The Stability Pact—Rationales, Problems, Alternatives

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Abstract

We analyze economic rationales for, and possible alternatives to, the Stability and Growth Pact (SGP). We identify various cross-country spillover effects and domestic policy failures as potential rationales. The two sets of problems suggest different corrective measures, and different measures than those applied in the context of SGP. We contrast the "legalistic" perspective adopted in the Pact with a more incentive-based approach and discuss how the legalistic perspective gives rise to enforcement problems in connection with the implementation of the SGP's sanctions.

KEYWORDS: Stability and Growth Pact; spillover effects; policy failures; Pigouvian taxes; enforcement of Stability Pact.
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1 Introduction

The Stability and Growth Pact (SGP) of the European Monetary Union (EMU) is an attempt at letting internationally agreed arrangements compensate for inadequate incentives of national fiscal policy makers. As dramatically illustrated by the problems of implementing the SGP, such arrangements may however be in conflict with the pursuit of other national policy targets, for instance ambitions to dampen the business cycle, smooth tax distortions, or fight unemployment. In fact, a large early literature predicted that such conflicts *had to* arise at some point. What is less clear, is whether (further) revisions of the SGP, or alternatives to the Pact, can mitigate these conflicts, and what such revisions or alternatives might be.

Against this background, the paper makes two contributions, one analytical and one substantive. On the analytical side, we apply economic theory to identify rationales for the SGP and to develop adequate policy responses in light of these rationales. We clarify the reasons for the difficulties connected with the Pact in its current form, and we integrate various points discussed in the literature into a coherent analytical framework. The analysis identifies two potential rationales for constraints on fiscal policy makers, related to cross-country spillover effects as well as domestic policy failures. We stress that these two rationales suggest different corrective measures, and different measures than those currently applied under the SGP. In particular, the most appealing response to spillover effects is a system of corrective (Pigouvian) taxes. By inducing decision makers to internalize international consequences of their policy choices, such a system helps balance national policy objectives on the one hand and the ambition to correct spillovers on the other. To address domestic policy failures, in contrast, corrective taxes are of little use. But procedural rules or limited delegation of fiscal powers to fully accountable committees offers a conceivable solution to the apparent conflict between the objective to counteract policy failures and the need to allow for flexibility.

On the substantive side, we highlight the "legalistic" perspective adopted in the SGP. We argue that this legalistic perspective renders the Pact both ineffective and difficult to enforce, in contrast to an alternative perspective that stresses incentives. On one hand, the SGP's legalistic approach based on binding ceilings and punishments in case of violations of these ceilings does not work towards achieving the desirable balance between national policy objectives and the ambition to correct spillovers. On the other hand, the legalistic approach aggravates the incentive problems that arise if politicians are supposed to enforce constraints in a discretionary manner; in particular, the fact that governments are "punished" for violations of agreed-upon rules creates unnecessary political drama.

The remainder of the paper is structured as follows: In Section 2, we compare the incentives of fiscal policy makers before and after the emergence of EMU, and we identify spillover effects and policy failures as potential problems with fiscal policy choices in EMU. In Section 3, we discuss alternative arrangements to address these problems, and mechanisms for enforcing such arrangements. Section 4 concludes. The appendix of the working paper version (Lindbeck and Niepelt, 2005) contains a formal analysis of the framework underlying the discussion in Section 2.

2 Fiscal-Monetary Policy Interaction

Our objective in this section is to characterize the problems arising as a result of decentralized fiscal policies in a world with interdependent national economies. For this purpose, we consider the situation in Europe both before and after the introduction of the common monetary policy. For analytical reasons, we also compare this situation to a hypothetical benchmark of fully

coordinated policy actions. Such comparisons allow us to identify whether the introduction of the monetary union created new problems, or rather accentuated already existing ones.

In the following, we refer to these three scenarios as "EU" (the situation in the European Union before the introduction of the monetary union), "EMU" (the situation in the European Union after the introduction of the monetary union), and "benchmark" (a hypothetical situation with internationally coordinated policy choices). Our discussion is based on a formal characterization of the incentive structure of policy agents in the benchmark, EU, and EMU as presented in the appendix of the working paper version (Lindbeck and Niepelt, 2005).

We analyze a situation where national economies are interconnected and hence, where national fiscal or monetary policies influence economic outcomes in other countries. We shall say that *spillover effects* arise if the policy choices by one authority directly influence variables entering in the objective function of other authorities. When policy makers move sequentially (rather than simultaneously), we shall say that *policy mediated spillover effects* arise if policy choices by one authority indirectly influence variables entering in the objective function of other authorities, via induced policy responses by third authorities.

2.1 Benchmark: International Policy Coordination

The benchmark reflects the hypothetical case of internationally coordinated decision making by all fiscal and monetary authorities, aiming at maximizing some cross-country social welfare function that aggregates the objective functions of all authorities, subject to optimizing behavior of private agents. One way to think about this hypothetical social welfare function is as a "compromise" including side payments. To make the benchmark comparable with the EU and EMU scenarios analyzed below, we assume that policy makers cannot commit. To simplify the exposition, we confine the analysis of the interaction between fiscal and monetary authorities to a single period. This is not very restrictive, since policy makers are allowed to "care" for state variables at the end of the period. For example, policy makers may have preferences over the stock of government debt at the end of the period to the extent that this debt affects future policy options and, hence, the welfare of households in the future.

Since all authorities are assumed to agree on the social welfare function, they fully internalize the direct spillover effects. If authorities moved sequentially, so that policy mediated spillover effects would arise as well, the latter would also be fully internalized (see the discussion in the appendix of the working paper version (Lindbeck and Niepelt, 2005)). As a consequence, the assumption about the timing of decision making is of no relevance when defining the benchmark. We conclude that in the hypothetical benchmark of international policy coordination, all spillover effects are fully internalized.

2.2 EU: Decentralized Fiscal and Monetary Policies

We characterize the situation before the introduction of the common monetary policy as decentralized decision making by monetary and fiscal authorities without commitment. The assumption that fiscal authorities cannot commit seems indisputable. After all, fiscal policies are at the core of political controversies and bargaining in national politics, subject to majority rule. Our parallel assumption with regard to central banks deserves further comment, however, given that central banks in the pre EMU era seemed less inclined to implement expansionary policies than the respective fiscal authorities. But this does not imply that central banks were committed to decision rules. Rather, it conforms well with the view that delegation of monetary policy

to Rogoff (1985)-type "conservative" central bankers (with limited commitment like any other official) gave rise to the observed behavior.

We assume that central banks move after fiscal authorities, thereby capturing the notion that central banks can adjust their instruments in a much more flexible fashion. This does not imply that central banks are forced to straighten out the macroeconomic mess that might be left by fiscal policy makers. Since there is no commitment, and since there will be "later" governments and central banks around, central bankers rather have the last word in each period; more specifically, they have *instruments* available to determine inflation or exchange rates. (Of course, the actual *policy choice* may be influenced by factors outside of their control. For example, although central bankers may be fully in control of the inflation rate, the rate they choose may nevertheless reflect concern for output stabilization or other objectives beyond price stability.)

A fiscal policy maker is now assumed to maximize his objective function subject to the expected policy choices by all other fiscal authorities and the expected policy responses by all national central banks. As a consequence of fiscal authorities' conflicting interests, neither direct nor indirect spillover effects are fully internalized. (See the first-order conditions (1) and (2) in the appendix of the working paper version (Lindbeck and Niepelt, 2005) for a comparison of the incentive structures of fiscal policy makers in the benchmark and EU cases, respectively.) This has three consequences:[1]

i. Undesirable cross-country redistribution due to non-internalized general equilibrium effects (so-called pecuniary externalities);

ii. efficiency losses due to non-internalized demand externalities if nominal prices or wages are sticky, reflected in output gaps and unemployment;

iii. efficiency losses due to the fact that non-atomistic authorities exploit their market powers in order to manipulate general equilibrium effects (efficiency losses due to strategic interaction).[2]

Efficiency losses do not only arise due to the different policy objectives of authorities. Other complications result from domestic agency problems. It is well known that politicians do not necessarily act in the best interest of society at large, in particular because the electorate is not fully informed about the content and consequences of policies actually pursued. These agency problems are aggravated by the fact that citizens have conflicting interests, and politicians themselves also have a limited knowledge about the functioning of the economy. As suggested by a large literature on domestic policy failure, fiscal policy choices are therefore likely to be inefficient, even in the absence of spillover effects and strategic interaction at the international level.[3]

[1] Evaluated by the cross-country social welfare function, the hypothetical policy choices in the benchmark implement an allocation on the (second-best) Pareto frontier. Since the decentralized equilibrium must satisfy additional incentive compatibility constraints, it must rank weakly lower than the benchmark case, if evaluated according to this objective function. If, in contrast, the welfare comparison between the two equilibria is based on the preferences of individual policy makers, the outcome in EU must be weakly worse for at least one authority. In fact, all authorities may potentially rank the decentralized equilibrium lower than the benchmark allocation, due to deadweight losses.

[2] Dixit and Lambertini (2001) analyze the strategic interaction between a common central bank and national fiscal authorities with different inflation and output bliss points.

[3] See the literature that originated with the contributions of the Public Choice School, in particular Buchanan and Tullock (1962) and Brennan and Buchanan (1980). For a review of the literature, see Mueller (1989).

2.3 EMU: Decentralized Fiscal Policies, Centralized Monetary Policy

We characterize the situation after the introduction of EMU as decentralized decision making in the fiscal field, combined with centralized monetary policy (once more without commitment)—with the European Central Bank (ECB) replacing national central banks. In the first stage, all national fiscal authorities move simultaneously, while the ECB follows in the second stage.

With national central banks replaced by the ECB, and the ECB pursuing an objective function accounting for the effects on the whole EMU area, the character of policy conflicts changes. The policy choice by a fiscal policy maker is now assumed to maximize his objective function, subject to the policy choices by all other fiscal authorities and the expected policy response by the ECB (see the first-order conditions (2) and (3) in the appendix of the working paper version (Lindbeck and Niepelt, 2005)). Moreover, the economic environment, including the type and strength of the direct spillover effects, also changes character. More specifically, pecuniary externalities become more pronounced to the extent that a specific government's borrowing in Euro bonds more strongly affects the interest rate of other national Euro debtors than when national capital markets are segmented by national currencies. The pecuniary externalities also become stronger if unsophisticated investors do not properly differentiate between the default risk of different countries, as long as they issue their debt in Euros, thereby driving up the cost of funds for more responsible governments.[4] Demand externalities become stronger as well, since the common currency fosters cross-border market integration, boosting international interdependence.

The changes in the character and strength of policy conflicts and direct spillover effects imply that the policy mediated spillover effects change as well. In particular, policy responses by the ECB to the developments in any member state have immediate implications for the monetary conditions in the whole EMU area. Depending on which fiscal variables the ECB responds to, various policy mediated spillover effects may now be present, giving rise to distorted fiscal policy choices (relative to the benchmark or EU) and deadweight losses.[5] For instance, expansionary fiscal policy in one country may increase the average inflation rate in the EMU area, inducing the ECB to raise interest rates with consequences for all member countries. Similar consequences may arise if the ECB responds to an EMU wide cost-push shock by raising the interest rate, and individual governments run expansionary fiscal policies to mitigate the effects of the monetary contraction. This in turn might induce the ECB to raise interest rates even further. Deadweight losses arise because fiscal policy makers do not account for the negative consequences of this further interest hike on the objectives of other fiscal policy makers. In equilibrium, fiscal policy in each country is expansionary, but output remains depressed due to the ECB's contractionary policy stance.[6]

Other policy mediated spillover effects may arise if the ECB cannot credibly commit to uphold its inflation target. For instance, fiscal policy makers might anticipate the ECB to soften its monetary policy stance in response to rising debt levels, in order to depreciate the real value of the outstanding debt or to stimulate the economy that is depressed as a result of high distorting taxes (required to pay for the debt service). In consequence, fiscal policy makers

[4] A recent warning by the ECB not to accept sovereign debt of low-rated government bonds as collateral would, if implemented, accentuate the risk-premium of such bonds. This would mitigate the effect described in the text.

[5] If the ECB responds to EMU wide averages of variables, it will react more strongly to policy choices by large countries than by small countries. Taken by itself, this means that fiscal policy makers in small countries are less likely to internalize the effects of their actions on EMU-wide monetary conditions.

[6] See Uhlig (2002). In contrast to most spillover effects proposed in the literature, this effect suggests a critical role for deficits as opposed to government debt.

may be tempted to issue more Euro denominated debt, or debt in other denomination, than in the EU case.[7] Deadweight losses arise because individual governments do not take the negative consequences of higher equilibrium inflation in other countries into account. If not only policy makers, but also investors, correctly anticipate the ECB's response, it has no "real" effects, but simply results in an inflationary bias similar to the one analyzed by Barro and Gordon (1983): Equilibrium inflation is pushed to the level where the ECB is no longer willing to further devalue outstanding debt or stimulate the economy at the cost of higher inflation. As a consequence, all fiscal policy makers (and the ECB) end up being worse off.

A similar type of policy mediated spillover effect due to lack of commitment arises if the ECB is expected to act as a lender of last resort and purchase public debt from the banking system, say, whenever the prospect of an imminent sovereign default leads to a liquidity crisis.[8] In that case, the ECB's response has real effects since, effectively, part of the burden of the crisis country's public debt is borne by other member states. As a consequence, a common-pool problem arises: Anticipating the course of action, fiscal authorities once more issue too much public debt and equilibrium inflation expectations rise, fueled by the anticipation of a monetary bail out.

The move from EU to EMU also affects domestic fiscal policy failure. First, two watchdogs against policy failures—domestic central banks and international foreign exchange markets—disappear, thereby *discouraging* responsible fiscal policies. Second, the abolition of national monetary policies removes possibilities for mitigating the costs of domestic policy failures by way of monetary policy interventions, thereby *encouraging* responsible fiscal policies. Consider first the watchdog issue. Absent national monetary policy, fiscal authorities are freer to overheat or depress the economy, generating higher macroeconomic volatility. Moreover, the role of financial markets as watchdogs on domestic fiscal policies changes character. In EU, market expectations of "irresponsible" fiscal policies were rapidly reflected in the exchange rate, presumably because investors expected national monetary policies to accommodate fiscal problems, with depreciation as a result. The threat of such immediate market responses on the foreign exchange market probably deterred some irresponsible policies in the first place. In EMU, this threat no longer looms because exchange rates are fixed. With price reactions to fiscal policy choices thus confined to the bond market, the incentives for "responsible" fiscal policies tend to fall.

Turning to the second point, the abolishment of national central banks eliminates a domestic lender of last resort with powers to inflate away nominal government debt in times of crisis, for instance when the debt level seriously threatens intergenerational equity objectives. Since the ECB is less likely to intervene in response to a national crisis than a domestic central bank, the move from EU to EMU might strengthen the incentives of national fiscal policy makers for prudent fiscal policy choices. Similarly, the abolition of national monetary policies under EMU eliminates the option to devalue as a final escape route. This also tends to restrain governments (and unions) from pursuing inflationary policies, since such policies have contractionary (and thus unemployment creating) effects on the tradeable sector, if devaluations are no longer feasible.[9]

The move from EU to EMU thus has various, and potentially opposing, consequences for

[7] See Chari and Kehoe (2004) and Beetsma and Bovenberg (1999) for models illustrating these points.

[8] See Uhlig (2002). He also discusses how the incentives for prudent bank regulation are affected when the ECB becomes the lender of last resort.

[9] In those countries whose central banks under the EU regime strictly pegged their currencies to the D-Mark and therefore had no flexibility in their monetary policy choices, the move from EU to EMU would tend to reduce the sensitivity of monetary conditions to (fiscal) developments to a lesser extent.

the extent of domestic policy failure and thus for macroeconomic stability and intergenerational redistribution. The net effects are unclear from a theoretical point of view. Nor is the empirical evidence conclusive. Fatás and Mihov (2003) report signs of a "fatigue" in fiscal consolidation efforts after the introduction of the common monetary policy in 1999. But it remains unclear whether this fatigue is related to changed incentives and/or a lack of enforcement (see Subsection 3.3), or rather represents a reaction to the preceding exceptional efforts to qualify for EMU membership.

How important are these potential problems in EMU? The prevalence and importance of domestic policy failure is widely acknowledged. In contrast, there is less consensus on the importance of direct spillover effects of fiscal policies; to the extent that these direct spillover effects exist, however, it seems plausible that the move from EU to EMU made them quantitatively more important. In any case, *policy mediated* spillover effects transmitted by monetary policy responses may arise independently of direct spillover effects, and as we have argued before, changes in such policy induced spillover effects may be regarded as the major qualitative difference between the EU and EMU regimes. One type of policy mediated spillover effects is a direct consequence of the ECB's mandate to pursue area-wide price stability. The other type, in contrast, only arises if the ECB lacks credibility in pursuing this mandate. In our view, the ECB can neither commit, nor is it perfectly insulated against political pressures to pursue objectives in conflict with their inflation target. To the extent that fiscal policy makers exploit these features of central bank behavior, an inflationary bias or a dynamic common-pool problem might arise. Under the alternative assumption that the ECB can actually commit, and is only concerned about inflation, the threat of an inflationary bias or dynamic common-pool problems disappears.

Regardless of whether international repercussions are quantitatively important, politicians seem to have taken their existence seriously when conceiving of the SGP. A cynic might say that their arguments were simply excuses for ambitions to keep certain countries, such as Italy or Greece, outside of EMU—an attempt to keep the "bad apples out of the EMU basket." But this argument triggers the question *why* policy makers wanted to block the access for these countries, if not for the reason that they regarded international repercussions as important.

3 Corrective Mechanisms

We have identified two potential problems concerning fiscal policy choices in EMU, one related to various spillover effects, the other to domestic policy failures. We now turn to the pros and cons of alternative methods to deal with these problems.

3.1 Dealing with Spillover Effects

The natural solution to problems associated with a lack of international policy coordination is, of course, to coordinate. In practice, however, intergovernmental coordination that is sufficiently far-reaching to internalize all spillover effects would create a number of new problems, for example, the danger of coordinated actions against the ECB, a point made by Giavazzi (2004). More generally, the substantial transfers of power to officials required for successful coordination bear significant risks, in particular of abuse of power and of misjudgement due to insufficient information among decision makers (a Hayek-type argument). The obvious way of minimizing these risks is to limit government intervention on the supra-national level to those issues for which coordination is expected to be particularly beneficial. Such partial coordination might

be a more "robust" arrangement than far-reaching coordination, since it limits the danger of large-scale political failure. Moreover, limited coordination is in better accord with visions of decentralization of power, citizens' political participation, and political accountability.[10]

In principle, a system of elaborate Pigouvian taxes (plus transfers) is an alternative to far-reaching policy coordination.[11] However, such an "ideal" Pigouvian tax system is subject to similar types of problems as far-reaching coordination. The same robustness argument would therefore point to a more limited Pigouvian system than the "ideal" system that strives to implement the hypothetical benchmark outcome.

Such a more limited Pigouvian system would tax (subsidize) those policy outcomes considered to be at the source of the most important spillover effects to other countries. What these variables are, depends on the type of spillover. From a cross-country *redistribution* point of view, the public debt level may be particularly relevant, since it affects the cost of debt service across countries. From the *demand externality* point of view, output gaps (in Euros) are particularly relevant, since they are connected to direct spillover effects via trade. Finally, from the point of view of *strategic interaction* with the ECB, the public debt level is particularly relevant, since a high debt level increases the incentive for the ECB to loosen its monetary policy stance, as discussed earlier.[12] Negative output gaps (in Euros), deficits (in Euros) or inflation rates (weighted by GDP) may also be relevant bases for Pigouvian taxes, to the extent that they trigger contractionary monetary policy responses by the ECB that affect all member countries. Theoretically, taxes on these various "sources" of spillover effects are equivalent to (sets of) taxes on other variables closely linked to the sources. However, these links are not always well understood, nor are they likely to be reasonably stable over time. A robustness argument therefore implies that the Pigouvian taxes should apply as directly as possible to the sources of what are considered to be the most important spillovers.

In principle, the tax rates imposed under this limited Pigouvian system should reflect the external social marginal costs of the implemented policies, inducing governments to internalize the spillover effects of their actions and allocating debt, deficits, output gaps, or other sources of spillovers to those countries where their social value is highest (or the social cost is lowest). Since the system would generally result in an unbalanced budget, the surplus or deficit would have to be distributed among member countries.

There is a close parallel between a Pigouvian tax system and a system based on marketable permits assigning the right to conduct policies resulting in spillover effects—a mechanism proposed by Casella (1999) for allocating budget deficits among countries. In such a system, the total amount of permits is fixed by the supra-national authority, and each country obtains an initial endowment of permits. Trading of permits then takes place, and market prices adjust to equilibrate the demand and supply for the permits. The resulting equilibrium allocation is identical to the allocation under the Pigouvian tax system, if both systems generate the same

[10] This argument is different from the "subsidiarity principle", according to which centralization is acceptable only if it yields better solutions to the problems at hand. Our point rather relates to the trade-off between gains from coordination and the loss of other values, such as decentralization of power and national political accountability.

[11] By Pigouvian taxes, we mean marginal taxes (subsidies) of the same size as marginal negative (positive) externalities.

[12] Taxes on a country's debt level might appear problematic, due to large variations in the debt level across countries, and difficulties in affecting the debt level within a reasonably short time. Nevertheless, the debt level should be taxed if considered to be an important source of spillover effects. At the same time, however, countries with high debt levels could receive lump sum transfers. In this way, the income effects of the tax could be neutralized without forgoing the desired incentive effects.

incentive and wealth effects, i.e., if (i) the Pigouvian tax rates are identical to the market clearing prices and (ii) each country's net tax payments under the Pigouvian system are identical to its net expenditure on permits under the tradeable permit system.

An important and delicate question relates to who should have the authority to set the Pigouvian tax rates or the quotas in a permit-based system. To have the interests of all countries involved considered, authority should rest with a body composed of representatives of all member countries. This could be the European Parliament, the Council, or the Commission. These bodies could of course decide to delegate the task of assessing the severity of spillovers in a given year to a group of experts.

In practice, Pigouvian taxes or tradeable permits, even in limited form, would be connected with serious problems. First, some of the source variables of spillover effects, for instance unemployment rates and output gaps, are notoriously difficult to measure. It may therefore be necessary to confine the tax bases to variables that are easier to measure, such as country-level inflation, budget deficits, and debt levels. Second, it is practically not feasible to solve the complex optimization problem required to determine the tax rates or number of permits, that would accurately reflect the external social marginal costs of spillovers. Tax rates or permit quantities, as well as the distribution of tax revenue or initial permit endowments, would therefore have to be determined in a more ad-hoc fashion, possibly by trial and error. One drastic simplification would be to impose the *same* Pigouvian tax rate on a particular variable in all countries.[13] In the tradeable permits case, this would correspond to a single (multilateral) rather than many (bilateral) markets for permits on that particular variable. This approach would be particularly natural, if demand externalities and problems of strategic interaction are considered to arise in proportion to the EMU *average* of particular variables. Indeed, this appears to be a reasonable approximation in the case of demand externalities arising from output gaps, and an even more reasonable approximation in the case of the effects working via policy responses of the ECB. Another simplification concerns the distribution of the surpluses of Pigouvian programs or, alternatively, of the initial endowments of tradeable permits. A politically feasible scheme might be distributions in proportion to the GDP of each country.

While a Pigouvian tax system is theoretically equivalent to a tradeable permits system, informational limitations imply that the former is likely to be more operational than the latter. Take, for example, the case of permits for deficits, as suggested by Casella (1999). Since governments only have imperfect control over the size of their deficits during a given fiscal year (and indeed do not know the exact outcome until after the end of that year), they may have incentives to either accumulate excessive permits for precautionary reasons, or take the risk of ending a period with fewer permits than required. To address the latter point, the system might be extended to allow for ex-post markets for permits, or intertemporal trade in deficits. This, in turn, would require additional safeguards, for example progressive fees as suggested by Casella, to avoid that governments exploit the option of intertemporally substituting permits. Otherwise, the intended influence over contemporaneous deficits would easily be lost. A basic weakness of the permit-based approach therefore is that it requires additional actions to deal with governments running larger deficits than consistent with their permits; this problem does not arise in the case of Pigouvian taxes. Another problem with the permit solution is that large countries may act oligopolistically in the market for permits. This problem could also be avoided

[13]Such an outcome would also be expected for political reasons. Political factors render it very difficult to *explicitly* differentiate institutional constraints across countries although, as will be discussed subsequently, the implementation of established constraints may differ across countries, for instance due to unequal political bargaining powers.

under a system of Pigouvian taxes where the regulating authority does not lose direct control over the price/tax on the activity to be regulated.

Could the SGP, in fact, be characterized as a primitive form of corrective tax system? After all, one might interpret fines in connection with violations of the SGP as taxes meant to increase the costs of certain actions rather than completely deterring them. In our view, the SGP compares unfavorably with a proper Pigouvian tax system. The basic reason is that the Pact's incentive structure is asymmetric by punishing deficits without rewarding surpluses,[14] and also discontinuous since it imposes zero marginal costs of deficits except at some specific deficit quotas, starting with three percent. The SGP therefore does not even approximately induce an equalization of the marginal costs and benefits of deficit reduction across countries. Moreover, the Pact deals with only two (and in effect, mainly one) variable while other factors such as domestic inflation might be at the source of equally important spillover effects.

The background for the Pact's poor incentive structure is most likely a legalistic view, where fines are seen as punishments, designed to deter the violation of strictly binding ceilings. According to this view, it is "more natural" to forbid certain actions and punish violations than to influence behavior via the price system. From that perspective, corrective taxes might also be regarded as interfering "too strongly" with national policies. Neither view is convincing—the first because it neglects the efficiency losses due to discrepancies between marginal costs and benefits of adjustments in policy, the second because it is far from obvious that taxes more severely restrain national autonomy than fixed ceilings such as those embodied in the SGP.

So far, we have discussed possibilities to counteract spillover effects—direct ones as well as indirect ones induced by policy changes of the ECB. Of course, rather than counteracting spillover effects of the latter type, one might opt for a monetary policy regime designed to eliminate their sources all together. To the extent that these sources, as discussed earlier, relate to a lack of credibility on the part of the ECB, creating such credibility would eliminate, or at least mitigate, the problem.

3.2 Dealing with Domestic Policy Failures

Since asymmetric information is at the heart of the principal-agent problems between politicians and citizens in a representative democracy, enhancing transparency and information is a natural way of addressing domestic policy failures. Indeed, much of the literature on national policy failures addresses the issue of improving the transparency of domestic policy making. For example, Fatás, Hughes Hallett, Sibert, Strauch and von Hagen (2003) have proposed to create a "Sustainability Council for EMU" with the task to report its assessment of member states' fiscal policies to the public and the European Parliament. To boost media coverage and thus public discussion, the Sustainability Council should also report its assessment to the relevant national parliament and government. Moreover, the latter could even be obliged by law to respond in written form to the report. Since reforms along those lines may not be sufficient, we will discuss additional potentially useful devices.

Policy failure can be interpreted as a form of externality from politician's actions on society at large. At first sight, this may suggest Pigouvian taxation as the optimal corrective approach, in parallel to our previous reasoning on how to deal with international spillovers. In contrast to the case of international spillovers, however, Pigouvian taxes should then have to be paid by *politicians* rather than countries. As this is clearly not feasible, a second-best solution may

[14] To the extent that fines are refunded to countries that did not violate the constraints, there is some weak form of symmetry.

be that countries instead pay Pigouvian taxes to an international authority, so as to indirectly influence politicians' behavior. Pigouvian taxes designed to mitigate international spillover effects may therefore help mitigate domestic policy failure as well, in the sense of tending to "work in the right direction" also for the latter problem *if* politicians are not indifferent about the effect of the corrective tax on the government's budget. In general, however, international spillover effects and domestic policy failure will require different corrective measures.

Another approach is to impose restrictions *directly* constraining politicians' behavior. These restrictions could either be of a procedural type, with the consequence, for example, of strengthening the powers of parliamentary budget committees or the treasury in the budget process; or they could directly constrain some fiscal policy instruments or outcomes, for example by imposing ceilings on expenditure levels or budget deficits.[15]

In the presence of a spending or deficit bias, there is a clear case for procedural restrictions. Constraints on policy instruments or outcomes, in contrast, are more problematic. Although expenditure ceilings tend to strengthen the powers of the treasury relative to the spending departments, which might be useful, such constraints can easily be circumvented by creative book keeping or by switching from transfers to tax concessions. More importantly, constraints on fiscal instruments or outcomes such as in the SGP impinge on the possibility to use fiscal policy in a flexible manner, which could create high costs for society. To minimize the corresponding cost-benefit ratio, constraints should only be attached to the most appropriate variables, and in a way that minimally interferes with the ability to pursue other legitimate policy objectives.

As argued by many authors, the constraints embodied in the SGP are unlikely to satisfy this efficiency requirement. One reason is that the constraints might prevent the automatic stabilizers from working in the most desirable fashion. They might also crowd out public investment, prevent tax smoothing or stabilizing discretionary demand management policies or, indeed, induce a fiscal contraction in the midst of a recession by the requirement to reduce deficits or the debt quota.[16] It has also been argued that the SGP embodies asymmetric incentives (since it does not give incentives to behave "well" as opposed to avoiding "bad" behavior); that it only considers government debt, not assets; and that it does not account for implicit government debt such as social security obligations.[17]

In light of these criticisms, the literature includes a number of proposals for alternative constraints on fiscal policy makers. For instance, Blanchard and Giavazzi (2003) have argued that there is a case for constraining deficits net of public investment in order to reduce the risk that the SGP may crowd out government investment.[18] Other authors have suggested to

[15]For instance, the Swedish budget process includes expenditure ceilings which are determined before the allocation of funds to specific government departments. In the U.S., the congressional budget committee holds particularly strong powers. In the U.K., the government has adopted principles of fiscal management enshrined in a "Code for Fiscal Stability."

[16]See, for example, Blanchard and Giavazzi (2003), Buiter, Corsetti and Roubini (1993), European Economic Advisory Group (2003), or Fatás and Mihov (2003) for discussions. Naturally, these arguments assume, that fiscal stabilization policy is, on balance, useful. While there is a broad consensus on this issue with respect to automatic stabilizers, there is controversy on whether discretionary fiscal policy also contributes to macroeconomic stability. The latter is probably true in extreme recessions or booms, while experience suggests that fine-tuning of the business cycle is rather hazardous. See also European Economic Advisory Group (2003) for a discussion of fiscal stabilization policy.

[17]The notion of generational accounting is designed to incorporate the two latter considerations, see Auerbach and Kotlikoff (1987). Another problem with the SGP relates to the improper treatment of inflation: The nominal deficit, divided by the price level overstates the real deficit since it neglects the inflation induced depreciation of real government debt.

[18]Allowing governments to finance productive public investment by bond issues rather than by taxation may

tie the Pact's constraints to alternative deficit measures, or to use combined measures of the government's financial position that link the deficit and the debt quota. In particular, some proposals argue in favor of constraining the cyclically adjusted deficit or the average budget deficit over the business cycle; other proposals would let countries with smaller debt quotas run larger deficit quotas (European Economic Advisory Group, 2003; Commission of the European Communities, 2004), or allow countries to run (larger) deficits only if they recorded sufficiently high surpluses during the last few preceding years.[19]

Some of these proposals would presumably need amendments. For constraints on medium-run or accumulated budget deficits need not induce governments to run surpluses in "good" times if these governments are myopic or expect to be replaced. They might rather give rise to a situation where subsequent governments are forced to pursue restrictive fiscal policies even during a recession. A medium-run deficit constraint may therefore come in conflict with ambitions to stabilize the economy—even more so than a period-by-period deficit constraint. The Pact's requirement that governments run budget surpluses during booms might mitigate this problem.

Some of the concerns mentioned earlier are (partly) addressed by the SGP since it includes a number of escape clauses according to which corrections of deficits may be delayed. Indeed, these escape clauses have recently been considerably widened under the revised SGP in 2005 (Calmfors, 2005). On one hand, this means that the Pact has become less rigid and more accommodating to specific circumstances, including prolonged recessions. On the other hand, however, the Pact has become even more difficult to enforce—an issue to which we return.

Delegation of authority constitutes an alternative to direct restrictions on policy makers' choices. In contrast, for example, to rigid ceilings, delegation has the advantage of allowing for flexibility because all available information can be accounted for at the time decisions are taken. At the same time, it does not jeopardize ambitions to counteract policy failures as long as the agents in charge face appropriate incentives.

For instance, delegation of monetary policy to a Rogoff (1985)-type conservative central banker has not only helped mitigate problems of time-inconsistency, but also reduce the influence of party politics in national monetary policy. In a parallel fashion, some limited delegation of fiscal policy might reduce the extent of policy failure by mitigating the risks of pronounced political business cycles or counteracting tendencies towards "unsustainable" policies, i.e., policies that drastically redistribute wealth from future to current generations. In spite of these similarities, the delegation of fiscal policy is necessarily quite a different matter than delegation of monetary policy since one fundamental purpose of fiscal policy is to allocate resources and distribute income in accordance with voters' preferences. In other words, fiscal policy is at the core of the democratic process, to a much larger extent than monetary policy. This implies that the possibility of delegation to agencies outside the political sphere is much more limited for fiscal policy than for monetary policy. Delegation of the latter generally involves a hand-over of all relevant instruments to an administratively independent central bank (although governments have prescribed the general policy targets and, in some countries, even the numerical target such as a certain rate of inflation). Delegation of fiscal policy cannot go that far, but it can go some way.[20]

induce contemporary voters to account more for the welfare of future generations. See Bassetto and Sargent (2004) for a formal analysis of this point.

[19] In contrast to the proposal by the European Economic Advisory Group (2003) to condition the deficit constraint on the level of debt, the latter proposal implies that fiscal policy is not constrained by budgetary decisions in the distant past.

[20] See the discussion of this issue in European Economic Advisory Group (2003).

A very limited type of fiscal policy delegation would be to create a fiscal policy committee forecasting the budget outlook (similar to the Congressional Budget Office in the U.S.) and officially recommending the general fiscal stance, for instance regarding the size of the budget deficit. Harden and von Hagen (1994) as well as Wyplosz (2002) make a much more far-reaching proposal, arguing that fiscal policy committees should be given an explicit mandate of ensuring debt sustainability and powers to limit annual government deficits by law. Since deficits cannot be controlled directly, however, the fiscal policy committee would then have to propose alternative combinations of fiscal policy instruments that satisfy (in the committee's view) the deficit ceiling, and the government would have to choose among these proposals. Similarly far-reaching are suggestions to allow fiscal policy committees to scale tax rates and/or spending levels up or down from their politically determined base values (see the discussion in European Economic Advisory Group, 2003). In the special case where the same scaling factor applies to all taxes and all types of government spending, politicians would largely retain control over the *structure* of taxation, subsidies, and government spending, and thus the control over Musgrave's (1959) distribution and allocation branches of fiscal policy. Control over the macroeconomic stabilization branch, in contrast, would be handed over to the fiscal policy committee. Whatever form such partial delegation of fiscal policy may take—and political considerations suggest that it is unlikely to go very far—the members of fiscal policy committees would in any case have to be accountable to political authorities, in the same way as operationally independent central banks.

As mentioned before, corrective taxation on the supranational level requires some international arrangement to determine, collect and potentially redistribute the proceeds from these taxes. In contrast, measures to correct domestic policy failure do not necessarily require any international involvement since they can, in principle, be implemented by domestic legislation. To give these measures any "bite", however, they must be difficult to reverse, i.e., in Buchanan and Tullock's (1962) terminology, they need to be enacted on a "constitutional" level. If this is not possible because national policy failure extends to the constitutional level, then *internationally* imposed constraints may play a substitute role as credible self-disciplinary devices. Like the GATT, WTO, and many other international agreements, the SGP may be regarded as such a reflection of policy makers' willingness to tie their own hands in fiscal policy matters by internationally agreed rules. In that view, the launch of EMU offered a "window of opportunity" to impose the SGP as an external commitment mechanism (European Economic Advisory Group, 2003), and let EMU-wide institutions serve as a "fiscal backbone" for countries with weak institutions (Buiter et al., 1993).[21] [22]

With regard to delegation of authority, constitutional failure gives rise to two distinct dimensions along which supranational involvement might be beneficial: Not only might delegation be *imposed* by a supranational arrangement, but countries may also choose to delegate fiscal policy decisions to supranational bodies. In fact, some governments may actually find it beneficial

[21] Beetsma and Uhlig (1999) propose a different explanation for the link between EMU and the SGP. They argue that the common currency is a prerequisite to render the enforcement of constraints on fiscal policy makers of the kind implemented in the SGP time consistent. According to Beetsma and Uhlig (1999), countries have incentives to enforce deficit constraints on other countries, only if they are harmed by deficits in those countries which they argue to be the case under a common currency.

[22] The extent of domestic constitutional failure and thus, the need for supranational involvement, presumably varies between countries. According to Eichengreen (2004), the—internationally imposed—SGP constraints should therefore only apply to those countries that are unable to pursue sound fiscal policies on their own (as judged by an independent expert committee). Eichengreen (2004) proposes three measures of sustainability: the presence of "appropriate fiscal institutions", "limited future pension liabilities", and flexible labor markets.

to have their hands tight by international agreements since this may increase their bargaining power within the country. The IMF, the WTO, not to speak of the EU itself all are examples where governments have accepted a loss of national sovereignty combined with delegation of economic powers to an international body.

3.3 Enforcement

Nationally or supranationally imposed constraints on budget policies will not be effective in the absence of credible enforcement mechanisms triggering sanctions in case of violations of the constraints. Two incentive-compatibility constraints must be satisfied to achieve credibility. First, the authorities in charge of implementing the sanctions against violators must have the incentive to do so ex post. Second, the violator must prefer to accept the punishment over bearing the consequences of not doing so.

Regarding the authority in charge of imposing the sanctions, the degree of discretion is crucial. At one extreme, the decision to impose sanctions might be made by a political body. In this case, incentive problems will typically be severe because the implementation of the sanction constitutes just one among many issues dealt with by this body. This opens the gate for complex compromises ("log-rolling") across many different issues, reducing enforcement of the constraint to one among many concerns. Such compromises could also involve intertemporal exchange of favors: when A abstains from supporting the punishment of B, the latter is expected to reciprocate in the future. Arguably, this is one aspect of what has happened in the EU Council when sanctions against France and Germany in connection with the SGP where repeatedly delayed (see, for example, Calmfors, 2005, pp. 31-32, 52–53). At the other extreme, sanctions might be imposed by an independent body of experts, or a court, that simply follows pre-specified rules. In this scenario, the incentive problems would typically be smaller, since such a body has less scope for compromises across a broad spectrum of issues.

A political body operating under a discretionary regime may be particularly inclined to delay or even abstain from imposing sanctions if they are regarded as draconian. In that respect, the severity of the punishment does not only depend on the economic costs, but also on negative political repercussions. In the case of fines, for example, policy makers may suffer more from the loss of political reputation due to the "political drama" caused by the payment of a fine, than by the fine itself. Of course, from an economic-theory point of view, a fine is equivalent to a discontinuous tax function. From a legalistic point of view, in contrast, only fines represent *punishments* of violations of binding restrictions. To the extent that the general public and the media holds a legalistic view, violation of a constraint, and the payment of a fine, therefore spurs much worse publicity than payment of a tax[23], and a government is likely to fight tooth and nail to avoid formal punishment, not least by manipulating the statistics.

The political drama associated with fines is accentuated by their abruptness, i.e., by the fact that a small change in the constrained variable triggers a large punishment. In the context of the SGP, such abruptness is likely to be regarded as unreasonable or unfair not only by the country concerned and its government, but also by other governments that are supposed to initiate the sanctions. With a smooth tax function, such problems may not arise to the same extent. A tax therefore mitigates two problems associated with the enforcement of SGP-type constraints, one related to the perception of fines as punishments, the other to the abrupt consequences of violations.

[23] An arrangement built on *rewards* for non-violators as opposed to fines for violators might mitigate the political drama. Naturally, this would require that more revenue is raised or other expenditures cut.

In light of these concerns, escape clauses and delays in the SGP (in particular after the revisions in the Fall of 2005), might be regarded as attempts to strengthen the credibility of the Pact. In particular, one might argue that the presence of escape clauses makes it less likely for a country to be punished when this is unreasonable, for instance because of economic events beyond the government's control. The problem with this is, however, that sufficiently "reasonable" escape clauses would have to be very vague. This, in turn, opens Pandora's box of even more elaborate bargaining on whether sanctions should be imposed or not, and whether the process should be delayed or not. What remains is a dilemma: Both very rigid constraints and constraints subject to escape clauses are unlikely to be implemented in a discretionary regime and thus, are not credible.

Consider next the violator's incentive to conform with sanctions. In our view, there appear to be two forces in the context of EMU inducing a violator to obey: norms and the threat of losing some benefits of membership in EMU. Social norms (in society at large or in one's peer group) and internalized norms work through utility losses for the violators, either in terms of reduced status or shame (in the case of social norms) or bad conscience or guilt (in the case of internalized norms). For instance, politicians in government might want to avoid being considered an "outcast" and thus feel obliged to obey supranationally imposed constraints.

If the general public is sufficiently anxious that constraints be obeyed, the influence of social norms may be accentuated by the threat of publicity of a violation. This points to a potentially important role played by the media and prestigious authorities such as an international court. The proposal mentioned above by Fatás et al. (2003) to create a "Sustainability Council for EMU", with the task of reporting its assessment of fiscal policies of member states to the public and the European Parliament, builds on exactly this notion of discouragement of "rule" violations via public awareness and pressure. (As we mentioned before, such pressure might be boosted by requirements that the assessment should be presented to and discussed by the relevant national parliament, and that the governments should have to respond to it.) Similarly, the European Commission has emphasized the role of peer pressure to enforce the SGP (Commission of the European Communities, 2004).

If the general public is not sufficiently interested in a government's conduct, or if the public actually encourages a government to violate a constraint, then social norms lose their force. In that case, the necessary pressure must come from other countries. Ultimately, then, it is the threat to be excluded from some benefits of membership that can enforce obedience to the constraint. For example, a country's voting rights might be limited, or transfer payments might be cut down if the violator is a net recipient of transfers. Naturally, this threat is less severe for a larger country, in particular if it is a net financial contributor. This might be one reason for the relatively stricter adherence to the enforcement procedures of the SGP against Portugal than against France and Germany (see, for example, the discussion in Calmfors, 2005, p. 30).

4 Concluding Remarks

The design of institutional constraints on fiscal policy makers such as SGP must be based on an assessment of the problems the constraints are supposed to solve. At the same time, such design must account for the fact that politicians rather than benevolent guards of citizens' interest take policy decisions.

If the basic purpose of the SGP is to keep international spillover effects in check, then corrective taxes on variables associated with these spillovers constitute the most appealing response.

Compared with the SGP's legalistic approach based on debt or deficit ceilings and punishments in case of violations of these ceilings, tax-subsidy programs would tend to improve both efficiency and, due to reduced political drama, enforceability. Such tax-subsidy programs would need to be simple in order for them to be operational and politically implementable. In particular, tax rates would have to be uniform across countries, and levied on a small set of easily measurable variables such as deficit and debt levels or national inflation rates, weighted by GDP. With regards to policy-induced spillover effects arising due to the ECB's lack of commitment, strengthening the credibility of the ECB—as far as this is possible—would constitute the most direct solution to the problem.

If the objective is instead to correct for domestic policy failures, increased transparency constitutes the natural response. Fixed debt or deficit ceilings are another possibility but they may imply too large a loss of policy flexibility—assuming that they can be enforced at all. Procedural rules or limited delegation of fiscal powers to fully accountable committees may help resolve the fundamental conflict between policy flexibility and the ambition to counteract policy failures.

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