5 discusses the appropriate means by which to coordinate/harmonise policies in practice among EU countries. A few concluding remarks are given in section 6.

2 Interdependencies in fiscal policy oriented towards activity

This section considers possible externalities in fiscal policies between different fiscal authorities within a monetary union, that is, the exchange rate is fixed, and to focus on the effects of fiscal policy – monetary policy is kept exogenous (see section 4). The focus in this section is on the implications for the level of overall government activity.

The issue of interdependencies in fiscal policies has a long history in economic theory. According to simple Keynesian reasoning there would be a tendency that countries choose insufficiently expansionary fiscal (demand management) policies since the demand leakage (import) reduces the expansionary domestic effects of fiscal policies. Since this leakage is larger the more integrated the economy is in the global economy (see e.g. Cooper (1985) or Hamada and Kawai (1997) for an introduction and references to the traditional literature on macroeconomic policy coordination) it follows that the bias is growing with international integration. This line of reasoning has often motivated proposals for coordinated fiscal expansions intended to overcome free rider problems in policies oriented towards output and employment.

This traditional view has been contested on several grounds, of which two important points are, the usual problems associated with the theoretical foundation of Keynesian models and the fact that policy evaluations are not based on an explicit welfare analysis but instead rely on arbitrary policy objective functions. A recent literature has overcome both of these critiques by considering optimal policies in explicitly formulated general equilibrium models (static and dynamic).
2.1 Terms of trade

The nexus of the traditional reasoning is that the demand leakage caused by trade means that the domestic policy authority only appropriates a fraction of the potential beneficial activity effects of e.g. a fiscal expansion. A natural policy response to this is for policy to try to “twist” demand away from foreign producers towards domestic producers based on the conjecture that this would imply that a given level of aggregate demand creates more domestic activity. In practice this is possible by expanding public consumption relative to private consumption since the former is more concentrated on domestic production, if for nothing else, because public consumption to a large extent is simply equivalent to the public sector hiring workers to perform various tasks. It is thus possible to argue that fiscal policy in the form of increased public activity always will involve such a “twist” effect. Historically, this type of policy has been used frequently, and it was in particular during the 1970's considered as an important way by which to respond to the deterioration of the external and internal balance problems, not least in Scandinavian countries.

The “twist” policy has a potential negative spillover effect for trading partners, which runs via the effects on the terms of trade. The basic effect is straightforward. A “twist” policy expanding public consumption and reducing private consumption will increase demand for domestic products and reduce the demand for foreign products, under the reasonable assumption that public consumption is more intensive in domestic products (employment) than private consumption. Accordingly, prices of domestically produced goods will increase relative to the price of foreign produced goods, the terms of trade will improve. This in turn implies that domestic real income increases. For policy makers acting non-cooperatively the “twist” policy thus has the potential beneficial side effect of improving the terms of trade, and this has to be included among the marginal benefits of an expansion of public consumption. The presence of a spillover effect is obvious here, and in the cooperative case where interdependencies are taken into account, it is clear that the terms-of-trade effect should not affect optimal policies. The reason is that the terms-of-trade effect

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4 Wage payments and salaries constitute the dominant part of public expenditures for all OECD countries.

5 The perception was that a trade deficit (too much net-demand for foreign products) could be reduced to counteract unemployment (too little net-demand for domestic products).
is a relative effect, i.e. each country perceives that they release this effect if they change policy while the trading partners do not change their policy (Nash assumption). In the (symmetric) cooperative case no such effect arises, since all countries change policy and the potential beneficial effects of an improvement in the terms of trade should not be included among the marginal benefits when deciding on the optimal level of public consumption.

Comparing the non-cooperative and cooperative level of public consumption straightforwardly leads to the conclusion that the former exceeds the latter, since marginal benefits are considered to be larger in the non-cooperative case where the terms-of-trade effect is perceived to yield benefits, while no such effect is present in the cooperative case. Non-cooperatively decided fiscal policies tend therefore to be biased in the direction of an in-optimal large level of public activity/consumption/employment. Note this result holds for optimal policies in an explicit general equilibrium setting. It is important to stress that the argument relies critically (see below) on a so-called “specialized” production structure, that is, countries produce commodities which are not produced in other countries, and a motive for trade arises because consumers prefer a diversified consumption basket including both domestically and foreign produced commodities.

Given that the conclusion that fiscal policy tends to be too expansionary runs counter to the standard result there has in the literature been devoted quite some effort to analyse whether this conclusion is robust. It turns out to be surprisingly robust. The result holds under a variety of assumptions concerning the structure of product and labour markets, that is, irrespective of whether markets are competitive or whether there are some market imperfections causing the level of activity to be in-optimally low (see e.g. Chari and Kehoe (1990), Devereux (1991), Turnovsky (1988) and van der Ploeg (1987,1988) Andersen and Sørensen (1995), Andersen, Rasmussen and Sørensen (1996)).

Moreover, the result does not depend on the sign of fiscal multipliers. The bias arises even if the twist policy contracts aggregate output, which is possible if the expansionary demand effects are dominated by contractionary supply effects arising via e.g. wage responses to the tax increases needed to finance increased

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6 The terms-of-trade effect of fiscal policy also arises in models with flexible exchange rates, as in e.g. the by now already famous “Redux”-model launched by Obstfeld and Rogoff (1995), see also Corsetti and Pesenti (2001).
public consumption. The reason remains that the terms-of-trade effect makes non-cooperative policy makers overestimate the potential benefits of expanding public consumption. (See Andersen, Rasmussen and Sørensen (1996)). The crowding-out effects are present in both the non-cooperative and the cooperative case.

Considering tax policy and the question of the optimal tax structure, a similar situation arises since the terms-of-trade effect implies that the optimal setting of tax rates should aim at twisting demand towards domestically produced goods to exploit the terms-of-trade effect (See Holmlund and Kolm (1999), Lockwood (2000)).

Finally, there is the question whether this interdependency is reinforced by further product market integration. If integration is seen as a process reducing frictions of various forms impeding trade across product markets in different countries, it turns out that there is no general theoretical conclusion on whether interdependencies arising via the terms-of-trade effect are strengthened or weakened (Andersen (2001b)). It is therefore not possible to conclude whether this problem will be strengthened or weakened as a consequence of further international integration.

### 2.2 Demand and cost spillovers

The terms-of-trade effect is debatable since it essentially implies that the fiscal authority attempts to exploit the market power, which the domestic economy has relative to its trading partners by being the sole producer of a particular set of commodities. It is an open question whether this structure matches the current European situation adequately. Basically, the specialized production model relies on exogenously given characteristics of commodities, which differ across nations. However, the European situation seems to match this assumption to a decreasing degree. An increasing share of trade and thus production is in commodities, which in principle can be produced anywhere in Europe (intra-industrial trade) - the domestic production can thus for an increasing share of commodities be replaced by foreign production (see e.g. Coppel and Durand (1999)). These products need not be perfect substitutes seen from the perspective of consumers, the crucial point is that the commodities to a decreasing degree are
dependent on country-specific factors of production, and therefore the location of production across European countries becomes more “fluid”.

Consider the case where production in principle can take place in any country, but trade frictions impede trade implying that countries may produce goods which they depending on the level of trade frictions and differences in comparative advantages either import, export or do not trade internationally. (See Andersen (2001a)). Consider a simple form of fiscal policy where workers are hired to perform various tasks (produce public goods). If labour markets - or other markets - are distorted such that aggregate activity is inefficiently low, the potential employment effect of a change in public activity could be a potential side benefit on top of the increase in provision of public goods and services. A country contemplating an increase in public consumption faces, however, two spillover effects. First, to the extent aggregate income or demand is affected; trade partners are affected since this affects demand for commodities they produce. This is the usual demand leakage effect known from Keynesian models, cf above. Second, there is a wage spillover effect due to both the direct effect of activity on wage formation, and the indirect effect from fiscal policy (taxes), which in turn affects the competitive position of the economy. Since production is internationally “mobile” it follows that competitiveness plays a different role than under a “specialized” production structure relying on an exogenously given distribution of production opportunities across countries. In the case considered here deterioration in competitiveness causes production to relocate.

An expansion of public employment may or may not in this setting expand private employment. If it is expansionary, the spillover effects outlined above become positive - an expansion of domestic public employment benefits trade partners, since both increase demand for the products they export, and give them a competitive advantage vis-à-vis the domestic economy. Oppositely, in the contractionary case, the spillover is negative, and activity for trading partners is reduced.

Comparing non-cooperative and cooperative policies lead to the following interesting conclusion. If an increase in public employment is expansionary for private employment (and thus

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3 This also holds in the models with specialized production, cf previous section.
unambiguously for total employment) it follows that non-cooperative policies are in-optimally low, that is, public employment is by non-cooperative decision makers chosen at a too low level, since the positive spillovers to trading partners (demand and cost) are not taken into account. Oppositely, if the policy is contractionary, public employment is expanded too much, since the negative effect on trading partners is not taken into account. This leads to the observation that with a more “fluid” production structure non-cooperative policies have a downward employment bias - if policies are good for private employment they are used too little, if they are bad, they are used too much.

Further product market integration in the form of a reduction in trade frictions makes it easier for foreign producers to penetrate into domestic markets, and vice versa. This implies that both the demand and the cost spillovers are strengthened, which in turn reinforces the bias in non-cooperative employment policies. It follows that further European integration will strengthen these interdependencies, and therefore increase the potential inefficiencies of non-cooperative policy making.

The mechanisms discussed above in relation to public employment may arise more generally in terms of not only employment oriented but also social and welfare oriented policies. Take as an example unemployment benefits. From a single country perspective there is a potential gain in competitiveness to be reaped by lowering unemployment benefits (presuming that more generous unemployment insurance arrangements lead to an upward wage pressure). If the perceived employment gains outweigh the costs of lowering unemployment benefits, a reduction in benefits may be implemented. Such a policy shift has a negative spillover effect to trading partners (beggar-thy-neighbour effect). Compared to the cooperative case, it is thus possible that non-cooperative policy makers implement excessive cuts in social and welfare related measures under the perception that this is beneficial for competitiveness and thus employment.

2.3 Taxation

Turning to the revenue side of fiscal policy there is a separate issue arising since mobility of some tax bases is facilitated by international integration. Accordingly, there may be a tendency that the
tax base moves to the area offering the most favourable tax treatment\(^8\), which puts public revenue under pressure. The mobility of various sources of taxation varies substantially. Obviously, financial capital is highly mobile (to which may be added intensified control problems) and the same applies to goods although explicit or implicit trade costs make an important distinction between which goods are actually traded internationally. Firms are also becoming more mobile, and it is increasingly possible to supply the European market from any place in Europe. Labour mobility within Europe is modest, and cultural and linguistic barriers are likely to preserve this situation for the foreseeable future (except for specialized groups – highly educated people)\(^9\). Finally, natural resources are obviously an immobile tax base.

Accordingly, countries with high tax levels will have a choice between either accepting that economic activity moves out of the country, which erodes the tax base and thus revenue, or reducing the tax rate to maintain the tax base, but still at the cost of lower revenue. This is a loser’s game seen relative to the need to finance welfare state activities, to which the policy maker can react by trying to shift the tax burden to other tax bases, or to cut welfare state activities. The former strategy raises the issue of shifting taxes from mobile to less mobile tax bases (Christensen, Hagen and Sandmo (1994)). For further discussion of the implications for tax policy see e.g. Norrman and Huber (2001).

Countries may also address the mobility of some tax bases more aggressively. Taxation of corporate income is a primary example of the international interdependencies in tax policy, since a country may choose a low tax rate in an attempt to induce companies to locate in the country\(^10\). The importance of this is reflected in the observed tendency towards lower taxation of corporations\(^11\), and the case of Ireland is often highlighted as an example of a country,

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\(^8\) Items on the expenditure side can also affect the mobility of firms, say infrastructure investments.

\(^9\) A separate question is that of social shopping or mobility, that is, the extent to which individuals and households relocate across European countries to take advantage of differences in taxation systems and social security arrangements. For evidence on the US see Brueckner (2000).

\(^10\) The knowledge on how tax base mobility can be affected by taxation is scant, but Gorter (2000) finds that a typical EU country increases its FDI position in another country by about four percent if the latter decreases its effective corporate tax rate by one percent.

\(^11\) This has, however, be accompanied by an expansion of the tax base, hence, tax reductions are not proportional to reductions in the rates.
which has exploited this mechanism with success. However, other countries cannot passively accept an outflow of activities, and will have to react by eliminating the tax motive for mobility, that is, effective taxation will have to be lowered. In the end this may lead to inefficiently low levels of taxation (as pointed out by e.g. Zodrow and Miekovsky (1986) and since by many others - see references in Sørensen (2000)). If tax rates are inefficiently low (seen relative to the cooperative case) it follows that tax revenues (from this source of taxation) are inefficiently low, and therefore potentially that public sector activities are inefficiently low.

Sørensen (2000) presents an interesting attempt at quantifying the effects of tax competition focusing on taxation of corporation and capital income, and the issue of coordination between EU and US. The model framework is a static model with immobile labour but mobile capital, which is imperfectly substitutable between the US and EU. Table 1 reports some of the findings, where the first column captures how the model is calibrated to the current situation of non-cooperative policy making; the second gives the outcome under regional cooperation (at the EU level) and the final column corresponds to global cooperation (EU countries and US). Comparing the situation with tax competition to that of global tax coordination Sørensen finds a difference in tax rates for corporate and capital income of about 15 percentage points, cf table 1. The aggregate welfare consequences are, however, modest when evaluated both for employment, GDP per capita and the used welfare metric. This reflects among other things that these taxes are not important sources of revenue. It is a general finding in the literature that quantitative assessments of the gains from cooperation tend to show small gains (see McKibbin (1997) for a survey of the empirical literature, see also below). However, Sørensen (2000) also shows that there may be important adverse distributional consequences since low-income groups tend to bear a proportionally larger burden of adjustment when tax revenues are reduced. Finally, note that the welfare gains for EU-countries

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12 The Primarolo-group (2000) considered 271 arrangements for the taxation of corporations in EU and associated areas, and found 66 cases in which the principle of non-tax competition was broken.

13 Baldwin and Krugman (2000) have contested that tax competition causes a race to the bottom, arguing that agglomeration effects do not make core and periphery countries symmetric, and therefore the scope for periphery countries to compete via low taxes (and other measures) for the location of firms supplying the core market is modest.
under global cooperation are about twice as large as from EU cooperation.

Even if the mobility of certain tax bases like capital income or corporate taxation is going to be substantial the consequences should be seen in perspective to the importance of these forms of taxation for overall public sector revenue. For most EU-countries the revenue raised via corporate taxation is contributing only a small fraction of overall public sector revenue, and the primary burden rests on taxes levied directly or indirectly on labour income. This may reflect that the tax structure already from the outset is fairly robust to integration, or that other issues are more important for taxation of corporations and capital income.

Table 1. Coordination of capital income taxation

<table>
<thead>
<tr>
<th>Tax competition</th>
<th>Regional cooperation</th>
<th>Global cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Capital income tax</td>
<td>Europe US</td>
<td>Europe US</td>
</tr>
<tr>
<td></td>
<td>33.8 40.1</td>
<td>46.5 42.4</td>
</tr>
<tr>
<td>Labour income tax</td>
<td>49.8 30.6</td>
<td>48.2 30.6</td>
</tr>
<tr>
<td>Transfers</td>
<td>100 100</td>
<td>102 104</td>
</tr>
<tr>
<td>Infrastructure</td>
<td>100 100</td>
<td>89 105</td>
</tr>
<tr>
<td>Capital per capita</td>
<td>100 100</td>
<td>100.4 100.2</td>
</tr>
<tr>
<td>Employment</td>
<td>100 100</td>
<td>99 101</td>
</tr>
<tr>
<td>GDP per capita</td>
<td>100 100</td>
<td>0.19 0.16</td>
</tr>
<tr>
<td>Welfare gain % of</td>
<td></td>
<td></td>
</tr>
<tr>
<td>GDP</td>
<td>- -</td>
<td>0.19 0.16</td>
</tr>
</tbody>
</table>

Source: Sørensen (2000).

As tax competition may arise in relation to corporations and financial capital, there is also a possibility that it may arise in relation to labour both in respect to taxation (special tax rules for experts etc.) which can be changed to attract particular types of labour and social standards (unemployment benefits, work rules etc.), which can be lowered to improve competitiveness or prevent inward mobility of people relying on welfare arrangements. Brueckner (2000) considers the latter issue and shows that if mobility is sensitive to social standards, there is a tendency that countries choose in-optimal low levels of social standards to prevent inward mobility of people relying on social welfare. Evidence is presented for the US, which indicates that this mechanism is
shaping welfare policies, if for nothing else because policy makers act under the perception that this is an important mechanism. However, the relevance for Europe is less obvious since labour mobility is low (although mobility of a few groups heavily dependent on social welfare can be a burden to any potential host country) and because EU rules have been designed to prevent this form of "social mobility". However, this does not preclude that indirect concerns (cf the discussion in section 2.3.) will exert a downward pressure on social standards under the perception that this will yield a competitive edge relative to trading partners.

3 Interdependencies in stabilization policies oriented towards shocks

The preceding discussion deals with level or long-run effects of fiscal policy, and is thus of relevance for the overall size and structure of the public sector. Different issues arise in relation to short-term stabilization policy to cushion economies from various types of shocks. Country-specific shocks are transmitted via trade, and therefore country-specific stabilization policies are also of consequence to trading partners.

The following discussion of international interdependencies in fiscal stabilization policies is based on two general observations. First taking an explicit welfare approach it follows that a welfare case for an active stabilization policy must rest on the fact that policy can diversify or cope with risks in a different way than the market mechanism, that is, there has to be a market failure in risk diversification (within or across countries) to justify policy intervention. The origin of such failures can be numerous including incompleteness of market structures, and information and incentive problems in financial markets. The public sector may to some extent have better scope for diversifying shocks both within and

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14 For recent evidence for the Scandinavian countries, see Pedersen, Roed and Schroeder (2002).
15 The basic principle is that free mobility applies for workers, and therefore is contingent on employment, that is, it is not possible to move to take advantage of differences in social standards for e.g. unemployed.
16 Although the so-called "new open macroeconomics" (see Obstfeld and Rogoff (1996)) has proved to be a very versatile research area surprisingly little effort has been devoted to the role of fiscal stabilization policy in an explicit business cycle context, and with a focus on international interdependencies in fiscal stabilization policies.
between periods especially for aggregate shocks, and this provides a potential welfare rationale for an active stabilization policy.

Second, shocks that are country specific in origin are via trade transmitted to trading partners. Take for instance a domestic productivity shock, which affects both the country in which it originates but also trading partners by changing quantities and relative prices. To the extent that private agents are unable to fully diversify all risks via capital markets, it follows that “foreign risk” via trade links has a negative effect on domestic welfare. To the extent that a stabilization policy can mitigate some of the risk, it follows that this may not only have domestic benefits but also benefits to trading partners, i.e. there is an international interdependency in stabilization policy. In summary, if agents are risk averse and an active stabilization policy can cope with risk, then there is also an international interdependency in policies directed at stabilizing business cycle fluctuations.

This issue is considered in Andersen and Spange (2002) in a setting of a two-country model. The model is static since absence of financial markets automatically precludes an important mechanism for risk diversification\(^\text{17}\), and the countries produce different commodities (specialized production), which are subject to productivity shocks. The public sector can absorb some of the risk by letting public sector activities (taxation and consumption) be state-contingent\(^\text{18}\). There may be a case for an active stabilization policy even when all prices and wages are flexible provided the business cycle risk cannot be diversified in private markets. However, with adjustment failures in the form of e.g. wage rigidities a larger burden of adjustment to shocks rests on quantities rather than on relative prices, and therefore the need and scope for an active stabilization policy may increase. Formal modelling supports this line of reasoning (Andersen and Spange (2002)).

Since shocks are transmitted internationally there is as noted interdependency in stabilization policy since a domestic stabilization policy via its absorption of risk contributes to affect risks for the trading partners. Interestingly, it is possible that non-cooperative stabilization policy may imply excessive stabilization if wages

\(^{17}\) Qualitatively similar results arise in e.g. an overlapping generations framework.

\(^{18}\) Technically, in the absence of state contingencies risk only affects private consumption, i.e. marginal utilities of private consumption become stochastic while the marginal utility of public consumption is deterministic. Optimal risk allocation entails that not all risk shall be borne by private consumption, that is, state contingencies in public consumption are welfare improving.
and prices are flexible, while with wage rigidities the non-cooperative case always leads to insufficient stabilization.

To assess the quantitative importance of the possible gains from active stabilization policies the following reports on a simple numerical simulation of the model (Andersen and Spange (2002)). The calculations presented below refer to the case where wages are rigid. Since large public sectors are often associated with relatively large automatic or budget stabilizers (van der Noord (2000)), a distinction is made between a country with a large public sector and strong automatic stabilizers, and a country with a smaller public sector and more weak automatic stabilizers. The model is calibrated such that the budget sensitivity in the non-cooperative case matches that observed for European countries with relatively large and small public sectors. The table shows the optimal policy response or state contingency in fiscal policy in the non-cooperative and cooperative case, as well as the reduction welfare loss due to risk attained by stabilization policy.

Table 2. Gains from active stabilization policy and international policy coordination

<table>
<thead>
<tr>
<th>Regime</th>
<th>Policy parameter</th>
<th>Loss reduction active policy</th>
<th>Gains from cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>G/Y</td>
<td>non-coop coop</td>
<td>non-coop coop</td>
</tr>
<tr>
<td>Large public sector</td>
<td>0.5</td>
<td>0.7</td>
<td>0.95</td>
</tr>
<tr>
<td>Small public sector</td>
<td>0.3</td>
<td>0.5</td>
<td>0.75</td>
</tr>
</tbody>
</table>

Source: Andersen and Spange (2002).

The table reports for each policy regime the fraction of the utility loss due to risk that is removed in the case of an active stabilization policy relative to a passive policy, for the case of both non-cooperative (non-coop) and cooperative (coop) policies. The last column gives the utility gain implied by moving from the non-cooperative to the cooperative case, i.e. this measures the gains from cooperation. Note that the cooperative outcome is found as the utilitarian solution to the policy problem, that is, utility in the two countries weights equally. It is seen that the gains from an active
stabilization policy are fairly large in the sense that the utility loss due to risk is reduced significantly. The gains from an active stabilization policy are larger, the larger the public sector and thus the optimal stabilization parameter. However, the gains from cooperation are small relative to the gains from an active policy in the first place.

The importance of international integration for both the gains from an active stabilization policy, and the gains from policy coordination can in this framework be assessed by changing the openness of the economy measured by the home bias in consumption, that is, the import share in private consumption. The base case reported above had the import share to be 30%, and in table 3 below this case is compared to one with an import share of 50%. The relative weights to utility of private and public consumption are unchanged across the two regimes of, respectively, a large and small public sector. Note that a change in openness induces a change in the optimal policy parameter, this reflects that risks are transmitted more strongly between more integrated trading partners, and the cooperative policy therefore calls for more policy-activism.

Table 3. Gains from active stabilization policy and increased openness

<table>
<thead>
<tr>
<th>Regime</th>
<th>Import Share</th>
<th>Policy Parameter</th>
<th>Loss reduction active policy</th>
<th>Gains from cooperation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>non-coop coop</td>
<td>non-coop coop</td>
<td></td>
</tr>
<tr>
<td>Large public sector</td>
<td>0.3</td>
<td>0.7 0.95</td>
<td>0.46 0.49</td>
<td>0.04</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>0.64 0.99</td>
<td>0.44 0.51</td>
<td>0.07</td>
</tr>
<tr>
<td>Small public sector</td>
<td>0.3</td>
<td>0.5 0.75</td>
<td>0.22 0.25</td>
<td>0.03</td>
</tr>
<tr>
<td></td>
<td>0.5</td>
<td>0.44 0.78</td>
<td>0.21 0.26</td>
<td>0.05</td>
</tr>
</tbody>
</table>

Source: Andersen and Spange (2002).

It is seen that more openness induces policy makers acting non-cooperatively to reduce the size of the stabilization parameter. The reason is that with more openness the spillover effect is larger, and therefore single policy makers perceive that the gains are smaller from an active stabilization policy than in a more closed economy. This captures the often-made argument that more integration
reduces the incentive of single governments to pursue an active stabilization policy due to free rider problems. Oppositely, the gains from policy cooperation are larger in more open economies, and as seen the policy parameter increases in the cooperative case when the economy becomes more open. However, quantitatively none of the effects on the gains from policy cooperation reported here could be argued to be large\(^\text{19}\). Relatively the gains from policy coordination almost double, but the initial levels are small, and therefore the overall effect remains modest, especially compared to the gains from an active stabilization policy in the first place.

4 Fiscal and monetary policy interactions

The previous sections have considered international interdependencies in fiscal policy disregarding potential interactions with monetary policy. However, a classical question in macroeconomics is how independent planning of fiscal and monetary policy affects the macroeconomic policy mix. A question, which becomes even more complex when fiscal policy remains a national issue for member countries in a monetary union in which monetary policy is delegated to a supra-national central bank. The theoretical literature on these issues is voluminous and contains a variety of results.

As a benchmark for the following discussion it is useful to take outset in an important result derived by Dixit and Lambertini (2000a, b) showing that in the case of commonly agreed objectives (targets for inflation and output, and their relative weighting) the first best can be achieved irrespective of the sequential decision structure between the fiscal and monetary authority, irrespective whether the fiscal authorities cooperate or not. Moreover, there are no additional gains to be reaped by monetary commitments. This points out that the question of interaction between fiscal policy and monetary policy only becomes of real importance once there is a conflict of interest (targets, weights). This result relies critically on the presumption that there are two targets (output and inflation) and two independent instruments (fiscal and monetary policy) implying that the "first-best" can be achieved by an appropriate choice of fiscal and monetary policy instruments.

\(^{19}\) Similar results are found for international monetary policy coordination, see Obstfeld and Rogoff (2001).
4.1 Target differences

A common presumption is that fiscal authorities are more concerned about output and less about inflation than the monetary authority. If the two authorities choose policy instruments simultaneously (Nash game), the outcome turns out under standard assumptions to be a too high output level and a too low inflation level compared to the cooperative outcome (see Andersen and Schneider (1986), Dixit and Lambertini (2000a, b)). This reflects that fiscal policy tends to be too expansionary and monetary policy too contractionary. This confirms common priors on the inappropriate policy mix arising when fiscal policy and monetary policy are not coordinated. In a more general model it turns out that output and inflation are “excessive” relative to the objectives of both the fiscal authorities and monetary authorities, that is, output is lower than target output for both authorities and inflation above, or vice versa depending on parameter values (Dixit and Lambertini (2000a,b)).

If monetary and fiscal policies are not decided simultaneously, an important question is whether it is an advantage for a given policy maker to be a leader or follower relative to the other policy maker. Dixit and Lambertini (2000a) consider this issue in a standard macro model where a policy mix problem arises due to different targets in a model where unanticipated monetary policy has real effects, and fiscal policy affects output and inflation directly. The central bank is assumed to be at least as conservative as the fiscal authority (in either output-inflation target and/or their weights). They show that leadership of either authority is better than simultaneous policy making. The reason is that the Leader anticipates the reaction of the Follower and thereby a sub-optimal race between the two authorities is avoided. It follows that the Follower has a strategic advantage in restricting the policy choices of the Leader. Discretionary fiscal policy is thus shown to eliminate the gains from monetary commitments, since the fiscal reaction function works as a constraint on monetary policy. This provides an argument for restricting fiscal policy. Dixit and Lambertini (2000b) present a variant of this result for a monetary union with decentralized fiscal authorities deciding on fiscal policy after monetary policy has been decided, i.e. the fiscal policy authorities are in a follower position. Oppositely, when fiscal policy is in a leader position, the monetary reaction function will
restrict fiscal policy decisions, and monetary commitment will matter.

A key question is thus which of the two sequential structures matches the situation within the Economic and Monetary Union most adequately. Is the empirical relevant case, the one where fiscal discretion can be exercised after monetary policy decisions have been made, or is fiscal policies decided taking monetary policy reaction into account as intended by the Maastricht assignment (cf introduction)? Section 4.2 discusses further the interaction between fiscal and monetary policy when the latter suffers a commitment problem (fiscal policy is discretionary relative to monetary policy), while sector 4.3 turns to the case where monetary policy reactions can be committed. It turns out that the two cases deliver significantly different implications on the interaction between fiscal and monetary policy.

4.2 Commitment problems

Lack of commitment in monetary policy may affect the level and structure of public sector activities as analysed in Beetsma and Bovenberg (1998). Consider a sequential structure where unions first determine nominal wages, the fiscal authority the tax rate, the monetary authority monetary policy (inflation) and finally public consumption follows from the public sector budget constraint. The monetary authority is assumed to be concerned about both inflation and output, and it is assumed not to be able to commit to a given reaction function (monetary policy is decided discretionarily after taxes are decided), implying that the fiscal authority obtains a strategic leadership relative to the monetary authority. If the fiscal authority raises the tax rate (which ceteris paribus allows for a higher level of public consumption) the employment level is reduced due to tax distortions. If the monetary authority cares about employment this will prompt a higher inflation rate, which in turn may benefit public finances via both more seignorage and a reduction in (non-indexed debts) real debt levels. The presence of the latter effects is important since it implies that there are fiscal benefits of inflation.

Increasing the number of participating countries and thus the fiscal authorities in the union implies that the strategic position of each single fiscal authority vis-à-vis the monetary authority is
reduced. The reason is that the monetary authority is concerned about union wide variables, and hence an increase in the tax rate in a single country matters less for aggregate employment the larger the monetary union. This in turn implies that the incentive to increase taxes is weakened and accordingly both inflation and public spending are reduced. A larger number of fiscal authorities thus reduce the inflation bias due to the absence of commitments as well as the spending bias caused by the strategic use of fiscal instruments vis-à-vis monetary policy. An interesting implication is that fiscal policy cooperation may be counterproductive. The reason is straightforward since cooperation among the fiscal authorities implies that they regain the strategic position vis-à-vis the central bank lost due to decentralized fiscal policy decisions, and accordingly, the inflation and public spending biases are reinforced. Subsidiarity in fiscal policy may thus be beneficial to the extent that the strategic position of fiscal policy is such that it reinforces commitment problems in monetary policy.

In an intertemporal context the mechanism may, however, run differently as explored in Beetsma and Bovenberg (1999). In this setting current debt policy affects future inflation, and constraining debt is a way by which fiscal authorities can make commitments concerning future inflation if the central bank is unable to do so. This holds even in the case of real debt since less current debt means less need for public revenue in the future and thus less need for distortionary taxes reducing e.g. employment. Clearly, this effect is weaker the larger the number of fiscal decision makers; hence, debt accumulation and credibility problems may be larger in a monetary union with decentralized fiscal policy. However, even though monetary unification leads to more debt accumulation, it is only excessive if there are political distortions (in the form of myopic governments). This also has implications for stabilization policy. In the presence of business cycle fluctuations the fiscal authorities face a choice of distributing the consequence of shocks over the present and the future (via changes in public debt). Since low debt levels work as a commitment for future inflation, and this mechanism is weakened with monetary unification, it follows that fiscal authorities in a monetary union will tend to let debt absorb a larger fraction of the shocks. Or to put it differently, the costs of

20 Chari and Kehoe (1997) analyse the case of nominal debt and the incentive of central banks to reduce real debt via inflation. The larger the union, the larger this problem and debt ceilings may be an appropriate solution to this problem.
changing debt levels are perceived to be smaller in a monetary union, and more variability in debt levels leads to larger variability in inflation.

An important shortcoming of the models referred to in the present section is the fact that trade links are not included, that is, the interdependency between countries arise solely from the fact that they share the same monetary policy. Such interdependencies are present in Beetsma, Debrun and Klaassen (2001) addressing commitment problems in relation to stabilization policy in a monetary union. The specific setting is a two country model of a monetary union in which both monetary policy and fiscal policy can affect demand as can various types of shocks, and output is determined by a Lucas type aggregate supply relation. The preferences of the central bank and the fiscal authorities differ, and the latter may differ from the social welfare function. In the base cases considered there is a policy mix problem between monetary and fiscal authorities due to lack of commitments (inflationary surprises drive output). Accordingly, cooperation between fiscal authorities may be counter-productive since it reinforces the inefficiencies in the game between fiscal and monetary policy. This corresponds to the findings of Dixit and Lambertini (2000a, b) showing that cooperation between fiscal authorities in a monetary union may reinforce the inefficiencies present in the interdependencies between monetary and fiscal policy.

4.3 Inflation targeting and stabilization policy

A basic idea underlying the European Monetary Union has been to set up an independent central bank with price stability as its primary objective to ensure monetary commitment (the Maastricht assignment). This section turns to an analysis of how fiscal and monetary policy interacts, when the latter is committed to price stability. This is here interpreted in the sense of strict inflation targeting (see Svensson (1999, 2000)).

A first step in addressing this question is taken by Leitemo (2000) who considers how inflation targeting affects fiscal policy making in an open economy model with a trade-off between activity and inflation, a flexible exchange rate and fiscal policy affecting aggregate demand. If the fiscal authority perceives the monetary policy rule (the Stackelberg case) corresponding to the
"Maastricht" assignment no policy mix problem arises, since the fiscal authorities realize that monetary policy pins down the output level, in which case an active fiscal policy contributes to stabilize interest rates and exchange rates. Note that it is a model property that the inflation targeted depends only on output. The intuition for the above-mentioned results is thus that inflation targeting works as a constraint on fiscal policy, making it more difficult for the fiscal authorities to pursue an employment target in excess of the equilibrium level.

Decentralized fiscal policy is introduced in this framework by Sveen (2001), by "splitting" the domestic economy up in two fiscal jurisdictions, and allowing for idiosyncratic shocks to output in these areas. When fiscal authorities are in a leader role vis-à-vis the monetary authority (i.e. monetary rule known = inflation targeting) the non-cooperative case tends to produce a stabilization bias. The bias arises since the fiscal policy response to idiosyncratic shocks to output is too weak compared to the cooperative case, since the single fiscal authority does not take into account that the shocks via traditional international interdependencies affect other countries and there thus is a positive externality in stabilization policy.

In Andersen (2002) this line of analysis is extended to a setting which allows for a more general modelling of spillover effects between countries, the monetary transmission mechanism and a variable number of member countries. In addition the set-up allows for both aggregate demand and supply shocks, which can be both idiosyncratic and aggregate. Specifically, consider a standard setting where inflation is determined by a Phillips-curve relating price(wage) increases to domestic aggregate activity, fiscal policy and possibly various shocks (demand and supply). Activity is demand determined, and aggregate demand depends on the real rate of interest, the term of trade (costs externality) as well as on fiscal policy and aggregate income in the monetary union (demand externality) as well as possible shocks. There are a number of

21 There is a so-called state-contingency in fiscal policy (see Svensson (1997) since the fiscal stance depends on the realization of the inflation measure targeted, provided the fiscal authorities are concerned about not only stabilization of output but also exchange rates and interest rates.

22 There is still a passive "outside" country.

23 There is a state contingent bias in the aggregate fiscal stance, which is positively increasing in the inflation measure targeted. However, since expected inflation is zero, there is no systematic bias in the aggregate fiscal stance.
independent fiscal authorities choosing their fiscal policy non-cooperatively.

Assume that the monetary authority uses its power to determine interest rates to target expected inflation, and that fiscal authorities knowing the monetary regime choose fiscal policy to minimize a loss function specified over output variability and variability in the fiscal policy instruments. In this setting there are various interdependencies between countries. One type – monetary policy externalities – arises from any action affecting country specific inflation and therefore in turn aggregate inflation in the monetary union to which the monetary authority would react. A second type arises via trade (trade externalities)\(^{24}\), where a domestic fiscal expansion would benefit trading partners by increasing the level of export demand they are facing as well as by improving their competitiveness (domestic inflation will increase relative to that of other countries). The latter link implies that fiscal authority will be concerned about the domestic inflationary pressure due to its consequences for trade, even though the monetary authority is targeting aggregate inflation in the monetary union.

Inflation targeting produces a number of surprising and interesting findings on the interaction between fiscal and monetary policy. Whether fiscal policy is expansionary or contractionary does not depend on how it affects aggregate demand. The reason being that the direct demand effect is neutralized by monetary policy since aggregate demand is managed by the monetary authority so as to target inflation. However, if fiscal policy has a direct (temporary) effect on the inflation process, it has an expansionary effect on output effect if it reduces inflation, and a contractionary effect if it adds to inflation. For the same reason one finds that a demand shock which tends to increase both activity and the inflationary pressure in the economy becomes contractionary, and oppositely, for a supply shock increasing output and decreasing inflation.

In the non-cooperative case the fiscal reaction function depends on current output and expected country-specific inflation. The response to output is in general ambiguous, the traditional effect on aggregate demand tends to make it counter-cyclical, but since a fiscal expansion tends to increase union wide inflation (monetary policy externality) and this triggers a monetary contraction there is

\(^{24}\) In accordance with models with a more explicit micro foundation of product market interdependencies, see section 2 above.
an effect tending to make fiscal policy pro-cyclical. The larger the number of fiscal decision makers in the monetary union the larger the former effect and the smaller the latter effect, and hence fiscal policy tends to be counter-cyclical if the monetary union is sufficiently large. The response to (future) domestic inflation is unambiguously negative, that is, an increase in future domestic inflation will deteriorate competitiveness and therefore reduce inflation and a forward looking fiscal authority interested in stabilizing activity will dampen this effect by contracting fiscal policy.

Aggregate shocks create a policy mix problem since fiscal authorities try to stabilize such shocks via fiscal policy responses but with insufficient attention to the monetary policy externality. Non-cooperative policy making thus tends to be excessively counter-cyclical to aggregate shocks. For idiosyncratic shocks the situation is opposite. Single countries perceive that a change in fiscal policy affect the common monetary policy and adding this to the trade externalities it follows that fiscal responses become insufficiently counter-cyclical relative to the cooperative case. The policy mix externality present in relation to aggregate shocks is larger the greater the number of fiscal decision makers within the monetary union, while oppositely in the case of idiosyncratic the inefficiencies caused by non-cooperative policy making are decreasing in the number of fiscal decision makers within the union.

To see the importance of these mechanisms more clearly, it is useful to turn to some numerical illustrations (cf Andersen (2002)). The numerical illustrations reported here rely on a number of parameter values the precise value of which can be debated given the simplified structure of the model. A key parameter is the cyclical sensitivity of fiscal policy, and the parameters have been calibrated such that the fiscal policy variable (0.6) in the non-cooperative case is counter-cyclical wrt to output fluctuations with a numerical elasticity of about 0.6. This implies that the fiscal variable is interpreted as the budget deficit, and the sensitivity corresponds roughly to the level of automatic stabilizers on average across EU-countries (see van der N oord (2000)). However, the numerical exercise is not to be interpreted as a calibration, but only as a numerical illustration providing a first quantitative idea on the strength of the mechanisms considered here.

The Figures 1 to 3 illustrate the loss under non-cooperative policy making relative to the loss under cooperative policy making.
as a function of the number \((n)\) of member countries or fiscal authorities in the monetary union. In the case \((n=1)\) the non-cooperative and cooperative case are obviously identical. Observe that the relative loss does not say anything on the absolute level of the loss, that is, they do not answer the pertinent question of whether the gains from an active stabilization policy are large or small. Considering relative losses across the two regimes has the advantage that there is no need to take a stand on the variability of shocks. It is an implication of the results reported in e.g. figure 1 that if the gains from an active stabilization policy are large, then the costs of non-cooperative policies are also large, however, if the former are small, the latter may also be small. Finally, note that the loss function is not derived from an explicit welfare approach but gives the loss function of the fiscal authority assumed to represent the electorate.

**Figure 1. Relative loss: non-cooperation. Aggregate shocks**

![Figure 1](image)

Source: Andersen (2002).

In the case of aggregate shocks it is seen that the loss under non-cooperative policies can be a factor 2 or larger than in the cooperative case, cf figure 1. The relative loss is increasing in the number of fiscal authorities due to the policy mixexternality outlined
above. The relative loss flattens out when the number of fiscal authorities increases, hence, an increase in the number of fiscal authorities from 12 to say 20 implies that the loss in the non-cooperative case will increase from being approximately 2.3 times as large to be 2.4 as large. Enlargement of the EMU may thus reinforce a policy mix problem, but relatively little compared to the problems already present.

In the case where shocks are completely idiosyncratic in the sense that they do not aggregate to something of common importance within the currency area we find that the relative loss due to non-cooperative fiscal policy making (evaluated for otherwise unchanged parameter values to the case of aggregate shocks) is much smaller, cf fig 2. Note that idiosyncratic shocks are only well-defined with at least two member countries in the monetary union. The loss under non-cooperation is always less than 1.5 of that under cooperation. Moreover, we find that the relative loss is decreasing in the number of fiscal authorities, but the relative loss function is relatively flat in \( n \), that is, variations in \( n \) do not seem to matter much for the gains from cooperation.

Figure 2. Relative loss: non cooperation. Idiosyncratic shocks: Low elasticity

Source: Andersen (2002).
The theoretical analysis implies that trade externalities running via aggregate demand are of no importance under strict inflation targeting. Hence, further integration increasing the demand link in aggregate demand does not affect the policy-mix problem related to aggregate shocks. However, for idiosyncratic shocks international integration has importance if it increases the sensitivity of demand to the terms of trade (the cost spillover). Figure 3 brings out that if the price elasticity is high implying that there is a larger concern the cost spillover in fiscal policy, then the cost of non-cooperative policy making is somewhat larger, and a non-trivial cost remains even when the number of member countries increases.

Figure 3. Relative loss: Non-cooperation. Idiosyncratic shocks: High sensitivity

Source: Andersen (2002).

The numerical illustrations reported here suggest that the coordination problem can be of substantial importance for aggregate shocks while it is of little importance in the case of idiosyncratic shocks. Moreover, it shows that an increase in the number of fiscal decision makers tends to reinforce the policy mix problems in addressing aggregate shocks, but to decrease the problems related to the appropriate policy response to idiosyncratic shocks. It follows that a monetary union adhering to a target of price stability
is not necessarily problematic for the response to idiosyncratic shocks, provided that the number of fiscal decision makers is sufficiently large (the number of participating countries in the union is sufficiently large). This result presumes that there are no limitations (like binding budget norms) on the ability of the fiscal authorities to respond to idiosyncratic shocks. This finding is interesting in the perspective of the traditional discussion of the need to maintain policy instruments to cushion idiosyncratic shocks in a monetary union (see e.g. Mundell (1961)). The present analysis confirms this, but also highlights that the issue of policy mix problems is related to aggregate shocks.

One important lesson of this section is the importance of monetary commitment for the interdependencies in fiscal policy. In the absence of monetary commitment in the sense that fiscal authorities take monetary policy responses for given when deciding on fiscal policy, there is a policy mix problem since fiscal discretion unravels the effects of monetary commitments and this effect is reinforced with fiscal policy cooperation. In this setting there are arguments for restraining discretionary powers in fiscal policy. Oppositely, with monetary commitment implying that fiscal authorities plan under full knowledge of monetary policy reaction to fiscal policy, there is also a policy mix problem, but it is reduced with fiscal policy cooperation. In this case flexibility in fiscal policy is important, not least in respect to stabilization of idiosyncratic shocks.

5 Implementing cooperation

The preceding sections have considered the issue of macro-economic policy interaction and the need for policy coordination in various stylized theoretical contexts. The aim has been to highlight possible international interdependencies or externalities, which fiscal policy actions may have. In a way the outcome of such an exercise may seem obvious in the sense that non-cooperative outcome is never dominating the cooperative outcome. There are, however, a number of aspects to be considered before such a firm conclusion can be made.

First, the dominance of the cooperative outcome requires that there is cooperation between all decision makers among whom actions are interdependent. However, in practice usually only a
subset of countries can agree to cooperate. In the case of the EMU it is clear that monetary policy cooperation is among a subset of countries in the EU, and even in cases where there is cooperation between all EU countries not all relevant externalities are internalised since there is also e.g. trade with non EU-countries. Sørensen (1996)\textsuperscript{25} develops a case showing that when cooperation only takes place among a subset of countries it may be lead to a welfare loss, even when there is an incentive to cooperate.

Second, even if the cooperative outcome dominates the non-cooperative outcome there is a question on how to sustain the cooperative solution without single countries deviating in an attempt to obtain a beneficial outcome. It is well known from the theoretical literature that the cooperative solution can be sustained under non-cooperative behaviour under so-called trigger strategies provided that policy makers are forward-looking and do not discount the future to much (see e.g. Persson and Tabellini (1990)). However, it is widely agreed that these conditions are not necessarily fulfilled for many macroeconomic policy issues. To this may be added that in the realistic case where countries differ, it becomes even more difficult to sustain the cooperative outcome under non-cooperative behaviour (see e.g. Jensen (1994)). One way by which to overcome some of these problems is to set up independent institutions with well-defined objectives, so as to reduce the possibility that policies are influenced by short-term political factors or incentives to deviate from policies which in the long-run are better. This is the basic idea motivating the way in which the European Central Bank has been set up.

Third, the cooperative solution stipulates in general different actions to be taken by different policy makers depending on the structure of the economy, the shocks, preferences etc. (see e.g. Beetsma and Bovenberg (2001)). Practical solutions tend, however, to involve some degree of uniformity or centralization for all participating countries. While this is obvious in some cases (the ECB cannot decide on different interest rates for the participating countries), it may induce arbitrary constraint in others. Is it for instance obvious that all countries should operate under the same budget and debt norms? Centralization may be a practical way by which to reap some of the gains from cooperation, since the cooperative solution may be very difficult to implement (infor-

\textsuperscript{25} Sørensen (2000) shows that cooperation between a subset of countries can be beneficial, although the gains are smaller than with global cooperation.
In the theoretical literature it is well known that the gains from centralization should be weighted against the flexibility and ability to adjust to specific characteristics, which tend to be the hallmark of more decentralized solutions. To this may be added that centralization adds incentive or moral hazard problems to the extent that single countries attempt to free ride on the action taken by the centralized decision maker (see e.g. Persson, Roland and Tabellini (1999)). The latter has only been explicitly considered in section 4, but it is a general phenomenon, which needs to be taken into account.

A related aspect is that of club goods. The integration process and cooperation between countries may create something, which might not come into existence in its absence. One example is again the Euro. A club good is characterized by the fact that the benefits accrue to all participating countries. Accordingly, there is a common interest in improving the qualities of the club good, but also incentive problems related to free riding. A club good relies on the existence of a centralized decision maker responsible for the club good (see von Hagen and Mundschenk (2001)). Once in existence the club good raises many of the same issues as those of non-cooperative policy making relative to cooperative policies. Note that even though the club good defines policies in a certain area, say price stability, there are still interdependencies to the extent that other policy instruments, say fiscal policy, affect price developments. Hence, there is an issue to the extent that other policy instruments left at single member countries discretion influence the club good. The discussion in section 4 can be seen in this perspective. The central bank is trusted with provision of the club good – price stability – but even in the case where it is able to control inflation perfectly there are non-trivial interdependencies between fiscal and monetary policy instruments.

Finally, there is an important theoretical distinction to be made between cooperation and coordination of economic policies. The former requires that policies are decided under consideration of both the direct consequences for the decision maker as well as the derived consequences for its partners. Coordination means that policy makers should exchange information, and possibly change their actions in some common direction. This is relevant in the presence of a coordination failure, that is, when non-cooperative decision-making leaves several equilibria, which can be Pareto-ranked. In the case where decision makers end up at a Pareto-
inefficient outcome there is a coordination failure since if they could coordinate their action they could - still as a non-cooperative outcome - reach a better outcome (see Cooper and John (1985) for an introduction to the literature on coordination failures). A necessary but not sufficient condition for a coordination failure is a strategic complementarity in policy making - that is, if one country tends to move its policy in a certain direction it strengthens the incentive of other countries to do the same. Few examples of coordination failures in international policymaking have been developed in the theoretical literature, see however Jensen (1999).

5.1 Pigouvian approach

The theoretical work considered above has mainly taken it for granted that policy is chosen so as to maximize the social welfare function, and policy intervention is therefore motivated in failures in the economic system. In this setting the issue of policy coordination becomes a question of comparing optimal policies in the non-cooperative case with the optimal policies in the cooperative case. A Pigouvian case for policy cooperation arises if there are externalities which are not taken into account in the policy making process of single countries, or to put it differently, cooperation is a means by which to internalize externalities.

This approach presumes that policies are chosen optimally given some welfare function or commonly agreed social objective function. This cannot be taken for granted and policies may be formed under Partisan influence or other imperfections in the political system. If so, the premise of optimality for both non-cooperative and cooperative policy making considered above is not justified. Various forms of political inefficiencies have been explored in the literature.

One obvious reason for policy failures arises if policy makers act on the basis of incomplete or imprecise information. Frankel and Rockett (1988) develop a case where the lack of information implies that policies are chosen under a potentially wrong assertion of the structure of the economy (the "wrong" model). While this obviously implies that policies may be misdirected it is also possible that policy coordination may be counterproductive and lead to an even worse outcome since the misperceptions may be reinforced in cooperative policies.
Policy makers are in general unable to commit many forms of policy decisions, (Rogoff (1985), Kehoe (1987)), implying that they suffer from credibility problems. When policies are distorted due to a credibility problem or lack of commitment, policy cooperative may be counter-productive. The reason is that international coordination may reduce the costs of policy surprises and therefore reinforce the credibility problem, which cause policies to deviate further from optimal policies\(^{26}\). However, this result depends crucially on the strategic position of the government vis-à-vis the private sector (Jensen (1997)), and if the private sector acts non-atomically the result may reverse.

Finally, if policies are determined through a political process political distortions may arise. Tabellini (1990) considered this problem and found that cooperation may be counterproductive since it may reduce the costs of running distorted policies. The case developed was a two-country model with political uncertainty (risk of not being re-elected) causing the incumbent government to prefer policies biased towards its own preferred type of government activity and tending to underfinance (creating budget deficits) such activities, since the repayment of debt with a certain probability would be a burden for a future government. In this setting deficits are inefficient since they reflect the political uncertainty, and they would not be part of the ex-ante optimal policy decided before the veil of ignorance is lifted. With non-cooperative policy making the incentive to run budget deficits is, however, counterweighted by the fact that it leads to an increase in the real rate of interest via a term of trade effect\(^{27}\). In the cooperative case the terms-of-trade effect is not present, and hence, the check on government borrowing is less strong. It follows that policy cooperation may be counter-productive due to the inefficiency in the political system.

Alesina and Perotti (1995) argue that the standard argument for centralization of fiscal stabilization policy relies on the pooling, which can be achieved at a centralized level compared to

\(^{26}\) This result hinges on the extent to which there are other imperfections. Jensen (1997) shows that policy co-ordination may be beneficial even in the presence of credibility problems, when wages are set by unions possessing market power.

\(^{27}\) As in the models in section 2 there is a terms-of-trade effect. A debt financed expansion means that the government raises the terms of trade in the period in which it increases demand, and lowers it in the future when the debt is repaid. Accordingly, this temporary change in the terms of trade causes an increase in the real rate of interest on government debt.
decentralized fiscal policies (and also possibly internalizing the externality arising from tax base mobility, see section 2.3.). However, the centralized solution may also imply that a larger number of individuals participate in the decision making process and this may increase the diversity of the electorate base causing an increase in uncertainty about e.g. tax rates. Hence, there is a trade-off between the gains from pooling of tax bases and the costs in terms of higher tax rate uncertainty, and Alesina and Perotti (1995) demonstrate that the latter may dominate and thus imply that centralization is a bad outcome compared to decentralized stabilization/insurance policies. Centralization of social insurance or stabilization policy also creates incentives or moral hazard problems since single governments may take insufficient action and they rely on the actions of the centralized authority or the cooperative actions of all other member states.

The important lesson is that outside the Pigouvian-setting additional problems in policy design may arise due to failures in the political system. However, the empirical importance of these issues for international policy cooperation remains an insufficiently researched area.

5.2 Institutional competition

To the extent that policy decisions are influenced by failures in the political system institutional competition across countries may be beneficial. The argument is that such failures will be more transparent and easier to contest when they are measured up against policies and performances in other countries. Another argument often raised against policy cooperation is that it tends to imply centralization and adoption of uniform solutions tending to be rigid and inflexible with insufficient attention paid to country-difference. A further argument is that competition among national policies is preferable because a portfolio of national mistakes reduces the risk of major damage (Collignon (2001)).

Consider the important question of whether increased integration causes a pressure on domestic policies addressing social and/or employment related problems. If the initial situation is inefficient due to the influence of various interest groups on actual policies, and therefore is characterized by structural problems, it follows that a competitive pressure induced by international integration
may be beneficial, since it makes it more difficult to maintain inefficient policies. This is related to the TINA (there-is-no-alternative) argument - originally discussed in relation to entry in the Economic and Monetary Union, and raising the issue whether it would be easier to implement structural labour market reforms once the possibility of accommodation excessive wage increases via monetary/exchange rate policy is eliminated (see Calmfors (1998,2001)). A similar argument can be made to the extent that the initial tax structure is inefficient (e.g. too high capital income taxes) where tax base mobility may enforce a policy shift in the wanted direction. Institutional competition may limit the possibilities that policies are formed under the influence of narrow partisan interests.

The rationale for many public sector activities is, however, market imperfections. Sinn (1997) argues forcefully that introducing institutional competition in areas where policy intervention in the first place is motivated by market failures can be very problematic. When countries compete for e.g. mobile factors of production and over tax bases, they may re-introduce some of the very market failures, which in the first place gave a rationale for government intervention. One example is insurance provided via public sector activities (contingencies in taxes and various forms of services offered), which are motivated in market failures due to e.g. adverse selection problems. The reason for the market failure is that competition among insurance companies trying to select the low risk groups causes the market to malfunction, but precisely the same mechanism is released when there is system competition among countries with e.g. high labour mobility. Other examples analysed in Sinn (1997) are the financing of infrastructure investment, and quality control.

The stand on institutional competition therefore depends on whether one primarily sees public intervention as an attempts to correct market failures, or whether they are formed under the influence of rent seeking behaviour and other forms of political failures. If the former applies, institutional competition may be harmful, if the latter it is potentially beneficial.
5.3 2nd best policy arrangements

As argued above the practical implementation of the cooperative solution is not straightforward and actual policy cooperation and coordination among countries includes a variety of possible instruments.

The widest ranking is delegation to supra-national institutions, where a single agency is made responsible for actions applying for a number of countries. Often the objectives are defined fairly precisely, but the institution is left with instrument freedom. One example is the European Central Bank, which has price stability as its primary objective and instrument freedom. Another important example is the task of monitoring the rules of the single market. Delegation has various problems both economically and politically. The economic problems arise because policy areas are not independent. Delegation to a centralized authority tends to yield maximum concern for overall stance, but little flexibility wrt country specific differences. In some cases the latter is not wanted, e.g. single market, while it in others for instance is macroeconomic policy. The political problems relate to political control and accountability of such institutions.

Countries may enter binding rules such that the sovereignty and the ability to manoeuvre for single countries is retained, but within limits. This is a more flexible solution than delegation, but also a less precise way of controlling policies. Often such rules are one-sided, that is, aiming at preventing that policies develop too much in a disadvantageous direction. Examples include taxation (minimum rules for value added taxes, budget norms). An overriding concern is the form of sanctions used to support these limitations – what happens to a country, which violates the rules? Without sanctions the credibility of the rules is an open question.

Focus on best practices and benchmarking can be used in an attempt to influence policies in a certain direction, and thus foster institutional competition. Listing and comparisons of policies in certain areas, where use of quantitative measures/scores can be used to indicate or rank countries can be a way to influence policies in a certain direction. This may be useful in areas where there is broad political consensus on the need for actions, but little willingness or scope for entering a more formal way of coordinating economic policies.
Finally, the weakest form is information exchange and peer pressure. Collection and dissemination of information on a comparable basis to point out how single country policy choices fit into the broader picture, as well as possible consequences for third party countries, may exert an implicit pressure on single-country policy making. Likewise general recommendations on economic policies can also be used to influence policy decisions.

5.4 EU coordination and cooperation

EU is an explicit cooperation between independent nations with the overall structures laid out in the European Treaty. The need to coordinate and cooperate on policy initiatives arises in various contexts, and the procedures adopted to this end reflect the institutional structure of EU and the various political processes initiated in different policy areas. Actual policy cooperation and coordination is therefore largely based on consensus as it “does not aim to impose a decision on a particular Member State but to convince it to apply the policy deemed to be desirable” (European Commission (2001b, p 2).

The European Treaty explicitly states (article 99) that “Member States shall regard their economic policies as a matter of common concern and shall coordinate them within the council”. Specifically, the Council proposes to the European Council “broad guidelines for economic policies” (BGEP). Attached to the guidelines is a multilateral surveillance of economic policies, and the possibility that the Council (by a qualified majority) may make recommendations on economic policies in member countries. The BGEP is an umbrella encompassing various issues related to specific policy areas including the so-called Luxembourg process (employment), the Cardiff process (single market), and the Cologne process (social dialogue). In addition there are the “Excessive Deficit Procedure” and the “Stability and Growth Pact” attached to the Economic and Monetary Union. Generally, the means are surveillance and information dissemination, which through peer pressure is expected to influence economic policymaking (ultimately in the form of recommendations made by the Council to specific countries on its economic policies). The following considers in more details the specific areas of fiscal and employment policies.
Fiscal policy

The “Stability and Growth Pact” requires that member countries keep their budget position close to balance or surplus in the medium run. In addition public finances are constrained by the budget norm (budget deficits not to exceed 3% of GDP) and the debt norm (debt not to exceed 60% of GDP), which however, can be dispensed in special circumstances. The system has a medium term early warning system in the form that countries submit annual “stability programmes” (convergence programmes for non EMU countries) as well as a short-term system for monitoring the implementation of the stability programme. The “Excessive Deficit Procedure” stipulates that the ECONFIN council can decide by qualified majority whether a budget deficit is excessive, make recommendations on necessary policy changes, and in the case an excessive deficit persists apply sanctions in the form of non-interest bearing deposits28.

The presence of a sanction makes the arrangements concerning fiscal policies rather unique, but the credibility of these sanctions has not yet been tested. However, the European Council did make a recommendation to Ireland in February 2001 based on an evaluation that a fiscal expansion was not consistent with the requirements for economic stability.

While the fiscal norms may play some role in dealing with the potential externality running from public deficits and debts to monetary policy (see e.g. Andersen (1997) for a discussion of this issue), it is equally clear that it does not directly address the interdependencies related to the policy mix problems discussed above in section 4. To this end the rules should address the overall fiscal stance in the Euro-area (cf section 4.3), and therefore policy mix problems may still arise within the EMU29. There have also been cases where coordination of policies has failed, e.g. tax reforms have not been announced in advance precluding coordination etc.

There is a growing concern whether the existing mechanisms ensure an appropriate policy mix between fiscal and monetary

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28 The non-interest bearing deposit constitute 0.2% of GDP plus 1/10 of the difference between the actual deficit to GDP ratio and the reference value of 3%. The deposit cannot exceed 0.5 % of GDP, and it can be converted into a fine provided the excessive deficit situation has not been corrected within 2 years.

29 As seems to have been the case – though in a moderate form – with fiscal tightening and monetary loosening in 1999, and vice versa in 2000, cf European Commission (2001).
policy (European Commission (2001b)), and proposals are considered to strengthen policy coordination.

**Employment policies**

There is an increasing concern that policy making in single countries can be in conflict with the overall objectives of the member countries. In particular in the employment area there is a worry that countries may pursue policies with detrimental consequences for the overall employment situation in the union. There has been a growing political pressure for the EU to take a more clear responsibility with respect to employment, and this has resulted in an explicit employment objective. Article 2 of the Amsterdam treaty (June 1997) reads

“Member States ... shall regard promoting employment as a matter of common concern and shall co-ordinate their action”.

In an interpretation of the treaty the EU commission writes:

“Embedded throughout the approach set out in the Treaty is a recognition of the interdependence of employment policies pursued in Member States, and the need for coordination to ensure that measures to support employment in one Member State do not negatively affect progress in others. The notion of employment as a matter of common concern stresses that member states, in pursuing their own employment policies, should be contributing to a ‘positive sum game’ across the union.”

The employment strategy builds on four pillars: Employability, Entrepreneurship, Adaptability and Equal Opportunities. The primary means of achieving the objective is multilateral surveillance in the form of reporting on labour market performance and policy initiative, and the hope is that information exchange and peer pressure will make policies change in the right direction.

These statements referred to above recognize that there are interdependencies in employment policies across European countries, that they are growing, and that non-cooperative policy making may lead to policies which are not beneficial for the overall employment level. However, the steps taken in this area rely on best practices, benchmarking, information, and peer pressure, and they must therefore be considered to be rather weak.

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30 See: http://www.europa.eu.int/comm/employment/_social/empl/ & esf/amst/_en.htm
6 Concluding remarks

International integration strengthens interdependencies in economic policy, but tends to reduce the scope for national policies to control national economic performance. These effects work primarily through integration of capital and product market, and they are therefore present independent of participation in the Economic and Monetary Union. Membership of the Economic and Monetary Unions will reinforce the integration process, but the quantitative importance is an open question.

In general there is a case to be made for more policy cooperation as a way to react to the fact that the economic sphere grows beyond that of the national state. However, the policy cooperation called for is in many cases very demanding in terms of information and the adaptation to different structures etc. in various countries.

For countries emphasizing egalitarian objectives and therefore having a stronger focus on employment and social objectives, there is a particular risk that the integration process will induce a downward pressure. From this perspective there may in such countries be a stronger interest in trying to achieve some policy cooperation in the form of e.g. minimum standards or other measures attempting to reduce the tendency for “race-to-the-bottom” effects.

In a scenario where policy cooperation is to be achieved in a political process with representatives from various countries it is unlikely that the ideal can be reached. This is not only due to political inefficiencies but also due to lack of information and sufficiently targeted policy instruments. Moreover, attempts at quantitative assessments of the gains from policy cooperation tend to find these to be small; hence, it is an open question whether the benefits justify the costs of establishing very complicated forms of policy cooperation.

Participation in the Economic and Monetary union raises further questions concerning the need for policy cooperation to ensure an appropriate mix between monetary and fiscal policy. This problem may be reinforced by the fact that monetary policy is centralized and focusing on price stability, while fiscal policy decisions remain decentralized. The extent to which there is commitment of monetary policy (objectives and reactions) turns out to be crucial for the interdependencies between fiscal and monetary policy.
In the absence of monetary commitment problems arise when fiscal authorities take monetary policy actions for given when deciding on fiscal policy. A policy mix problem arises since fiscal discretion unravels the effects of monetary commitments and this effect is reinforced with fiscal policy cooperation. In this setting there are arguments for restraining discretionary powers in fiscal policy, and fiscal policy cooperation is not desirable.

With monetary commitment implying that fiscal authorities plan under full knowledge of monetary policy reactions to fiscal policy, there is also a policy mix problem. It arises due to the decentralized nature of fiscal decisions and therefore it is reduced with fiscal policy cooperation. In this case flexibility in fiscal policy is important, not least in respect to stabilization of idiosyncratic shocks. The policy mix problem may be substantial for common shocks to the monetary union, while it for idiosyncratic or country-specific shocks poses less serious problems.

Given the institutional structure of the European Central Bank it seems that the case with monetary commitment best captures the situation prevailing in the European Monetary. The reasoning above supports a structure with an independent central bank with a well-defined target\textsuperscript{31} to ensure maximal commitment in monetary policy. Though this does not leave out policy mix problems between monetary and fiscal policy, because the latter is decentralized.

As noted above major advances in policy cooperation across European countries cannot be expected in the near future. It follows that the burden on economic policy (stabilization policy) rests on national states even though controllability is reduced due to integration. If procedures for domestic policy planning can be improved, this can perhaps to some degree compensate for the decrease in efficiency.

\textsuperscript{31} This does not necessarily imply that the precise way in which the target has been specified is unproblematic.
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