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BENOÎT COEURÉ and JEAN PISANI-FERRY

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Benoît Coeuré [*] ***and Jean Pisani-Ferry*** [**]

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[*] École polytechnique, Paris.

[**] Bruegel, Brussels, and Université Paris-Dauphine. e-mail jpf@bruegel.org

Summary

The European Union has become a playground for experiments on the effectiveness of, and the frameworks for, fiscal policy. There are two reasons for that. First, while fiscal stabilisation has almost everywhere taken a secondary role to monetary policy, the European Economic and Monetary Union combines a single monetary policy with national, independent fiscal policies that constitute the only macroeconomic instrument available at the country level. Second, the Europeans have put in place in the name of fiscal discipline a quasi-constitutional framework that goes a long way towards constraining the discretionary leeway of national governments.

The goal of this contribution is to take stock of the academic and policy discussions on the fiscal institutions of EMU, to confront the framework in place to what is known of the desirable properties of fiscal policy in a monetary union, and to discuss possible improvements.

We start with a discussion of three requirements for the fiscal framework of a monetary union: first, it should be conducive to public finance sustainability, because market discipline cannot be relied on to foster it; second, it should leave room for stabilisation at the national level; third, it should not discourage, and possibly encourage, structural reform, which is a key requirement for European countries. We do not believe the European fiscal framework should aim at redressing the institutional failures at the national level and give European constitutional status to fiscal rules that do not feature in national constitutions. Also, an appropriate fiscal framework should provide an efficient venue for deciding on discretionary joint action, without forcing governments to coordinate on a daily basis.

We then examine how the Stability and Growth Pact measures up to these requirements. We find that it has mostly failed on all three accounts. Judging from debt ratios, it has not ensured public finance sustainability; furthermore, the net wealth of the government has deteriorated in several countries as gross public debt – a variable that is being monitored under the Stability Pact – has been reduced through asset sales. It has not ensured stabilisation as aggregate fiscal policy has (on the whole) been mildly pro-cyclical. And it has not fostered reforms.

Whether the 2005 reform of the Stability and Growth Pact fixes those deficiencies remains an open issue. The new version of the

Pact – we dub it SGP2 – relies significantly less on fixed rules and leans more towards discretion. What it will achieve therefore depends on its governance. Provided decisions are not driven by political horse-trading, a dose of flexibility would be welcome to help addressing the main challenges Europe is confronted with: ageing, enlargement and economic reform. To this end, we propose five building blocks towards an effective SGP2:

- *A better concept of sustainability*. We suggest that the Pact should focus on broader concepts than the current ones and propose to chose the net value of the government sector, i.e. the difference between its total assets and financial liabilities (excluding, at this stage, implicit liabilities such as commitments resulting from pension regimes);
- *Harmonised general government balance sheets.* The Maastricht accounts are incomplete. Eurostat should define an accounting framework for the publication of general government balance sheets, including assets, financial debt and information on implicit liabilities. Specifically, we suggest to add to those accounts the present value of Age-Related Net Implicit Liabilities (ARNIL);
- *Appropriate targets*. We propose that each government should target the net value of the government. We outline a method for taking into account implicit liabilities (ARNIL) in the determination of the target. Our main point is that countries with high ARNIL should set higher targets for the net value of the government;
- *Refined procedures.* We propose that surveillance of national policies be based on a set of measures consisting of a fiscal plan, a reform plan and a contingency plan. Thus, a more ambitious reform plan that has the potential of permanently increasing output and/or decreasing long term public deficits could justify a less ambitious fiscal plan in the short run;
- *Better institutions.* We do not support handing over the responsibility for fiscal policy to independent committees, but we support the creation of independent fiscal audit councils.

I. INTRODUCTION

The European Union has become a playground for experiments on the effectiveness of, and the frameworks for, fiscal policy. There are two reasons for that. First, while fiscal stabilisation has almost everywhere taken a secondary role to monetary policy, the European Economic and Monetary Union (EMU) combines a single monetary policy with national, independent fiscal policies that constitute the only macroeconomic instrument available at the country level. Second, the Europeans have put in place in the name of fiscal discipline a quasi-constitutional framework that goes a long way towards constraining the discretionary leeway of national governments.

The whole European discussion since the start of the EMU negotiations in the late 1980s (or even since the 1970 Werner committee report which blazed the trail for European monetary union) has thus been about the right balance between two contradictory aims: to ensure that national governments are not deprived of any significant macroeconomic stabilisation instrument to offset asymmetric shocks, and to ensure that they do not take advantage of the single currency to free-ride on collective discipline and build up mutually harmful, unsustainable fiscal positions.

The European fiscal framework has been in operation since 1999. It was designed in 1991 for inclusion in the Maastricht Treaty[1], refined in 1997 with the creation of the Stability and Growth Pact (hereafter, "SGP"), and reformed in 2005. This series of reforms can already be taken as an indication of the difficulty of the task. Furthermore, while the initial SGP consisted of simple, quasi-mechanical rules, the reformed one is more complex and its implementation requires exercising more judgement. A numerical, mechanical criterion (the 3% limit for the ratio of general government fiscal balance to GDP) has been replaced by a variety of standards for assessing the appropriate character of a budget balance: the position in the cycle, the nature of expenditure, the level of public debt, and the existence of off-balance sheet liabilities may all play a role in the evaluation. The new Pact therefore leaves room for both fudge and learning-by-doing.

The goal of this contribution is to take stock of the academic and policy discussions on the fiscal institutions of EMU, to confront the framework in place with what is known of the desirable properties of fiscal policy in a monetary union, and to discuss possible improvements. It is organised as follows. In section 2, we discuss the EMU fiscal framework. In section 3, we describe EMU fiscal policy since 1999 and we assess the effectiveness of the SGP. In section 4, we outline a "Sustainability and Growth Pact" with a view to putting flesh on the revised Pact and we draw our conclusions.

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[1] The Treaty establishing the European Community ("EC Treaty") was signed in Rome in 1957 and amended in Maastricht (1992), Amsterdam (1997) and Nice (2001).

II. REQUIREMENTS FOR THE EURO AREA'S FISCAL FRAMEWORK

The key features of EMU are well known (see *e.g.* Wyplosz, 1997 for an introduction). The countries that take part in it are economically diverse – and will become even more diverse as the eurozone enlarges. They have achieved a high (though not complete) degree of integration of their markets for capital and goods. Their services and, especially, labour markets remain fragmented. They do have a common budget, but a very small one that does not play any macroeconomic role[2] and; and fiscal policy remains in the hands of national governments. Those features differ markedly from what economists since Mundell have regarded as optimal conditions for operating a monetary union. However the choices have been made and any change is bound to be very gradual. If anything, the recent trend in the EU has been towards less, not more federalism, implying that a US-like federal budget is not an option for the foreseeable future. Market integration will develop – including that of labour markets – but slowly; convergence may happen – but not necessarily; the EU budget may increase – but marginally. A safe assumption is thus to take the set-up as given.

With the above constraints in mind, we emphasise three desirable properties of a fiscal framework for a monetary union. It should be conducive to public finance sustainability; it should leave room for stabilisation; it should not discourage, and possibly encourage, structural reform. We believe those properties are fairly uncontroversial, but as always the devil lies in the detail, and the challenge is to devise a system which delivers all three. Hence, they deserve a short discussion[3].

Debt Sustainability

The essential rationale for a common fiscal framework rests on the risks that unsustainable national behaviour would represent for the stability of the currency area. The first channel for it, which has in our view lost relevance with free capital mobility, is the well known "common pool" problem: high deficits in a member country, or a group of member countries accounting for a significant share of the eurozone economy, could possibly lead to higher real interest rates and affect potential growth. The second channel is that a budgetary course that is not sustainable in the long run would eventually undermine the ability of the central bank to maintain monetary stability – an argument that dates back to Sargent and Wallace (1981). One does not need to adhere to the fiscal theory of the price level to consider that risk: it suffice to recognise that if confronted

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[2] In 2004, the EU budget amounted to €112bn, less than 1% of the combined gross national income of the 25 member countries. 45% of it went to the common agricultural policy and 34% to regional policy.

[3] Buti and Franco (2005) provide an in-depth up-to-date discussion of fiscal policy in EMU, to which the reader may wish to refer.

with the choice between accommodating the build-up of public debt in a member country and deliberately provoking its default, the central bank might wobble. The third channel – which reinforces the second – is that the financial turmoil triggered by a default on the debt of any member country would have significant cross-border effects (Eichengreen and Wyplosz, 1998). Statistics are imperfect, in particular because they do not distinguish between government and corporate bonds, but Table 1 suggests that even putting aside Luxembourg, the magnitude of those effects could be far from trivial. This is in part due to a home currency bias: as confirmed by Philip Lane (2005), "EMU member countries disproportionately invest in one another relative to other country pairs".

When the discussions on the monetary fiscal framework began, economists pointed out that provided bailout of an insolvent state was credibly prohibited, market discipline would suffice to set the incentives to prudent behaviour right. However, in spite of the explicit "no bailout" clause enshrined to this end in the EC Treaty[4], spreads on 10-year government bonds have converged in the run-up to EMU and have remained infinitesimal ever since, whatever the fiscal and political developments (Figure 1). Investors have certainly taken note of the worsening fiscal conditions in Greece and Italy and the reservations expressed about the debt and deficit figures transmitted by both countries by Eurostat, the EU statistical agency, but they have not been impressed: the increase in the spreads has remained minimal.

TABLE 1: Selected cross-border bond holdings within EMU

(Holdings of public and private bonds as a percentage of the investing country's GDP, 2003)

		Investor				
		Austria	Belgium	Ireland	Luxembourg	Netherlands
Issuer	Germany	19.6	12.2	38.8	612.5	24.2
	France	4.4	9.4	25.4	278.7	9.8
	Italy	4.3	19.2	37.3	294.3	8.3

Source: IMF, Coordinated Investment Portfolio Survey

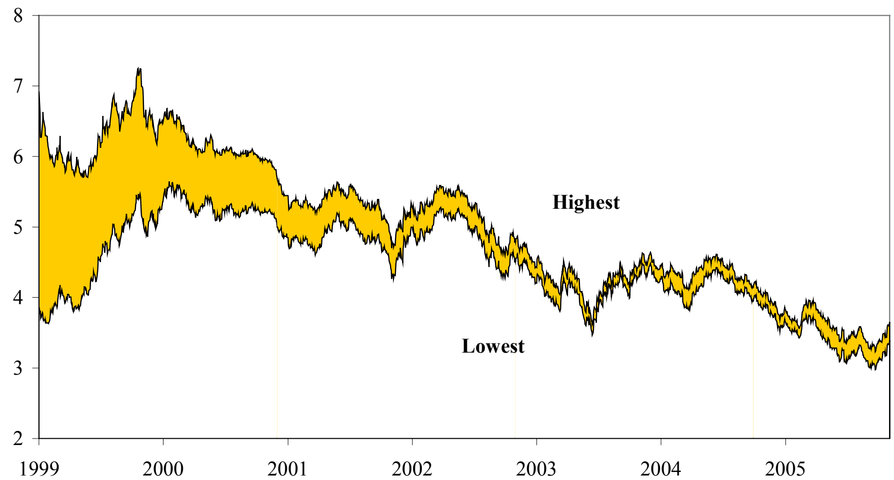
This may be taken as an indication that the "no bailout" clause is not credible and that financial markets expect that in the end, some form of financial solidarity will prevail. However, it is not clear what could make it credible – short of an effective default. Institutional schemes have been proposed to stir market surveillance by creating more differentiation among governments bonds. Buiter and Sibert (2005) and others have urged the ECB to impose haircuts on securities issued by excessive deficit countries, when these securities are used as collateral in its tenders. But this has been (rightly, in our view) opposed by the central bank because the ECB should take account of market prices, not try to manipulate them, and because its collateral is already valued at market prices (Papademos,

[4] Article 103(1) of the EC Treaty.

2005). After all, a central bank is not a fiscal watchdog. In November 2005, the ECB reminded the market that it would restrict its eligible collateral to securities rated at least "A$^-$" by rating agencies, thereby relying explicitly on the judgement of the market.

Our conclusion is thus that weak market discipline justifies the existence of an institutional device that fosters public finance sustainability throughout the monetary union.

FIGURE 1: Yields on Benchmark 10-year Government Bonds in the Eurozone



Note: Luxembourg excluded. Source: Bloomberg

Stabilisation

Since Robert Mundell reopened the discussion on currency areas in the early 1960s, the economic profession has debated whether a currency union could be effective without a fiscal union. Peter Kenen (1969) answered the question in the negative, as did the 1970 Werner report[5], and the 1977 McDougall report on public finances in European integration. However, the 1989 Delors report and the Maastricht treaty emphasised instead fiscal decentralisation. The case for using national budgets for fiscal stabilisation in EMU primarily rests on the absence of a federal budget for stabilisation purposes and on the inability of the common monetary policy to offset the asymmetric component of demand shocks.

The usual doubts about the effectiveness of discretionary fiscal policy notwithstanding, this requirement has also been recognised early on in the design of EMU (European Commission, 1990) – hence the acceptance of a degree of national fiscal autonomy. There has been a debate in

[5] "The margins within which the main budget aggregates must be held both for the annual budget and the multi-year projections will be decided at the Community level, taking account of the economic situation and the particular structural features of each economy. " Werner Committee Report (1970).

Europe, as elsewhere, on the usefulness of active stabilisation policies. The consensus has settled more or less around the notion that member countries should steer away from active fiscal manipulation, and let automatic stabilisers play on the revenue side, while maintaining some restraint on expenditures (Brunila, 2002). We regard this approach as appropriate in most circumstances, but we think governments may adopt a medium-term fiscal stance that departs from it (like the US in the 1990s or Spain in the 2000s)[6] and that they should keep in hand the option of discretionary fiscal measures in the case of significant shocks. Recent research that points out the potentially detrimental effects of volatility on long-term growth (Ramey and Ramey, 1995, Aghion and Banerjee, 2005) only makes the case for autonomous stabilisation stronger.

Three more controversial issues are (i) whether monetary union *per se* induces a bias towards fiscal laxity that needs to be corrected; (ii) whether EMU should be taken as an opportunity to correct existing political bias towards deficits; and (iii) whether discretionary fiscal policy has any role to play at the level of the euro area *as a whole*. Let us take them one by one.

The risk of a deficit bias in EMU – as compared to another exchange rate regime – results from the disappearance of the traditional closed-economy crowding out effect of expansionary fiscal policy, and from the removal of the threat of open-economy exchange-rate crises. If governments are short-sighted or politically motivated, or if partisan polarisation provides a ground for attrition wars, the relaxation of immediate constraints can result in an addiction to deficits. But monetary union also makes the longer-term constraint tighter by removing the options of debt monetisation and of devaluation (see Wyplosz, 2005, for a discussion). How governments react to a change in the exchange rate regime is an empirical issue on which there is little systematic evidence – as exemplified by the dispersion in post-EMU fiscal behaviours within the euro area. We thus regard this argument as relatively weak.

A related, but distinct argument is that the EMU fiscal framework should be regarded as a substitute for the absence or the inadequacy of national frameworks[7]. Unlike the deficit bias argument, this one is exclusively based on political economy concerns. Its proponents claim that in the absence of budgetary straightjackets, modern democracies are deficit-prone. Monetary union is thus taken as an occasion to give constitutional status at the EU level to fiscal rules that do not feature in national constitutions. What is frequently missing in such reasoning, however, is a proper justification of the EU involvement. In our view, EU constraints on national policymaking can only be justified if they are a way to internalise an externality that is overlooked when decisions are taken at the national

[6] For example, after it qualified for EMU, Spain adopted and maintained a restrictive fiscal stance. This policy has had the effect of partially offsetting the expansionary effect of the drop in long-term real interest rates.
[7] Calmfors (2005) provides a good summary of the main arguments.

level. We do not believe that the EU can simply claim to be a more effective and less deficit-prone governance structure than national authorities – unless this assertion rests on its less democratic character. National political bias ought to be corrected at the national level, not by imposing European constraints.

The third issue is that of aggregate fiscal policy. The current wisdom is that there is not much role for discretionary fiscal policy at the aggregate level. A survey of the US experience by John Taylor (2000) concludes that since monetary policy "has been doing a good job" at keeping aggregate demand close to potential GDP, "it seems best to let fiscal policy have its main countercyclical impact through the automatic stabilisers". In EMU, it could be argued that the central bank has been much less activist and has on the whole done less of a good job, in part because the intrinsic diversity of the euro area and the ECB governance structure are obstacles to an activist monetary behaviour, and in part because the ECB statute gives less weight than the Fed's to full employment, even though the actual weight of current economic activity in the ECB decisions is a matter for empirical discussion[8]. Thus, fiscal activism could partially substitute for monetary activism.

However, coordinating decentralised fiscal policies is known to be adventurous, if only because finance ministers are accountable to local, not European voters. As a consequence, fiscal policy coordination can only be relied on in specific circumstances, for example in the case of severe crises, if monetary policy hits the zero bound or if a contra-cyclical behaviour risks undermining its credibility. Those circumstances do arise – as shown by the examples of Sweden in the early 1990s or Japan in the early 2000s. But they are rare. This leads us to conclude that an appropriate fiscal framework should provide an efficient structure for deciding on a discretionary joint action, without forcing governments to coordinate on a daily basis.

Reforms

While the trade-off between sustainability and stabilisation was recognised early on, the relationship between the fiscal framework and structural reform has only gained prominence in recent years, when the disappointing growth performance of most eurozone economies prompted simultaneous calls for structural reforms and further fiscal adjustment. It is widely recognised that eurozone countries need to design and implement comprehensive economic reforms, both for domestic purposes and because well-functioning goods, labour and capital markets are needed for the single currency to operate properly.

Governments generally undertake unpopular reforms that pay off in the medium term, but involve short-term economic, budgetary and political costs, in either of two situations. First, they reform when a crisis looms and all possible alternatives have been exhausted; in this type of

[8] See Gerlach (2005) for a discussion.

"shoulders against the wall" environment, reforms tend to be comprehensive and frequently involve a budgetary consolidation. Second, reforms can also be undertaken in better times and in a more gradualist fashion; in that case, fiscal support can be necessary to offset the macroeconomic costs, compensate the losers, and avoid building up constituencies against further reforms. This amounts to sharing the cost of reforms with future generations, who they will supposedly benefit. But reforms that entail an immediate budgetary cost are unlikely to be politically feasible in the presence of short-term budgetary constraints (see Razin and Sadka, 2004, for an application to pension reform).

Empirical evidence on the conditions for reforms is mixed: while Boeri (2004) and the European Commission (2005) minimise the link with and the role of the macroeconomic environment, Debrun and Annett (2004) reach opposite conclusions and suggest that the existence of macroeconomic support may be conducive to reform.

The institutional framework of EMU can be regarded as reducing the incentive to reform in both cases. The provision of a stable macroeconomic environment may eliminate the sense of urgency and the ensuing need for immediate action – in short, ministers do not anxiously watch their Reuters screen anymore, except maybe to check the oil price. At the same time, monetary support to reform cannot be forthcoming as the ECB only responds to the situation in the euro area as a whole, and fiscal support may be hindered by institutional constraints that weaken the incentive to gradual reform. At worst, the lack of reform undermines the responsiveness of macroeconomic policy, which in turn discourages reform – a sort of rigidity trap (Debrun, 2005). There is an increasing sense that the eurozone is currently caught in such a trap. Moving out of it is not easy: even supposing political will to engineer reforms, the central bank and private agents must be convinced that those reforms are relevant and will increase potential growth.

The absence of clear empirical evidence of this mechanism is not an excuse for inaction: the political economy of structural reform is too complex an issue for cross-country regressions to deliver unambiguous results. Our view is that the need for reforms is too pressing for Europe to ignore the risk that the framework it has put in place contributes to discouraging them. We therefore regard the incentives or disincentives to reform embedded in the fiscal framework as an important issue.

Conclusions

Summing up, the fiscal framework should strike a delicate balance between different goals. It should avoid constraining national fiscal behaviour excessively while redressing possible incentives towards deficits. It should make joint action possible without forcing coordination. And it should avoid discouraging reforms. At the same time, the literature on fiscal rules (Kopits and Symansky, 1998) emphasises transparency, simplicity and enforceability as preconditions for effectiveness. Any judgement on the fiscal framework and its possible reforms must be based on these criteria.

With these conclusions in mind, we turn to the assessment of the achievements so far.

III. A RECAP ON FISCAL POLICY IN EMU

In this section, we survey fiscal policy in EMU since 1999 and assess the effectiveness of the Stability and Growth Pact. We then summarise the main proposals for reforming it, and the reform package agreed upon in March 2005 by the European Council (a more detailed discussion can be found in Pisani-Ferry, 2005).

The Failure of SGP1

The Stability and Growth Pact as designed and agreed on in 1997 (hereafter, "SGP1") consisted of a medium-term target of "close to balance or in surplus" public finances in each member country and a binding 3% limit for the general government deficit-to-GDP ratio (there was also a 60% limit for the gross debt-to-GDP ratio, which was not considered binding). The originality of the Pact was in the monitoring process, which combined *ex-ante* surveillance –through the discussion of multi-year fiscal plans, the so-called "stability programmes", and *ex-post* constraints based on a quasi-automatic warning mechanism for "excessive deficit" countries and on a strict timetable for the issuance of public recommendations and, eventually, financial sanctions.

We assess SGP1 against three metrics: fiscal discipline, macro stabilisation, and support to long-term growth. It is not excessive to state that it has failed all three[9].

Whether the first two are attainable jointly obviously depends on the initial fiscal position and on the position in the cycle. Having failed to take advantage of the 1998-2001 upswing to improve their structural fiscal position (Figure 2), EMU countries soon found them to be contradictory. Faced with the post-2001 slowdown, they had to choose between pursuing fiscal consolidation and supporting economic activity: like Buridan's ass, they decided to do neither.

SGP1 thus failed to correct the deficit bias of EMU. While member countries had committed to bringing their public finances "back to balance or in surplus", the cyclically-adjusted aggregate public deficit of the eurozone actually increased from 1.6% in 1999 to 2.6% in 2004 and aggregate public debt only marginally decreased, from 72.7% to 70.8%. Stability programmes were not anchors but moving targets[10].

[9] For a discussion of the SGP and of the reasons why it was adopted in 1997, see the contributions collected in Brunila, Buti and Franco (2001).

[10] Another failure is the resurgence of the electoral budget cycle, as evidenced by Buti and van den Noord (2004).

Germany, France and Italy bear most of the responsibility. Buti and Pench (2004) have identified four reasons why: proactive fiscal policies are thought to be more efficient in larger, relatively less open economies; potential growth is lower in these countries, making fiscal adjustment more difficult; peer pressure does not impress larger countries too much; and all three delegate fiscal responsibility to their Finance minister rather than building consensus at a cabinet level, making fiscal adjustment more difficult to enforce.

It has also been noted that many member countries have used loopholes in the European system of accounts to reduce the deficit reported to Eurostat rather than actually decrease spending, using "innovative" one-off transactions such as securitisation, financial derivatives, one-off payments by State-related entities, etc. We come back to this issue later.

The Pact eventually became dysfunctional when it appeared that the Council would not impose sanctions on excessive deficit countries. Given this dismal track record, it is hard to understand why some have warned against reforming the Pact on the ground that this would impair its credibility.

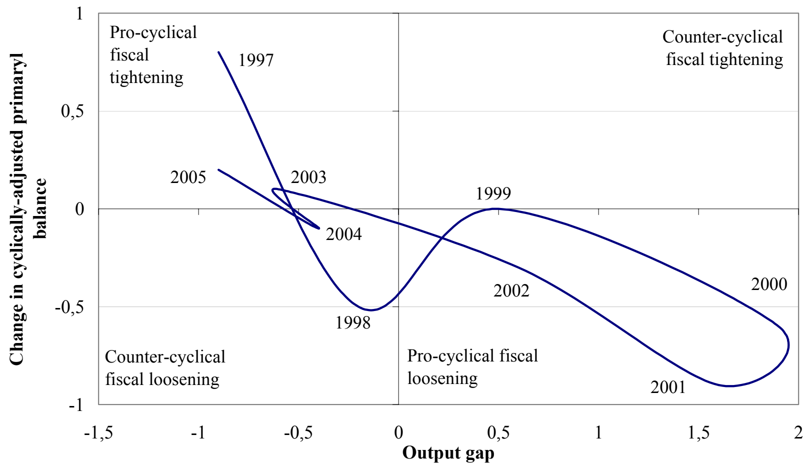
SGP1 also failed to contribute to macroeconomic stability. True, Gali and Perrotti (2003) have shown that fiscal policy has been less pro-cyclical in the eurozone since the introduction in the euro than before, leading to a more stable macro environment. The SGP has limited the scope for the kind of destabilising discretionary impulses that dominated the 1980s and 1990s in Europe[11]. It was therefore an improvement. But Figure 2 illustrates that fiscal policy remained far from appropriate[12]. The fiscal stance was generally mildly pro-cyclical in the eurozone in the period 1997-2005. It responded much less to the slowdown than in the UK or the US: between 2000 and 2003, the cyclically-adjusted primary surplus declined by 4.9% of GDP in the UK against 1.1% of GDP in the eurozone[13].

[11] Debrun and Masson (2004) have found that fiscal policies have been less pro-cyclical after 1999 in the eurozone thanks to a change of behaviour in the lowest phase of the cycle. Ironically, the SGP has helped governments ... not to fight deficits too much when they are larger for cyclical reasons.

[12] Figure 2 should be taken with a grain of salt: a better measure of the discretionary impulse would correct for the "one-off" measures mentioned above, and 2001 and 2002 are less clearly pro-cyclical than 2000 since the output gap was already decreasing.

[13] It decreased from 3.1% to -1.8% of GDP in the UK, and from 1.9% to 0.8% of GDP in the eurozone (European Commission figures).

Figure 2: The fiscal stance of the Eurozone



Source: European Commission, AMECO database

Finally, the Stability and Growth Pact did not help eurozone countries increase their long-term growth rate, in accordance with the goals of the Lisbon Summit of 2000. By treating all expenditures the same way, the Pact may have created a bias against public investment at a time where Europe should have increased its capital/labour ratio to catch-up with the US. It can be argued however that there is no clear evidence that Europe lacks public (as opposed to private) investment[14], and that the choice between current spending and investment is not changed by the Pact. Less directly but perhaps more importantly, by constraining fiscal policy in the short term, it has contributed to reinforcing the governments' myopia and has added to the difficulty of structural reforms, as these reforms tend to imply short-term macroeconomic and budgetary costs.

Ownership and Incentives

Why has SGP1 failed? Part of the explanation is certainly that it was poorly designed. Critics (Pisani-Ferry 1996, Eichengreen and Wyplosz 1998) pointed out early on the risks of a Pact focussed on headline rather than structural deficits, of the neglect of debts, or of the rough definition of the "extraordinary circumstances" (*i.e.* recessions) which could exempt excessive deficit countries from financial sanctions. All that proved to be true. But a more fundamental flaw proved to be the lack of incentives to comply with the spirit of the Pact and the lack of ownership of it in the main eurozone countries. In France, Germany or Italy, the Pact has not really been appropriated as a key feature of the fiscal policy framework. To the extent it has, it was more with reference to the 3% threshold than through the commitment to the "close to balance or in surplus" target. At

[14] As Jakob von Weiszäcker has pointed out to us, the lack of public investment in Germany has probably more to do with rising social expenditures than with any European constraint.

the peak of the cycle, the 3% limit gave rise to perverse incentives, as a deficit of 1.5% of GDP was considered safe and virtuous enough.

Furthermore, the very existence of the Pact may have discouraged the adoption of national fiscal frameworks such as the British "Code for Fiscal Stability" adopted in 1998. The focus of the discussion on the potentially harmful effects of fiscal laxity on a country's neighbours has distracted the policymakers' attention from generally more important issues such as the intergenerational redistribution involved in fiscal deficits or the composition of fiscal stabilisation. For example, in 2005 French Finance minister Thierry Breton could present the level and sustainability of public debt to the public as entirely novel issues.

The Importance of Government Balance Sheets

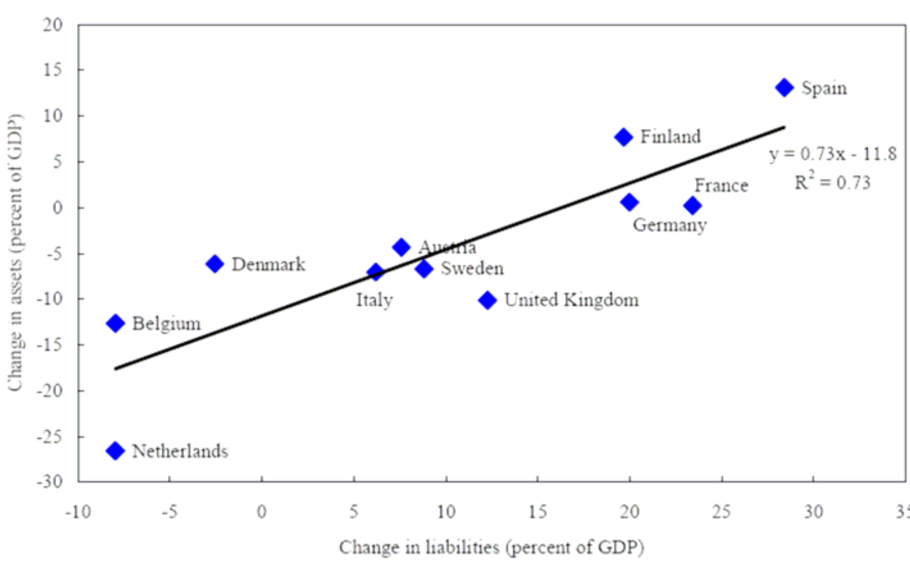
A less well-known feature of the Pact has been its focus on partial criteria such as deficit and debt, rather than on the full government balance sheet. Two topics deserve discussion here.

The first one is the notion of public finance sustainability. This raises issues of measurement. The literature on sustainability focuses on the balance between *net* government debt (*i.e.* financial debt less the value of financial and non-financial assets) and the sequence of future primary cash flows. Any notion of sustainability should therefore make reference to the structure of today's balance sheet and to future revenues or liabilities (see Buiter and Grafe, 2002, for an in-depth analysis of these issues).

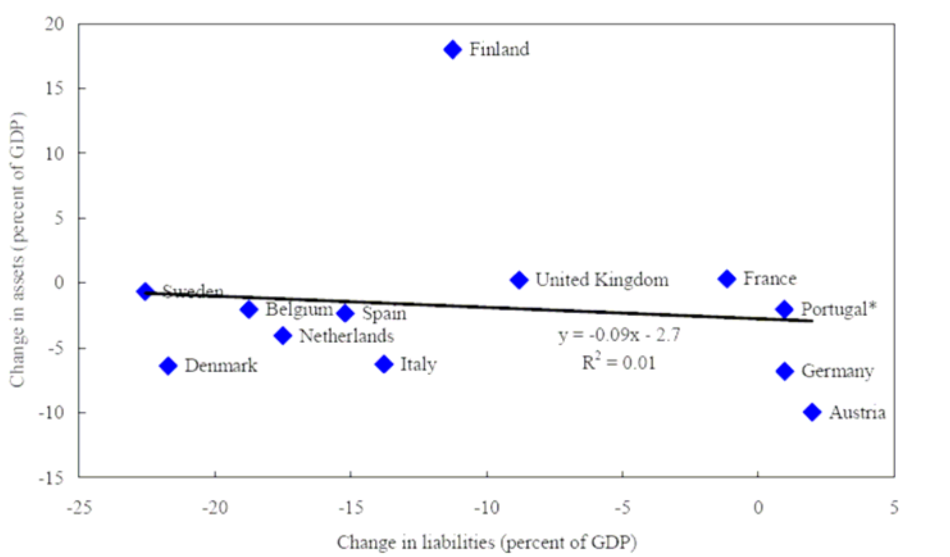
The other one is the increasing use by European governments of one-off revenue measures or of vehicles that allow spending without impacting the recorded deficit, leading to an increasing discrepancy between cumulated deficits and debt. This possibility had been pointed out at an early stage by Buiter, Corsetti and Roubini (1993) and the reality has exceeded expectations. Koen and Van Den Noord (2005) and Von Hagen and Wolff (2004) have provided evidence that one-off measures have been used more frequently since the inception of EMU and have proven that their probability has been correlated with the magnitude of the deficit. There have been outright disposals of public assets with the aim of lowering the gross debt (but without any improvement in the underlying net wealth). There have been more devious operations aimed at substituting on-balance debt for off-balance liabilities. Some countries have cashed in an immediate revenue in exchange either for additional pension liabilities (France Telecom and EDF transfers in France, postal pensions securitisation in Germany), or for lower future revenues (Italian, Portuguese or Greek securitisations). The former are mere balance sheet restructuring and (given the disposal price is right) they do not impact on the true economic value of the public sector, but the incentive is for the government to overlook the long-term price while focusing on the short-term benefits. The latter turn on-balance into off-balance liabilities. Hence the need for a comprehensive view of government balance sheets.

The most elaborate attempt to investigate empirically the dynamics of EU governments' valuations was undertaken by Milesi-Ferretti and Moriyama (2004). In the absence of a harmonised set of balance sheet accounts for governments, they had to use yearly flows and to produce their own valuation of non-financial assets. They tracked the yearly changes in financial liabilities on the one hand, and in financial and non-financial assets on the other hand, and corrected for valuation effects. They uncovered a sharp contrast between the periods 1992-1997 and 1997-2002. In the first period, increases in general government liabilities were matched by changes in assets and the net value of governments was relatively stable. This was not the case in the second period (Figure 3): the SGP involved a perverse incentive to contain the rise in the gross public debt through asset sales, and EU governments were poorer in 2002 than in 1997.

FIGURE 3: Changes in Government Assets and Liabilities 1992-1997



1997-2002



Source: Milesi-Ferretti and Moriyama (2004)

When properly assessed, the effect of the SGP on the sustainability of public finances has thus been less positive than commonly believed, and the reliance on partial targets has had the usual effect of giving incentives to window-dressing.

Reform Proposals

Many proposals have been made to reform the SGP that can be grouped in five, mutually non-exclusive options aiming at:

1. Improving the cyclical properties of the Pact by introducing more discipline at the peak of the cycle and more flexibility at the trough (Sapir et al., 2004);
2. Shifting the emphasis away from the deficit and towards public finance sustainability. This can be done by conditioning the deficit limit to the debt level (Calmfors and Corsetti, 2003), or more accurately by assessing sustainability using some projections of future public finance paths (Coeuré and Pisani-Ferry, 2005);
3. Correcting the anti-investment bias with a golden rule of some sort or by introducing capital budgeting for governments (Blanchard and Giavazzi, 2004);
4. Fixing the institutions rather than the rules, by delegating some aspects of fiscal policy (say, limits to the aggregate budget position) to independent expert committees (Wyplosz, 2005, Calmfors, 2005);
5. Allocating deficit rights at the eurozone level, so as to solve the "common pool" problem. This includes the monitoring of the aggregate

eurozone deficit proposed by French Finance minister Dominique Strauss-Kahn at the Ecofin Council of Dresden in April 1999, and the "tradable deficit permits" proposal of Casella (1999), inspired by the schemes put in place to control greenhouse emissions.

As pointed out by Buti, Eijffinger and Franco (2005), each of these proposals addresses a specific problem of SGP1, but none of them solves them all.

The Revised Stability and Growth Pact

After the November 2003 decision of EU Finance Ministers (the so-called Ecofin Council) to suspend the application of the excessive deficit procedure to France and Germany, the need for a reform became evident. In the debate that ensued, the European Commission (2004) and the Ecofin Council substantially acknowledged the criticisms addressed to the SGP and took them partially on board in devising a revised Pact, which was approved in Spring 2005. Of the five options listed above, the Council took up the first two (improve the cyclical properties, acknowledge sustainability), excluded the third (carving out public investment) in spite of the repeated pressures of member countries such as Britain, Italy, and France, and concluded from the fourth that national institutions should be more involved in the budgetary surveillance process[15]. As to the fifth one, it has surfaced in the discussions on coordination within the Eurogroup, but remains off the SGP agenda.

Box 1: The revised Stability and Growth Pact

The Stability and Growth Pact was revised in June 2005 (see the legal provisions in EU Council, 2005a and 2005b, and Buti, Eijffinger and Franco, 2005 or Calmfors, 2005, for a detailed presentation). The revision does not affect the 1992 Maastricht Treaty, in particular the definition and numerical value of the deficit and debt-to-GDP ceilings, but it replaces the 1997 regulation establishing the Stability and Growth Pact, which addresses both prevention and sanction.

As before, member countries submit medium-term targets and adjustment paths (the so-called 'stability programmes') for their general government deficit. Medium-term targets are now defined on a cyclically-adjusted basis and can differ from one country to another depending on potential growth rates and debt levels. It is envisaged that at some point in the future, off-balance liabilities such as pension rights will also be taken into account. Deviation from the target and/or adjustment path (but not deficits in excess of 3% of GDP) can be authorised as a consequence of structural reforms with short-term budgetary costs but long-term benefits.

The definition of 'exceptional circumstances', under which member countries may breach the deficit ceiling without being sanctioned, was also changed. They now correspond to a negative GDP growth rate or a

[15] See Deroose and Langedijk (2005) for a presentation of the Commission view.

protracted period of low growth relative to the potential growth rate, giving in effect member countries an extended deadline to correct their excessive deficits. When the deficit is marginally above 3%, the Commission will also take into account what is called in the treaty 'other relevant factors', a modest term for a host of possible exemptions such as R&D expenditures, development aid, or else the financing of European (read: German) unification.

The Council also emphasised the need to associate national Parliaments more closely, and to improve the reliability and timeliness of budgetary forecasts and statistics. The Commission's initial proposals, to build stability programmes based on Commission forecasts and to establish independent monitoring bodies, were rejected.

The main features of 'SGP2' are the new emphasis on public finance sustainability, and the added flexibility given to member countries in economic slowdowns (see Box 1). The most important change may be in the governance of the Pact. First, a consensus has emerged to give to the Commission the right to bark and bite, *i.e.* to send an early warning to a member countries without the approval of the Council[16]. This is a welcome step towards distinguishing assessment from decision. Second, with SGP2, the eurozone has moved away from its initial emphasis on governance by fixed rules and has reintroduced discretion. However, it has neither put in place intellectual foundations for a renewed system of governance nor addressed the issue of enforcement. How the new provisions will be interpreted and implemented therefore remains to be seen. The risk of undisciplined case-by-case decisions guided by political pressure and horse-trading is significant.

It is however unlikely that member countries will return to the drawing board before having experimented with the effects of the recent reform. What is now needed is a clear doctrine that preserves discretion but constrains choices and ensures they remain consistent over time and across countries. Otherwise, the very legitimacy of a common discipline will be undermined. Whether or not the Council will be able to adopt this constrained discretion mode of governance depends on the (now fixed) presidency of the Eurogroup and on the (still rotating) one of the Ecofin Council.

[16] Although the corresponding legal provision has been a victim of the rejection by French and Dutch voters of the draft constitution, the Commission has made a step forward by making public its reports on stability programmes before the ECOFIN discussions.

IV. TOWARDS A "SUSTAINABILITY AND GROWTH PACT"

What should a sensible *modus operandi* of SGP2 look like? In our view, it should (a) reconcile long-term sustainability and short-term stabilisation; (b) approach sustainability in a way which is economically sound and does not give too much leeway to political discretion; and (c) foster, or at least avoid to discourage, growth-enhancing economic reforms. While fulfilling these requirements, it should also be instrumental in helping the eurozone face its current priorities.

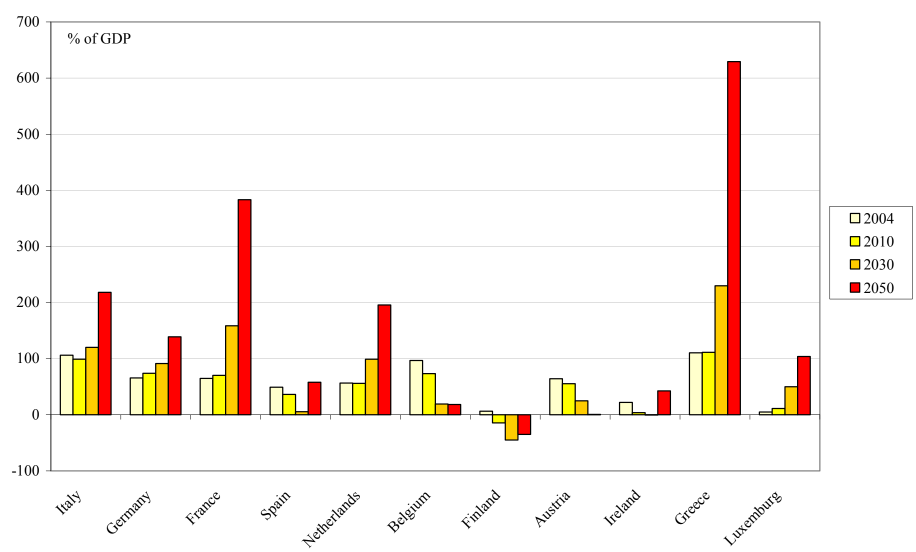
In the remainder of this paper, we elaborate on our previous work (Coeuré and Pisani-Ferry, 2005) to make the case for a "Sustainability and Growth Pact" which would meet these requirements, and we sketch out its main building blocks.

Present Priorities

The eurozone faces three priority challenges: ageing populations, enlargement, and the need for growth-enhancing reforms. A Sustainability and Growth Pact should help on all three fronts.

Ageing. According to the UN, the share of the working-age population in the total population will fall from 66% in 2005 to 56% in 2050 in the four big European countries, while it will only decline from 67% to 62% in the US. The additional burden of pensions, health and long-term care will be only partially offset by lower education costs and, possibly, reduced unemployment benefits. This will have immense consequences on Europe's economic performance and public finances.

FIGURE 4: General Government Debt Trajectories in the Absence of Fiscal Consolidation, 2004-2050



Note: Extrapolation of general government gross debt assuming the underlying primary balance remains the same as the 2004 level and no stock-flows operations take place. Data unavailable for Portugal.

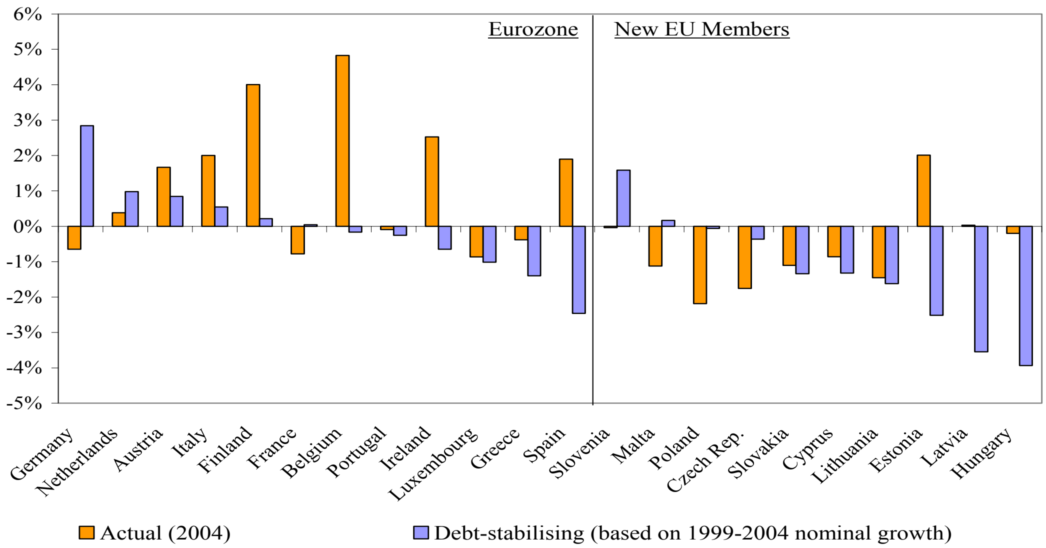
Source: European Commission (2005)

The best source so far for assessing the magnitude of the problem is the report by the Economic Policy Committee working group on ageing (Economic Policy Committee, 2003, hereafter "AWG")[17]. According to the working group, public spending will increase by 3 to 7% of GDP in most member states by 2050 if no corrective action is taken[18]. The working group has also extrapolated budget balances and debt levels up to 2050 and calculated a "tax gap" *à la* Blanchard (1990), *i.e.* the adjustment needed in the tax rate, either to ensure inter-temporal balance or to reach a given debt level in 2050 (40% of GDP in the AWG projections). Projections showed that depending on the target, the "tax gap" amounted to 4 to 7% of GDP in France and Germany – a frightening height for countries with already high levels of government receipts. An alternative approach is to project the debt ratio[19]. Figure 4 shows the Commission projections based on the work of the ageing working group assuming the underlying primary balance remains the same as in 2004 and no stock-flows operations take place. Debt-to-GDP ratios would approach or exceed 200% in France, Italy, the Netherlands and Greece in 2050. Standard and Poor's has produced qualitatively similar results (Kraemer, 2005).

Enlargement. Ten new members joined the EU in 2004, several of which are expected to join EMU soon. Romania, Bulgaria and other Balkan countries will follow. However, the debt/deficit dynamics is not the same for a high growth, high inflation "New Europe" country and for a low growth, low inflation "Old Europe" country. Between 1999 and 2004, nominal GDP growth averaged 8.1% per year in the 10 new EU members against 5.4% in the eurozone. This implies that the debt-stabilising primary surplus is on average lower for the new members. In Figure 5, we have sorted eurozone and new member countries according to the primary balance that would have stabilised their debt-to-GDP ratio in 2004 (based on their average 1999-2004 nominal growth). Among the new members, only Slovenia and Malta needed a fiscal surplus to stabilise their debt ratio, while this was the case for six eurozone countries. Nominal GDP growth rates will not converge in the foreseeable future, as price levels and GDP per capita will still need to catch up with those of the eurozone. Deficit targets should therefore not be uniform.

[17] This report is - a first attempt at providing a comprehensive and consistent picture - is not without defects and a new report is expected for 2006. But the numbers are already scary (Economic Policy Committee, 2003).
[18] Note that the AWG figures we refer to were published in 2003, prior to substantial pension reforms in France and Germany. The updated 2006 figures were not available when this paper was written.
[19] This is technically equivalent to adding to current public debt implicit age-related liabilities.

FIGURE 5: Debt-Stabilising and Actual Primary Fiscal Positions (as % of GDP), 2004



Source: Authors' computation based on excessive deficit procedure figures

Economic reform. Reform seems to have slowed rather than accelerated since the creation of EMU (Elmeskøv and Duval, 2005). Five years after the Lisbon Council set overly ambitious goals, the lack of political incentives has created a deadlock.

The Pact should help break this deadlock and reward reforms as long as they are favourable to long-term growth and/or help improve the government's long-term fiscal position.

The design and implementation of a reform-friendly Pact is not an easy task since there can be strong disagreements among member states and with the ECB on the effectiveness, or even the desirability of some policies (remember the French 35-hour working week) and on the time it will take for them to yield benefits. For sure, any newly elected government will claim that its programme is good for growth and ask for more budgetary leeway (remember Nigel Lawson's famous claim that potential output growth had accelerated right after he had taken office). Hence the need for commonly agreed monitoring.

Proposals

Wrapping up the preceding remarks, the five building blocks of a Sustainability and Growth Pact would be: concepts, accounts, targets, procedures, and institutions.

Concepts

Clarity is needed on the methodology of the sustainability assessment and on the choice of the state variable for the monitoring of a government's fiscal situation.

The relevant scope should be the general government (*i.e.* central government, local government and social security), as has been the case since the Maastricht Treaty, because most countries have organised transfers between government sub-sectors, and because all government entities are by definition funded by taxes. It would in theory make sense to include the national central bank to account for seigniorage revenue, but within EMU we can make the assumption that seigniorage does not depend on government policies.

The relevant state variable should be the net value of the government sector, *i.e.* the difference between its total assets and financial liabilities (excluding implicit liabilities). This is the closest equivalent to a company's equity. Non-financial government assets are known to be difficult to define, inventory and value: think of the Tower of London or the North Sea oilfields. They are frequently non-marketable, and when they are, valuing them on the basis of their future cash flows or of their liquidation value makes quite a difference. However, no sound fiscal policy can ignore the proper management of the government's balance sheet, and as already discussed, monitoring gross debt creates an incentive to hold a fire sale of public assets and worsen the long-term fiscal position. There is therefore a case for taking into account at least marketable assets (maybe not the Louvre, but certainly EDF)

Implicit liabilities such as pensions cannot be aggregated to financial liabilities because they belong to a different class of debt. Governments can default on them without incurring financial crisis, and in fact, this is what a pension reform frequently amounts to[20]. Their present value can "jump" as a consequence of parametric reforms or changes in growth assumptions. In addition, they depend intrinsically on the discount factor used to compute them and are therefore more fragile[21]. We therefore propose to use separately the present value of age-related net expenditures, as an input for choosing the target for the government net value.

Sustainability should then be defined on the basis of a target for the net value of the government as a percentage of GDP at a certain point in time. This horizon should be distant enough to allow for corrective measures and to leave room for cyclical stabilisation[22], and close enough to be relevant for a newly elected government. This is compatible with the

[20] Indeed, one of the reasons why Eurostat decided not to treat unfunded pay-as-you-go pension schemes as on-balance liabilities is that "their value can be unilaterally altered by the debtor" (Eurostat, 2004).

[21] Franco, Marino and Zotteri (2004) discuss the measurement of pension liabilities and their link with fiscal sustainability. They conclude as we do that pension liabilities should not be added to conventional debt but should be used to complement the debt and deficit indicators. See also Oksanen (2004) for a discussion.

[22] This follows the line of the British Code for Fiscal Stability that requires that "over the economic cycle, the Government will ensure the level of public debt as a proportion of national income is held at a stable and prudent level".

present Treaty since it is only another, economically more sensible, way of interpreting the "close to balance or in surplus" requirement.

Accounts

EU statistical institutes currently produce a set of quarterly and annual national accounts, and they release general government deficit and gross debt numbers on a yearly basis. They should be required to produce a limited number of government balance sheet items such as a breakdown of financial debt (distinguishing credit lines, bills and bonds), financial assets (distinguishing gold, cash, equity, and loans) and non-financial assets (including real estate)[23]. Accounts should be audited by Eurostat or by private auditing companies.

This is less heroic than it sounds. Several EU governments are publishing or are committed to publish their assets and liabilities under international accounting standards, following pioneering countries outside the eurozone (notably, New Zealand, Australia, the US, the UK and Sweden). France will publish an opening financial statement as of 1/1/2006. Table 2 gives an example of such a balance sheet, in national accounting (which may slightly differ from private accounting). The French general government "equity", *i.e.* its net value, was €308bn or 19.4% of GDP as of 31/12/2003.

In addition, the EU should build on the AWG work and agree on a methodology for recording age-related liabilities[24]. An adequate method for comparison with balance sheet items would be to compute the *net present value of Age-Related Net Implicit Liabilities* ('ARNIL'), *i.e.* the present value of age-related expenditures of the first-pillar pension schemes, *net* of corresponding contributions and age-related savings on the budget (*e.g.* on education spending) over a 30 to 50 year horizon, using a commonly agreed discount factor[25].

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[23] The breakdown should help assess the liquidity of the government.

[24] This is consistent with the OECD suggestion to record below the line of net lending/borrowing the flows linked to pensions liabilities (Lequiller, 2004).

[25] We do not propose to include other off-balance sheet liabilities such as guarantees, catastrophe insurance, etc., as they depend on whether a given risk does or does not materialise.

TABLE 2: The Balance Sheet of the French General Government at End-2003

ASSETS			LIABILITIES		
	€bn	% of GDP	€bn	% of GDP	
Non-financial Assets	€1008bn	63.6%	-	-	-
Financial Assets	€584bn	36.9%	€1284bn	81%	Financial Liabilities
-	-	-	€308bn	19.4%	Net Value
Total Assets	€1592bn	100.4%	€1592bn	100.4%	Total Liabilities

Source: INSEE, Comptes de patrimoine

Targets

Each country should adopt a target for the government's net value as a percentage of GDP. In the appendix, we show that the sustainable net value of the government is the sum of two components: ARNIL and the net present value of all other future expenditures, including the opportunity cost of holding government assets rather than buying back debt. A rough method could be to set a uniform target for the latter, and to apply a haircut to ARNIL in order to take into account the fact it does not represent financial claims and can be defaulted at a lower cost than financial claims through parametric reforms. Thus, the T-year target V^*_{t+T} for the government net value V_t could be:

$$V_{t+T} \geq V^*_{t+T} = (1-\lambda)V_t + \lambda(\widetilde{V} + \theta.ARNIL_t)$$

where T = 5 year is the target horizon, $\widetilde{V}$ is the long-term net value target, λ <1 a smoothing factor and θ<1 is the haircut coefficient. Note that applying a haircut to ARNIL is equivalent to using a mark-up when discounting future liabilities, to acknowledge the fact that age-related claims can be defaulted on all the more easily as they are distant in the future.

We take here as tentative values for the parameters are λ = 0.25 (meaning that one quarter of the relative gap between V_t and its target would be closed at a 5-year horizon) and θ = 0.5 (meaning that half of the value of age-related implicit liabilities is discounted).

It could be argued that $\widetilde{V}$ should be lower for countries that exhibit debt intolerance, such as emerging market countries (Reinhardt, Rogoff and Savastano, 2003). We make the assumption that this is not the case for any of the EU countries. Unlike in emerging countries, eurozone governments can be supposed to have permanent access to financial markets. $\widetilde{V}$ could in principle be negative since it can be backed by a sequence of future surpluses. In the absence of a normative theory of government balance sheet management, in view of the illiquidity of a large part of the government assets and to provide a safety margin, it is safer to take $\widetilde{V}$ to be positive.

To set these parameters, further empirical calibration based on actual numbers would certainly be required. Here, we make an illustrative back-of-the envelope numerical application in the French case, where the assets and liabilities figures are available as of 31/12/2003. The ageing working group expected age-related costs in France to go up from 26.4% of GDP in 2003 to 30.5% in 2050 (Economic Policy Committee, 2003). We take 2% for the discount rate – note that since age-related costs are measured in proportion to GDP, the discount rate is commensurate with the difference between the equilibrium real interest rate and the growth rate. Assuming that the costs are stabilised from 2050 onwards, the AWG projection implies that ARNIL was equal to 155.4% of GDP at end-2003. With $\widetilde{V}$ = 0, λ = 0.25 and θ = 0.5, we find V*2008 = 34 % of GDP against V2003 = 19.4% (Table 2). The unambitious target of a zero net value of the government would thus imply an adjustment of almost 3% of GDP per year in the period between 2003 and 2008!

Obviously, the results depend on the parameters. This is an unavoidable consequence of working with present values (as illustrated by the current debate on the burden of corporate defined-benefits pension plans in the US). However, to simply overlook future liabilities because their measurement raises technical difficulties amounts to choosing an infinite discount factor, which is hardly a satisfactory assumption either.

Procedures

The EU recently reformed its procedures and now prepares "integrated guidelines" that set out three-year plans for both macro- and microeconomic policies (plus employment policies). In a similar vein, we propose the following procedures. Every year, each country would publish a plan consisting in three elements: a *fiscal* plan, a *reform* plan, and a *contingency* plan:

- The fiscal plan should be along the lines of today's stability programmes, but with a longer horizon and projections of both assets and liabilities. It would describe a sequence of deficits and balance sheet operations (such as privatisations or asset purchases, securitisations, one-off revenues or payments, etc.) as a way to reach the target level for the government's net value. The deficit target would therefore be no longer be uniform since it would depend both on the target (which varies from one country to another) and on the nominal growth rate, which makes it more or less easy to reach the target.

- The reform plan would underpin the growth trajectory beneath the fiscal plan. It would resemble the existing "national reform plans", but with a stronger link to budgetary policy. An ambitious reform plan that has the potential to permanently increase output could justify a less ambitious fiscal plan. Every year, the Commission would review the implementation of the plans: countries that breached their deficit target would be expected to be warned, and eventually sanctioned, especially if they also failed to deliver the promised reforms.
- The contingency plan would describe how budgetary policy would respond to shocks – good and bad, such as an unexpected increase in tax revenues or a recession. It would expand on elements that have been introduced in the stability programmes already, albeit in a more systematic way. The contingency plan would thus address the inflexibility of a medium term-oriented fiscal strategy and could be used by the Commission in the assessment of fiscal developments.

From a political economy standpoint, it would be highly advisable for an incoming government to map out its economic strategy by preparing and publishing mutually consistent fiscal, reform and contingency plans for the period corresponding to the length of its mandate. The plans would indicate how the government envisaged the net value of the government to evolve as a consequence of its action, how it intended to address the consistency between its fiscal and structural strategies, and how it could be expected to react to events. Those plans could be changed in the following years, but vis-à-vis a government's European partners as well as in front of the markets, their mere existence would represent a constraint on a government's temptation to err with the wind.

<u>Institutions</u>

Is such a scheme politically feasible? As already noticed, the SGP was not properly integrated in member states' domestic agendas, and was at best used as a scapegoat to justify fiscal adjustment.

One possible solution would be to hand over fiscal responsibility to an unelected body such as a "fiscal policy committee" (Wyplosz, 2002). This solution is dear to some professional economists but after the French and Dutch referendums, we doubt that the European people would like it. Expert committees can nevertheless play a role in assessing the reform plans submitted by member countries. As already stressed, a risk of our approach, as of any departure from strict deficit monitoring, is to give politicians a free hand by removing the fiscal constraint in exchange for hollow promises. Reforms have to be assessed ex-ante, then monitored: this can be done by the Commission, but also by independent national fiscal audit committees as proposed by the Sapir (2004) report.

A key issue is how to create more political ownership of the SGP. Since the EU is not a standard representative democracy – Collignon (2004) discusses why and how to make it one – the only way to achieve this goal is through national parliaments. This implies that the fiscal, reform and contingency plans should be approved by Parliament after they have been discussed by Ecofin, so that Parliament can take account of the remarks made in Brussels. Since most member countries have their budget after the summer, this calls for a "SGP round" in Brussels during the spring.

V. Conclusions

One might wonder whether EMU needs a fiscal framework at all. After all, the US never really had one, and it does not seem to hurt them that much. But full fiscal discretion is not an option in a monetary union that does not exclude financial solidarity among its members but does not have a centralised government. It is the fate of Europe to weave endlessly at her loom and create new rules or institutions.

This paper has argued that the fiscal framework in place is far from satisfactory. We are not amused by its travails and would not rejoice at its eventual demise: failure to agree on and enforce a common fiscal philosophy could be a strong negative signal for the future of monetary union.

This is why we emphasise the need to take seriously the objective of a Sustainability and Growth Pact that would fully exploit the potential of the reformed SGP. Our proposals are certainly a matter for discussion. But we strongly believe that the technicalities of a sustainability assessment should not deter policymakers from addressing the underlying issues. It is certainly easier to focus on the deficit as currently measured and to overlook the more complex issues. However this is at the expense of the appropriateness, and therefore of the legitimacy, of the Pact. There is no easy way to address the challenges that threaten European prosperity.

Implementing a "Sustainability and Growth Pact" such as the one outlined in this paper would not eliminate the need for better governance of the eurozone. The more the Pact departs from the set of simple rules it consisted of initially, the more an effective and politically legitimate governance structure will be needed. However, for decisions to be consistent across cases and over time, the first step will be to provide for sound conceptual and accounting foundations.

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APPENDIX: Fiscal Sustainability with a Full Government Balance Sheet

We summarise the general government balance sheet as follows:

(1) $A_t = B_t + V_t$ where A_t are financial and non-financial assets at market value

B_t are financial liabilities at market value

V_t is the government net value

For the sake of simplicity, we suppose that the yield r_t on government bonds and the yield ρ_t on government assets are constant over time. Also, we ignore all valuation effects, *i.e.* we treat A_t, B_t and V_t as if they were registered at face value. In a more realistic model, revaluation should be accounted for. For instance, there could be cases of government finances that would be sustainable only as a consequence of an asset price bubble. The government's budget constraint is as follows:

(2) $(B_t - B_{t-1}) - (A_t - A_{t-1}) = rB_{t-1} - S_t$

S_t being the primary budget surplus. Note that S_t excludes interest payments but includes asset revenues such as dividends and rents. We can define a "primary primary" surplus $Z_t = S_t - \rho A_{t-1}$ excluding asset revenues. Putting together (1) and (2) shows that selling government assets improves the sustainability of V_t only insofar as these assets yield less that the government bond debt:

(3) $V_t = (1+r)V_{t-1} + S_t - rA_{t-1} = (1+r)V_{t-1} + Z_t + (\rho-r)A_{t-1}$

Under perfect foresight, we can use (3) to express the government net value as the sum of future budget surpluses at any horizon:

(4) $$\forall k \geq 1, V_t + \sum_{i=1}^{+\infty}(1+r)^{-i}\left[S_{t+i} - rA_{t+i-1}\right] = (1+r)^{-k}V_{t+k}$$

We rule out the possibility for V_t to follow an explosive path: (5) $\lim_{k\to+\infty}(1+r)^{-k}V_{t+k} = 0$. Let V_t* be the "sustainable" government net value: V* is thus given by:

(6) $$V_t^* + \sum_{i=1}^{+\infty}(1+r)^{-i}\left[S_{t+i} - rA_{t+i-1}\right] = 0$$

Note that the government net value can be negative, *i.e.* financial debt can exceed government assets, if a path of non-negative primary surpluses (after accounting for the opportunity cost of holding government assets rather than buying back debt) is expected to materialise and reimburse this debt.
Suppose now that we can identify the age-related component of the primary surplus:

(7) $S = S_t^{na} + S_t^{a}$ where $S_t^{a} < 0$ is net age–related revenues and $S_t^{na} = S_t - S_t^{a}$.

and let ARNIL be age-related net implicit liabilities:

(8) $ARNIL_t = -\sum_{i=1}^{+\infty}(1+r)^{-i} S_{t+i}^{a}$

Sustainability can now be written: (9)

$$V_t \geq V_t^* = ARNIL_t - \sum_{i=1}^{+\infty}(1+r)^{-i}\left[S_{t+i}^{na} - rA_{t+i-1}\right]$$

The sustainable net value is the sum of two components: ARNIL, and the net present value of all other future expenditures, including the opportunity cost of holding government assets rather than buying back debt.