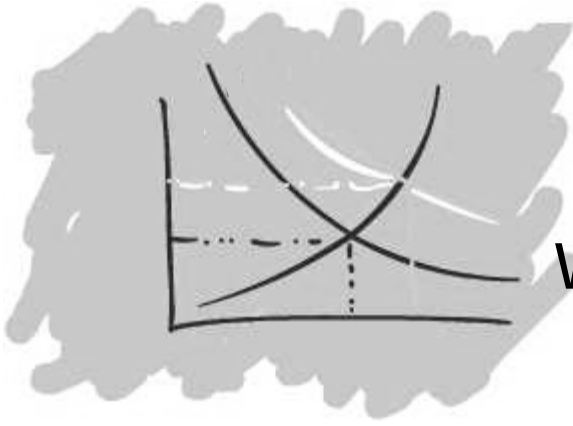


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survey of the political economy issues



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The role of fiscal delegation in a monetary union: a survey of the political economy issues*

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Abstract: Current proposals to address the European sovereign debt crisis envision some sort of fiscal union to complement the Economic and Monetary Union, backed by stronger sanctions against countries that deviate from budget balance. We argue that sanctions are an indirect approach to balancing budgets, and that member states, and Europe as a whole, could instead consider delegating effective fiscal instruments with a direct budgetary impact to an independent authority.

Outside of a fiscal union, a solvent country could establish an independent fiscal authority at the national level, with a mandate to maintain long-term budget balance. Delegating a few powerful fiscal instruments to an institution of this type could cut off speculation about fiscal sustainability without ceding sovereignty to a supranational body. Inside a fiscal union, delegating one or more fiscal levers of each Eurozone member state to a national or European fiscal authority could eliminate moral hazard without relying on sanctions *per se*.

Many fiscal instruments can serve to balance budgets, but in the context of a monetary union the chosen instrument should ideally be one that increases competitiveness when recession looms. The instrument should also be one that is quick and simple to adjust, with a large budgetary impact and minimal redistributive consequences. For consistency with these criteria, we argue that fiscal adjustments should operate on the spending side, rather than the revenue side, and that spending adjustments should affect the prices the government pays, instead of the quantities of goods and services it purchases. We discuss in detail how a system of this sort could be implemented.

Keywords: Fiscal delegation, public spending, sovereign debt, monetary union

JEL classification: E32, E62, E63, F41, H63

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Suppose a country, which we arbitrarily call Spain, experiences a boom which is stronger than in the rest of the euro-area. As a result of the boom, output and prices grow faster in Spain than in the other euro-countries. This also leads to a real estate boom and a general asset inflation in Spain. Since the ECB looks at euro-wide data, it cannot do anything to restrain the booming conditions in Spain. In fact, the existence of a monetary union is likely to intensify the asset inflation in Spain. Unhindered by exchange risk vast amounts of capital are attracted from the rest of the euro-area. Spanish banks that still dominate the Spanish markets, are pulled into the game and increase their lending. They are driven by the high rates of return produced by ever increasing Spanish asset prices, and by the fact that in a monetary union, they can borrow funds at the same interest rate as banks in Germany, France etc. After the boom comes the bust. Asset prices collapse, creating a crisis in the Spanish banking system.

Too far fetched to be realistic?

Paul DeGrauwe, *Financial Times*, 20/02/1998, "The euro and financial crises"

In a union of sovereign states the most disciplined members do not want to pay for the most reckless. So the response has been limited, often too slow and sometimes contradictory. Resentment on all sides is surging and governments in both camps are being weakened, whether for granting bail-outs or for accepting austerity.

The Economist, 10/03/2011, "The divisiveness pact"

1 Introduction

The financial crisis that began in 2007-2008 led to huge fiscal deficits in many European countries, and has now morphed into a debt crisis that threatens the survival of the Eurozone. While it seems strange that Europe should react so strongly to shocks emanating originally from the United States, the outlines of today's troubles were predicted long ago, as Paul DeGrauwe's commentary from 1998 illustrates. By entering into a monetary union, countries give up their monetary policy independence, and therefore have a greater incentive to use fiscal policy for macroeconomic stabilization. In particular, they have a stronger incentive to offset a recession through deficit spending, implying a risk of accumulating excess debt when negative shocks hit the economy. Moreover, entering a monetary union may increase the impact of asymmetric demand shocks by reducing the flexibility of relative prices across

countries (Mundell 1961). It also encourages cross-border capital flows, increasing the vulnerability of the local banking system to speculative bubbles (Bruche and Suárez 2010). Finally, giving up a national currency also makes a country less able to resist speculative attacks on its sovereign debt (Eichengreen and Hausmann 2005, DeGrauwe 2011). All these factors magnify the potential for fluctuations in debt levels, and the probability of spiraling into a debt crisis, for countries that join a monetary union. Therefore union members have an especially strong need for fiscal instruments or institutions capable of guaranteeing long-term budget balance.¹

This paper discusses how delegation of fiscal powers to an authority independent of the government could improve the performance of a monetary union. We make three main points. First, the establishment of an independent institution with a mandate to ensure budget stability, and instruments to attain its goals, could help reduce deficit bias, just as independent central banks reduced inflation bias. This point is not new: we survey the literature that debates the viability of independent fiscal authorities, and rebut the main arguments against them. Second, while there is much talk of enforcing national fiscal discipline in the context of the ongoing debt crisis, we argue that the proposed mechanisms focus too much on sanctions and too little on instrument effectiveness. The elaborate effort now being devoted to designing punishments for recalcitrant governments would be better spent creating mechanisms for making large budget adjustments quickly in administratively simple ways. Third, in the context of a monetary union, the budget adjustments made to ensure sustainability of the public debt should be made primarily on the spending side, rather than the revenue side. We argue that spending adjustments may be made rapidly and efficiently if they affect salaries and transfers, rather than quantities of goods and services purchased.

Each of these points substantially contradicts today's conventional wisdom. First, several recent survey articles (see especially Debrun, Hauner, and Kumar, 2010) have concluded that delegating decisions to independent agencies is less likely to prove viable for fiscal policy than it has for monetary policy. The main argument made against fiscal policy delegation is the complex, multidimensional, and distributive nature of fiscal decisions, as compared with monetary decisions. But this is not a conclusive argument against fiscal delegation; instead, it merely implies that a well-designed independent fiscal authority should control only a small number of clearly defined instruments with minimal redistributive implications, leaving all other fiscal decisions up to the legislature.

¹Figures 1-4 show how European and Spanish debts and deficits ballooned from 2007 to 2009 as the current crisis unfolded.

As the current debt crisis intensified, there were many prominent calls for a fiscal union to complement the monetary union.² But a fiscal union will not suffice to guarantee the stability of a monetary union unless it can transfer sufficient funds across countries to stop speculative attacks. And paying off local deficits supranationally, through a fiscal union, threatens to tax those countries that implement the most efficient public policies to pay for the mistakes of less responsible countries. This potential for moral hazard deepens political tensions across countries, which may make sufficient backing to prevent speculative attacks politically infeasible. Thus, solvent member states that nonetheless find it hard to obtain liquidity need alternative ways to strengthen their finances in the monetary union. One possibility would be to radically reform national fiscal policy to enhance budget stability, for example, by delegating control of deficits to an independent authority. In principle, a fiscal authority capable of sufficiently strong budgetary adjustments could protect a currency union member state against speculative attacks, even in the absence of a fiscal union.

Countries objecting to what they called a “fiscal transfer union”³ have instead advocated a “stability union” with binding rules to ensure member states’ fiscal sustainability. In other words, they favor a stronger version of the Stability and Growth Pact (SGP). But earlier versions of the SGP completely failed to restrain deficits in Europe. Analyzing the SGP in terms of the theory of policy delegation helps explain why: by emphasizing sanctions, it failed to create effective instruments to attain the objective of budget balance. The Pact gave the European Council the right to impose sanctions on national governments that ignored certain fiscal rules, but left the actual decisions that would determine deficits in the hands of those same governments. A more direct approach to budget sustainability would instead delegate control over some subset of tax or spending decisions to European authorities whenever national governments display excessive fiscal imbalances. Which particular instruments would be subject to European control would have to be agreed *ex ante* with each national government, and these would have to be quickly adjustable instruments with a large budgetary impact. By avoiding recourse to sanctions, such an approach could contribute to the preservation of national fiscal sovereignty.

Thus, delegation of fiscal decisions is a relevant option both for individual member states and for a currency union as a whole. Delegating control of a few powerful fiscal levers to an independent authority would be a way for any solvent country to guarantee its ability and its intention to pay its debts, shielding its taxpayers from the costs of higher interest rates and

²*Financial Times*, 8 Dec. 2010, “Europe slithers towards fiscal union” and 14 January 2011, “Is Europe ready for fiscal federalism?” *The Wall Street Journal*, 3 June 2011, “Europe’s central banker seeks deeper fiscal union.” *The Economist*, 30 July 2011, “How much closer a union?”

³See *The Economist*, 2 Dec. 2010, “Germany and the euro: We don’t want no transfer union.”

shielding its economy as a whole from the possibility of future debt crises. It could prove particularly beneficial within a currency union, by reducing the probability of ever facing sanctions for fiscal irresponsibility, and by increasing other member states' willingness to assist in case of sovereign bond troubles. From the point of view of the Eurozone as a whole, requiring each member state to delegate a few effective fiscal instruments to national fiscal authorities or to a European authority would be a way to reduce moral hazard in sovereign debt issuance without relying on sanctions. Member states might willingly submit to requirements of this sort if this made them eligible to participate in the issuance of Eurobonds, or in any other kind of joint defence of their sovereign debt.

If we grant that debt sustainability should be ensured by defining some powerful quantitative margins along which large budget adjustments can be made quickly, we must still ask, which margins are the right ones? Many fiscal instruments can be adjusted to balance budgets, but in the context of a monetary union the ideal instrument would be one that increases competitiveness when the economy falls into a recession. This suggests that fiscal adjustments should primarily affect spending, rather than taxes, in order to avoid raising costs in recessions. While the conventional wisdom holds that adjusting government spending is too slow and cumbersome for effective cyclical stabilization,⁴ we argue that this need not be the case. We describe in a detailed example how public spending could be adjusted quickly and flexibly by defining a single factor of adjustment that would shift the value of public sector wages, and government transfer payments, relative to all other prices in the economy. The fiscal authority could then shift all these payments in parallel simply by increasing or decreasing the adjustment factor. This would have a powerful budgetary impact, since labor compensation and transfers form the large majority of public spending in a typical European economy.⁵ Adjustments of this type would also help make budget stabilization compatible with stabilization of the business cycle, by decreasing wage pressure in recessions.⁶

The rest of this paper is organized as follows. Section 2 surveys the literature on fiscal policy delegation, and rebuts the main arguments against the establishment of an independent fiscal authority. In Sec. 3 we review the main macroeconomic mechanisms that make currency union members more vulnerable to debt fluctuations, and analyze the effectiveness of the SGP in the light of the policy delegation literature. We then discuss in detail how

⁴See for example Friedman (1948).

⁵For example, Figures 5-6 show that public sector labor compensation, plus transfers, amount to roughly 60% of all government spending in Spain.

⁶In a related paper (Costain and de Blas, 2012), the authors use a macroeconomic model to compare budgetary and cyclical effects of fiscal adjustments of this type with the effects of fiscal adjustments through changes in tax rates. Likewise, Gomes (2011) studies optimal fiscal policy in a model where the government can set public wages, and finds that these should rise in booms and fall in recessions.

fiscal delegation at the national or supranational levels could improve the performance of a monetary union. Sec. 4 describes how a national fiscal authority could stabilize the public debt without amplifying the business cycle, taking the Spanish case as an example. Sec. 5 discusses how delegation of some national fiscal powers to European authorities fits naturally into the latest Eurozone reform proposals, but would improve them by reducing the role of sanctions. Section 6 concludes.

2 Political biases and policy delegation

2.1 Deficit bias

Concerns about fiscal sustainability are rooted in the problem of *deficit bias*, whereby democratic political processes may result in a higher budget deficit than the one actually desired by the electorate. Deficit bias is closely related to the *inflation bias* that has plagued monetary policy in countries with direct government control of the money supply. As Blinder (1998, Ch. 2-3) explains, inflation reacts slowly to monetary adjustments, and decreasing inflation has a recessionary impact in the short run. Facing frequent electoral pressures, democratic politicians may be unwilling to risk the short-run loss in popularity required to achieve the long-run benefits of low inflation. A more sophisticated argument with ultimately similar conclusions is the “time inconsistency” theory of Kydland and Prescott (1977) and Barro and Gordon (1983). They argue that even a benevolent government may choose a higher money growth rate than firms and other private agents expect, because by doing so it increases output and employment and improves its fiscal situation. In equilibrium, the government cannot systematically surprise the public; under discretionary decision-making the actual inflation rate is therefore the one where the government’s incentive for a surprise monetary expansion is just offset by the marginal cost of greater inflation. Under these circumstances society benefits if the government chooses to “tie its own hands” (abandoning discretion in favor of a rule) in order to credibly commit not to surprise the public in the future.

Deficit bias may also be caused by the short time horizon of democratic governments, which may be tempted to gain votes now by stimulating the economy with extra current spending, leaving the costs in terms of higher taxes for later (see for example Alesina and Tabellini, 1990). But in addition, fiscal policy involves more complex, multidimensional decisions than monetary policy, because there are many different types of taxation, spending, and transfers. This gives rise to another source of deficit bias, the *common pool problem*.⁷ Interest groups care strongly about certain spending choices that affect them directly; they

⁷For a survey of the causes of deficit bias, see Debrun *et al.* (2009), Sec. 2.2, or Wren-Lewis (2010), Sec. 3.

worry less about the fiscal costs since these are shared with the rest of society through the government's budget constraint. That is, the government budget is a common resource jointly exploited by all interest groups, so the same "tragedy of the commons" that is applicable in other situations of common resource exploitation also occurs in budgetary decisions.⁸

The literature on time inconsistency and policy biases developed in the 1970s in defense of monetarist calls for strict monetary *rules*, against Keynesian calls for policy-making *discretion*. As the debate over rules versus discretion progressed, it moved on to more practical and nuanced positions. Taylor (1993) favored rules, but argued that they should respond to the state of the economy; thus the "Taylor rule" prescribes quantitatively how much the central bank should raise short-term nominal interest rate when inflation rises above its target or output rises above its trend. Rogoff (1985) defended discretion, but argued that monetary policy discretion should not be in the hands of the government; instead, it should be delegated to an independent "conservative" central bank. In Rogoff's argument, "conservative" means that the central bank dislikes inflation *more* than the electorate does, providing a sufficient anti-inflationary bias to offset any pro-inflation bias arising from political pressures.

2.2 Delegation of monetary policy

Rogoff's (1985) proposal underlies the monetary policy framework under which central banks operate today. In practice, it has not been implemented by seeking policy makers with extreme inflation aversion, but instead by giving central banks a mandate to control monetary policy instruments independently in pursuit of the goal of price stability. *Independence* insulates the central bank from the political pressures that give rise to inflation bias. But the bank is only independent in control of its *instruments*, not in choosing the *objectives* it pursues.⁹ The ultimate objectives or goals of monetary policy are set by the democratic government. Defining the bank's objectives exclusively or primarily in terms of price stability effectively makes it "conservative" in Rogoff's sense.

Rogoff emphasizes the importance of discretionary control of the instruments to address unforeseeable future contingencies, and advocates delegation to "conservative" experts as a way to offset the inflation bias that would result if discretion were instead given to politicians. Blinder (1998) offers a related interpretation: delegating control of the instruments

⁸Weingast, Shepsle, and Johnsen (1981), Tornell and Velasco (1992), and Velasco (2000) describe this problem in a fiscal policy context, but the underlying logic is older and applies more widely; e.g. Gordon (1954) and Hardin (1968). Other recent analyses of the common pool problem in fiscal policy include von Hagen and Harden (1995) and Krogstrup and Wyplosz (2006).

⁹The distinction between economic variables that are policy *instruments*, and those that are *targets* of policy, is originally due to Tinbergen (1952). The contemporary analysis of central banking draws much finer distinctions, between instruments, intermediate targets, objectives, and ultimate goals; see Fischer (1994).

places purely technical issues in the hands of neutral experts who are likely to have special skills for their task and are also likely to be more patient than politicians (because they are appointed for long time periods rather than facing elections). The logic of delegation is further developed by Alesina and Tabellini (2007, 2008) and Eggertsson and Le Borgne (2010). Both papers ask when a democratic society might gain by removing some decision from the political process and delegating it to independent bureaucratic experts. In Alesina and Tabellini's model, bureaucrats seek to maximize objective performance measures that reveal their own ability, because this promotes their careers; politicians instead seek to maximize election probabilities. The implication is that democratic political choice is preferable for complex, multidimensional tasks, or when there is uncertainty about social preferences, because objective performance measures are hard to establish in these cases. In contrast, delegation to bureaucrats is preferable for technical tasks requiring ability or long-term investment in specific human capital.

Some general principles come out of these analyses. First, delegation is more relevant if the ordinary political process generates bias; otherwise the decision should normally stay in the political sphere. Second, delegation is only applicable to decisions that are relatively uncontroversial: there must be wide social consensus about the goals the independent authority seeks to achieve. In particular, this means delegation cannot be appropriate for redistributive decisions.¹⁰ While both monetary and fiscal policy are subject to policy biases, Alesina and Tabellini argue that there is less consensus about fiscal goals than there is about the monetary policy goal of maintaining low inflation, in part because of the distributive nature of many fiscal decisions.

Third, delegation is more suitable for tasks with clear instruments and objectives. To ensure that bureaucrats have sufficiently strong incentives, and to ensure that the independent agency carries out its mandate, society and government must be able to evaluate the agency's success in achieving its objectives. Therefore delegation requires transparency (Blinder, 1998, Ch. 3): the central bank should clearly and regularly report and justify its decisions to the public and to the government. Transparency and accountability are both facilitated if there are only a small number of objectives with clear (and preferably quantitative) definitions. A clear definition of the instruments that are delegated is also essential to delimit the types of decisions the independent agency is permitted to make, and to ensure that these decisions will not be usurped by some other institution.

Finally, an authority cannot be held accountable for failing to achieve an objective unless the instruments it is capable of controlling in practice can actually affect the objective in a

¹⁰There is an important caveat: delegation may be *more* appropriate for decisions with *intergenerational* distributional consequences. See Sec. 2.4.2.

quantitatively important way. In other words, delegating an objective also requires the delegation of an *effective instrument*— one that is easy to adjust, and has a large, predictable effect on the objective. The issue of choosing the most effective instrument was once a central debate in macroeconomics, as monetarists maintained that control of the money supply was the best way to achieve price stability. Brainard (1967) and Poole (1970) argued that in the presence of large money demand shocks, targeting the interest rate would lead to more predictable inflation than targeting the money supply. Experience with greater money demand volatility in the 1970s and 1980s convinced central banks that the interest rate was indeed a more effective instrument than the money supply. Thus the nature of an effective instrument is no longer so controversial in monetary economics; but when thinking about policy delegation more generally, it is crucial to ensure that the instruments to be delegated really can affect the objectives in the desired way.

2.3 Delegation of fiscal policy

Several recent articles have reviewed the literature on policy delegation to ask whether institutions like those that underlie contemporary monetary policy might also be applicable to fiscal policy (Debrun, Hauner, and Kumar 2009; Hagemann 2010; Wyplosz 2008; Calmfors and Wren-Lewis 2011). These surveys distinguish two main modes of fiscal policy delegation: “fiscal councils”, which are essentially advisory bodies, and “independent fiscal authorities”, which (would) have effective control over some set of fiscal instruments.¹¹ Fiscal councils are increasingly common around the world, with an influential role in European countries including the Netherlands and Sweden. The “Van Rompuy report” (European Commission, 2010) on EU fiscal institutions called on all European countries to establish independent councils to verify their fiscal performance, and this suggestion has been formalized in recent proposals by Jose Manuel Barroso (European Commission, Memo/11/822, 23 Nov. 2011). Independent fiscal authorities, in contrast, have been frequently proposed, but none (or almost none, depending on one’s precise definition) has yet been instituted.

2.3.1 Fiscal councils in practice

Many countries now have official councils independent of the government that provide advice for fiscal decisions. These councils play a variety of roles (see Calmfors, 2011, for an

¹¹See the taxonomy in Figure 1 of Debrun et al (2009). “Fiscal councils” have also been called “soft fiscal policy councils” or simply “fiscal watchdogs”. “Independent fiscal authorities” have also been called “hard fiscal policy councils” or “fiscal policy committees”.

overview).¹² Many fiscal councils provide forecasts of fiscal and/or macroeconomic variables, which may or may not be obligatory inputs to the economic calculations of the government and political parties.¹³ Fiscal councils may also provide economic or normative analysis of legislation.¹⁴ Fiscal councils are found to be especially effective when the government is legally or politically committed to follow some type of fiscal rule (Debrun *et al.*, 2009; Calmfors and Wren-Lewis, 2011). On one hand, a fiscal council can provide the apolitical viewpoint and technical expertise necessary to verify adherence to a fiscal rule. On the other hand, the existence of a fiscal rule gives the statements and publications of the fiscal council a higher profile in the news and public debates.¹⁵

In keeping with the recommendations of the Van Rompuy report, the Spanish government recently established a fiscal council called the “Oficina Presupuestaria de las Cortes Generales” (OPCG).¹⁶ The council’s current mandate is somewhat vague; it appears to be intended primarily to provide budget information to the Spanish parliament, but has been criticized for publishing little information not already publicly available.¹⁷ The OPCG’s mandate could be strengthened in a number of ways: it could be asked to report publicly on Spain’s progress in meeting its deficit reduction plans; to report on the adequacy of these plans for long-term debt stability; to report on the fiscal implications of proposed legislation; or to propose alternative budget stabilization measures not yet contemplated by parliament. If so, it would require sufficient financing to maintain a competent team of economic forecasters, and its independence would need strengthening, especially by appointing its top staff to terms longer than a full electoral cycle. Also, its mandate could be clarified by stating that its primary objective is to assess the long-run sustainability of the Spanish public finances. But greater impact might be achieved by going a step beyond a purely advisory council, to grant an independent agency direct control over some key fiscal instruments.¹⁸

¹²See the fiscal councils webpage of Simon Wren-Lewis: www.economics.ox.ac.uk/members/simon.wren-lewis/fc/fiscal_councils.htm.

¹³For example, the US Congressional Budget Office provides cost estimates for public policy proposals; the Netherlands Central Planning Bureau also provides macroeconomic forecasts which are used in all political parties’ economic calculations.

¹⁴Examples include the fiscal councils of Belgium, Denmark, and Sweden.

¹⁵A good example of the symbiosis between fiscal councils and fiscal rules comes from Chile, where the government must, by law, maintain a 1% surplus on average over the economic cycle. Two fiscal councils, each independent of the government and of each other, evaluate the government’s adherence to this rule. See García *et al.* (2005) and Schmidt-Hebbel (2010).

¹⁶*Boletín Oficial del Estado*, 16/11/2010.

¹⁷J. Rubio-Ramírez, Blog post at *Nada es gratis*, 24/12/2010.

¹⁸Fortunately, there is no incompatibility between instituting an advisory fiscal council and establishing a truly independent authority. In fact, the fiscal council might be the seed which could grow up to become the fiscal authority. As Wyplosz (2008) predicts, “Soft FPCs stand to become hard FPCs”.

2.3.2 Proposals for independent fiscal authorities

Economists have made many concrete proposals for fiscal authorities with independent control of some fiscal levers.¹⁹ Quite a few of these proposals specifically addressed the Euro area, around the time the euro was established; more recent interest in independent fiscal authorities seems to center in the US rather than in the Eurozone.²⁰ Almost all proposals envision budget balance as the primary objective of the fiscal authority; an exception is Ball (1997), for whom the authority's main objective would be cyclical stabilization.²¹

Two basic mechanisms form part of the majority of these proposals. First, in many proposals the principal role of the fiscal authority is to decide the deficit level. For example, von Hagen and Harden (1994) propose that in the initial planning stage of the budgetary process for a given fiscal year, an authority called the "National Debt Board" chooses the deficit permitted for that budget cycle (thereby it also chooses the change in the debt level).²² Such a framework emphasizes the role of the fiscal authority as a forecasting agency, and makes it responsible primarily for the government's overall fiscal stance over time, leaving the legislature free to set any tax and spending policies consistent with the required deficit level. However, this procedure can also allow the fiscal authority to consider other issues, like the current state of the business cycle, in determining the current deficit level. Such a fiscal authority thus permits more flexibility in setting countercyclical policy than a simple deficit rule or debt rule would.

Second, in many proposals the fiscal authority has direct control over certain broad budget items.²³ That is, within limits, the fiscal authority is permitted to change certain tax rates, or even adjust public spending, independently of the legislature. An obvious problem with an institutional setup of this type is that the tax code consists of many different tax rates, and public spending includes a multitude of different items. This makes the fiscal authority's decision more complex, and makes it hard to separate technical aspects of the decision from more political aspects. But the various policy proposals are designed to avoid these complexities. For example, Gruen's (1997) proposal for Australia defines a "fiscal parameter"

¹⁹Table 1 of Debrun *et al.* (2009) summarizes proposals for independent fiscal authorities up to 2005.

²⁰See for example Leeper (2009).

²¹Another exception is Blinder (1997), who proposes creating an authority to write tax law. Under his proposal, the US Congress would specify only the broadest parameters of tax policy, and the fiscal authority would write a tax code consistent with this outline. The proposal is intended to leave technical details in the hands of neutral experts; a potential drawback is that many normative and political issues may end up in their hands as well.

²²Other proposals under which an independent fiscal authority assigns the deficit for a given budget cycle include Eichengreen, Hausmann, and von Hagen (1999), and Wyplosz (2005).

²³Examples include Ball (1997), Gruen (1997), Seidman (2001), Wren-Lewis (2002), and Calmfors (2003).

with an initial value $x = 1$. The legislature would set the baseline schedule of tax rates, and subsequently actual tax rates would be determined by multiplying by the fiscal parameter, as set by the fiscal authority. Thus, if the budgetary situation is easier than expected, the fiscal authority would set $x < 1$, lowering all tax rates across the board by the same factor. If the fiscal situation is instead unexpectedly difficult, the authority would set $x > 1$, an across-the-board tax increase. Hence, Gruen leaves the *political* aspects of taxation up to the legislature, which chooses whether taxation falls primarily on labor income or on capital income or on consumption, and which controls the progressivity of taxation by setting different rates for different income groups. When the fiscal authority chooses x it affects all these tax rates in the same proportion, so its primary role is related to the *technical* question of overall budget balance. Again, the fiscal authority can in principle take other issues into account, such as the current state of the business cycle. Other similar proposals also point the decisions of the fiscal authority away from political questions by directing it to focus only on how deficits behave over time. For example, Ball (1996) advocates across-the-board tax adjustments; Seidman (2001) and Calmfors (2003) propose that the legislature should choose the items that would be affected by any hypothetical adjustment package; the scale of the adjustment would then be chosen afterwards by the fiscal authority, if necessary for budget balance.

An advantage of the second group of proposals is that they provide a clear way of actually achieving the desired budget balance *ex post*. Gruen's tax parameter x has a powerful fiscal effect, since it raises or lowers all government revenues in parallel. Moreover, it can be adjusted late in the budget process, after the arrival of much of the fiscal year's information. Placing the choice of this single number in the hands of an independent agency primarily responsible for budget balance largely protects against political pressure and thus against deficit bias. In other words, the tax parameter x is an *effective fiscal instrument*. In contrast, if the fiscal authority's main task is to assign a deficit level *ex ante*, at the beginning of the budget process, then the task of achieving this budget balance actually goes back to the politicians,²⁴ bringing deficit bias back.²⁵ Therefore, the proposals based on the idea of a yearly deficit limit have typically been supplemented by some additional enforcement mechanisms involving direct control of fiscal levers. For example, while Eichengreen *et al.* (1999) propose that the fiscal authority should set an initial "debt change limit", they back

²⁴As Debrun *et al.* (2009, p. 57) mention, asking the fiscal authority to choose the deficit level amounts to delegating it the choice of a *target*, though Wyplosz (2008, p. 21) fails to note the distinction and instead refers to it as an *instrument*.

²⁵Von Hagen and Harden (1994, 1995) emphasize that there are multiple stages of the budget process where a potential for deficit bias arises.

this up by proposing that the authority should also have the right to raise sales taxes or freeze spending if the actual budget is inconsistent with the debt change limit.²⁶

2.4 Is fiscal delegation practical?

In spite of the proliferation of proposals, the recent review articles have largely concluded that only limited fiscal delegation is practical. The authors strongly advocate the establishment of fiscal councils in an advisory or referee-type role, but suggest that independent fiscal authorities with direct control over some fiscal decisions are unlikely to be established or to survive and be effective if established.

The same arguments appear repeatedly in various papers. We consider them one by one.

2.4.1 Lack of consensus about the many dimensions of fiscal policy

Critics of the feasibility of independent fiscal authorities emphasize that the many dimensions of fiscal policy make fiscal decisions more complex and less subject to consensus than monetary policy decisions. The complexity and controversiality of fiscal policy imply that many fiscal decisions cannot be treated as neutral, technical questions and should therefore remain part of the ordinary political process. Hence, the reasoning goes, delegation of fiscal decisions is less appropriate than delegation of monetary decisions; concretely, it is less compatible with the principles of delegation spelled out in Section 2.2.²⁷

However, the preceding sections have already made clear that these criticisms are vacuous. The fact that there are many possible fiscal policy instruments does not automatically imply that they should all be delegated to the fiscal authority. On the contrary, the correct choice of which instruments to delegate is crucial, and is central to the proposals we considered in Section 2.3.2. Gruen's (1997) proposal is especially clear in this regard: the fiscal authority's decision is simplified by requiring it to focus on just one instrument, the fiscal parameter x , which primarily affects the technical, quantitative issue of budget balance. Normative and distributional questions like the progressivity of the tax system are thereby left in the democratic political process, where they belong. Moreover, the proposal starts out from the assumption that the choice to define the parameter x and delegate its determination to an independent authority is taken democratically by the legislature *ex ante*.

One could argue that the choice of x remains complex, but it is not complex in the sense of lacking consensus or involving many degrees of freedom. Instead, it is complex in the sense

²⁶Von Hagen and Harden (1994) likewise allow for *ex post* adjustments if the debt change limit is violated, but they advocate delegating these decisions to the finance minister rather than the fiscal authority.

²⁷ See Calmfors (2011), p. 4; Calmfors and Wren-Lewis (2011), p. 11; Wren-Lewis (2010), p. 7; Kopits (2007), p. 13; Hagemann (2010), p. 10; Debrun *et al.*, (2009), p. 61.

of requiring technical expertise— forecasting skills, accounting skills, and a large amount of specific information about the budget situation. This makes it “complex” in the same way that the interest rate decision of a central bank is complex. As a quantitative, technical decision, it is well-suited to delegation.

Likewise, the fact that fiscal policy has many objectives, many of which require normative judgment, does not necessarily imply that the authority must consider all of them. Instead, Wyplosz (2008) emphasizes that the authority’s remit should be “strictly limited to budget balance”. While many of the proposals we have considered also have a subsidiary focus on cyclical stabilization, almost all coincide in making long-run budget balance the main objective. By focusing on long-run balance, the fiscal authority only judges the *mutual consistency* of the many fiscal decisions the government makes in pursuing its multiple objectives. While there is scope for political debate about the appropriate levels of spending and taxation and their many components, there is no scope for debate about the importance of long-run consistency between the two. The question of whether revenues suffice to finance expenditures over the long run is not a political question— it is just a question of accounting. The society that fails to do its accounting accurately eventually suffers.

Put differently, while fiscal policy has many dimensions, it is not feasible to treat *all* fiscal decisions as independent of one another simultaneously. In particular, the legislature cannot choose overall spending and overall taxation separately (at least not for very long). Any legislative procedure that treats spending and taxation *as if* they were separate decisions creates potential for a common pool problem.²⁸ Letting the legislature choose all spending, and the structure of taxes, while an independent authority shifts up or down the overall level of tax *rates*, would not remove any *feasible* alternative from the legislature’s menu of choices. But it would eliminate deficit bias, by allowing the fiscal authority to counteract *ex post* the effects of the common pool problem on the legislature’s decisions.

2.4.2 Fiscal policy is distributive

A closely related objection is that fiscal policy decisions are distributive. Indeed, as long as the tax system is progressive, or as long as people differ in their preferences for spending and taxation, changes in fiscal policy inevitably have distributional consequences. However, the same is true for monetary policy: if some people rely more on cash and other nominal assets, while others have more real assets, or if inflation preferences vary among the population for any other reason, then changes in monetary policy will have distributional consequences too.

²⁸One way a common pool problem might manifest itself in this context would be if a country (call it the USA) had one major political party dedicated almost entirely to reducing taxation while another major party dedicated itself to defending certain types of social expenditure.

More importantly, the distributional consequences of the fiscal authority's decisions will be minimized if it focuses primarily on overall budget balance by adjusting broad-based instruments. To minimize redistribution, the authority should avoid causing shifts between individual budget items that affect different groups of people, and should instead control instruments that shift all public spending in parallel, or all public revenues in parallel, thus sharing any pain or gains equitably across the population.²⁹ In particular, the internal exchange rate mechanism discussed in Section 4 would shift the large majority of public spending in parallel in an administratively simple way, avoiding redistribution insofar as this is practical.

Also, while intertemporal budget balance *per se* has few distributive implications *within* generations, it does have distributive implications *across* generations. This might seem to indicate that decisions about budget balance should not be delegated, but in fact it indicates the opposite, because democratic politics provide no representation for future generations. That is, distributional choices across generations are especially subject to political bias (towards present generations, away from future ones), so avoiding the political sphere is particularly relevant for these decisions (Alesina and Tabellini 2007, 2008). Wyplosz (2008, Sec. 3.1) and Calmfors and Wren-Lewis (2011, Sec. 4.7.1) emphasize the same point.

2.4.3 Lack of consensus about the optimal debt level

Another objection emphasized especially by Wren-Lewis (2010) and Calmfors and Wren-Lewis (2011) is that there is no consensus about the optimal long-run level of debt. They argue that the lack of political consensus reflects an underlying lack of clear results in economic theory about the optimal level of debt.

But the most standard neoclassical theory of debt (Barro 1979) actually derives a very clear result about the optimal long-run level of debt: there is no such thing. Instead, optimal taxation requires that tax rates should be kept as smooth as possible over time. To avoid changes in tax rates as far as possible, debt must act as a shock absorber. When national income is unusually high or required public expenditures are unexpectedly low, the government should run a surplus and decrease its debt; in the opposite circumstances it should run a deficit and increase its debt. Under this optimal fiscal policy, the debt level drifts over time (it follows a "random walk") with no tendency to return to any particular long-run level. Tax rates vary, but by much less than debt levels: the tax rate must change just enough to pay for the change in the interest payments on the debt.

However, Barro's findings are not the last word on the optimal behavior of debt. Crucially, his model assumes that the government never defaults on its debt. If we instead take

²⁹See also Hagemann (2010), footnote 9.

into account the possibility of default, then the government must consider an additional factor: when its debt becomes too high it may become vulnerable to speculative attacks in bond markets,³⁰ making additional debt sharply more costly as it approaches this level. Therefore, the government should attempt to avoid falling into this region of dangerously high debt levels. To stay out of this region, the government needs to adjust the tax rate slightly more in response to a rise in debt than it would under Barro's policy. This adjustment would have to become gradually stronger as the debt level approaches the danger zone.

In other words, theory does provide a fairly clear guide to optimal debt policy. What the random walk debt result really means is that to a first approximation we don't care what the steady state level is, and that we should *not* quickly pay off accumulated debt. But (for reasons left out of the random walk model) there is a region we want to stay out of: we want to avoid debt levels so high that speculative attacks become possible. To do so it suffices for taxes to increase *slightly more* in response to a rise in the debt level than would be necessary to finance the additional required interest payments. This adjustment must become stronger if the fiscal authority believes that the economy is approaching a debt level that implies a risk of speculative attacks.

2.4.4 There can't be a €100 bill on the sidewalk

Finally, most of the surveys considered argue, with more or less certainty, that the nonexistence of independent fiscal authorities today is evidence of their political impossibility.³¹

However, the idea of fiscal policy delegation is quite new. Even delegation of monetary policy to independent central banks is a recent innovation which was controversial as late as the 1980s. The Bank of England was not made independent until 1997, by Chancellor of the Exchequer Gordon Brown. Since the appeal of creating independent fiscal institutions rests largely on the success of independent central banks, it need not be surprising that fiscal delegation remains hypothetical today— it may simply be a question of time.

Moreover, while Debrun *et al.* (2009) bluntly state that agencies with independent control of fiscal policy levers do not exist, this is not entirely true. The framework governing sovereign wealth funds today (at least in democratic countries) closely mirrors the principles of policy delegation governing independent central banks. The “Santiago Principles” negotiated under the aegis of the IMF in 2008³² stipulate that sovereign funds should have a mandate that defines their objectives (typically related to cyclical stabilization or long-term

³⁰See Obstfeld (1996) and Bi, Leeper, and Leith (2010).

³¹See for example Debrun *et al.* (2009), p. 73, and Calmfors (2010), p. 4.

³²International Working Group on Sovereign Wealth Funds, (2008).

wealth preservation) and confers them operational independence from government, subject to transparency rules. Moreover, in Chile and Norway the central banks act as guarantors of the funds: Norway's sovereign funds are managed by a division of Norgesbank, while the management committees of the Chilean funds are appointed by the Central Bank of Chile. In both countries, the total amount withdrawn from the sovereign funds in a given year is ultimately a decision of the government (though both governments are bound by fiscal rules). But the funds themselves have independent control of the composition of their investment portfolios, subject to the rules of their mandates. By declining to decide the composition of their sovereign portfolios themselves, the governments of Chile and Norway have delegated certain fiscal policy instruments to independent agencies, presumably because they believe control of these particular instruments is subject to little political controversy but requires technical expertise.

It is somewhat strange that some delegation of fiscal instruments has occurred in democracies with substantial wealth, but not yet in those with large debts. After all, regardless of whether national wealth is positive or negative, the underlying challenges are the same: stabilizing tax rates and business cycles while balancing expenditures with revenues over the long run. Thus, considering their potential, Wyplosz (2008) concludes that independent fiscal authorities are ultimately likely to be established. While opposition from interest groups desiring higher spending has slowed them down, he notes that governments around the world are exploring new ways of enhancing budget discipline, including fiscal rules and advisory fiscal councils. As fiscal councils gradually build up their reputations, he predicts that some countries will eventually give them formal control of some fiscal policy instruments.

Surprisingly, Wyplosz (2011) instead argues that independent fiscal authorities are probably not feasible, and instead advocates advisory fiscal councils as a complement to rules. He is not alone in this change of heart: Calmfors (2002) and Wren-Lewis (2003) also made proposals for independent fiscal authorities but went on several years later to write survey articles questioning their political viability. But Wyplosz' reversal is particularly surprising since his 2008 paper rebuts most of the arguments employed against the feasibility of fiscal authorities. The main basis for his reversal seems to be the nonexistence of powerful independent fiscal authorities today (see his Section 2.4). It is disappointing that he should be convinced by that sort of evidence *in the context of a discussion of possible responses to the current crisis*, since crises are precisely the times when policy innovations are most likely.

3 Currency unions and budget dynamics

While deficit bias seems to be a general property of democratic government, the problem is likely to be worse in a monetary union.³³ A country that has its own currency and which

³³See Beetsma and Bovenberg, 1999; and Krogstrup and Wyplosz, 2010.

fails to control the growth of its debt always has the option of expanding the money supply by selling its debt to its own central bank. Monetizing the debt this way effectively creates seignorage revenues for the government; furthermore, by raising the inflation rate it erodes the real value of the pre-existing nominal debt. One of the main reasons to establish an independent central bank with a mandate for price stability is precisely to prevent the government from submitting to a fiscal temptation of this sort.

In the case of a monetary union, each country has an even stronger incentive to sell its debt to the common central bank, because the seignorage revenues from selling a bond of country A to the central bank accrue entirely to the government of country A, whereas the inflation impact is shared across the entire monetary union. In other words, price stability is a common good for the monetary union as a whole; but seignorage revenues from selling bonds to the central bank are a private benefit for the country that sells the bonds. Thus, seignorage revenues in a monetary union generate another *common pool problem*. In recognition of this problem, upon its founding the ECB was explicitly prohibited from buying bonds directly from its member governments. Nonetheless, it does purchase member countries' debt in secondary markets, and it accepts members' debts as collateral from private banks. ECB purchases of Spanish and Italian bonds have helped drive down their premia on several occasions since the summer of 2012.

3.1 Amplification of debt fluctuations in a monetary union

The standard Keynesian analysis of optimum currency areas argues that upon relinquishing control of monetary policy, countries ought to rely more on fiscal policy to smooth fluctuations driven by asymmetric demand shocks. Otherwise, the permanently fixed exchange rates implied by a monetary union will amplify the effects of asymmetric shocks on output (Mundell, 1961). Nonetheless, fiscal stabilization has been restricted in the Euro area by the rules of the Stability and Growth Pact, which limits member states' freedom to run deficits to offset recessions. Whether this is a problem in practice depends on how relevant asymmetric demand shocks actually are in Euro area countries. When EMU was first put in place there was some optimism that it might bring about convergence of institutional frameworks across the Euro area, reducing the differences between countries and thus reducing the importance of asymmetric shocks. However, recent work has found little evidence of a strong common European business cycle or of growing synchronization across Euro area countries (see for example Camacho, Pérez-Quirós and Sáiz, 2007). Indeed, stronger economic integration in goods markets could lead to more specialization within the Euro area, making asymmetric shocks more rather than less likely (Feenstra and Taylor, 2008, Chap. 19). Thus, in the absence of a full system of fiscal transfers across countries in the Eurozone, national fiscal

policy becomes key, and calls for a fiscal framework that acts as a stabilization tool while also fulfilling the union's fiscal requirements.

The dynamics of speculative attacks provide additional reasons to question the stability of sovereign debt inside a monetary union, as De Grauwe (2011) shows. Comparing the cases of the UK and Spain, he points out that UK fiscal fundamentals look much worse, but that the risk premium on sovereign debt is much higher in Spain. He explains that countries which choose to join a monetary union face a risk of a debt crises like those in emerging market countries suffering from "original sin".³⁴ Outside of a currency union, when investors start to distrust a country's debt, their bond sales lead to a depreciation, which helps promote its exports. Moreover, even if investors expect the very worst, they know that ultimately the central bank can print money to pay off the sovereign debt, so they have less incentive to attack the currency. If instead the country belongs to a monetary union, investors' attempts to unload sovereign debt do not produce a depreciation. And there is nothing to stop a rise in the country's risk premium rising if investors believe that the government is unwilling or unable to pay off its debt, so skepticism about the sustainability of a country's debt may lead to a self-fulfilling crisis.

DeGrauwe's pessimistic analysis of the stability of a monetary union is reinforced if we consider the banking sector. As debt problems have appeared in certain Eurozone countries, liquidity in the interbank market has fallen dramatically for those countries. Bruche and Suárez (2010) analyze why these "money market freezes" occur, comparing two countries in a monetary union with asymmetric net financial conditions that result in excess saving in one country and excess spending in the other. In good times, banks in the country with excess saving are willing to lend to banks in the other, equalizing the marginal costs of funds across countries at a low rate. However, in the event of a crisis, there is suddenly a spread between the costs of funds in the two countries, since the banks in the "saver" country still have access to cheaply abundant local funds, while banks in the "borrower" country must pay a risk premium to finance themselves in interbank markets, reflecting their risk of failure.³⁵ The authors suggest that welfare would be improved by establishing a supranational intermediary that would channel deposits from the "saver" country to the "borrower" in order to avoid these cross-border funding freezes.

³⁴The term "original sin" is due to Eichengreen and Hausmann (2005), and refers to the inability of many emerging market economies to issue bonds denominated in their own currencies.

³⁵Funds remain cheap in the "saver" country if we assume that depositors are insured there, but become more expensive in the interbank market if bank-to-bank loans are uninsured. Both assumptions are realistic.

3.2 Fiscal stabilization

Governments may respond to a growing deficit in two basic ways: reducing spending or increasing revenues. On the other hand, governments often try to stimulate the economy by raising spending or by cutting tax rates. The size and sign of the effect of government spending on output is empirically controversial (see Baxter and King, 1993; Blanchard and Perotti, 2002; Mountford and Uhlig, 2008; Corsetti, Meier and Müller, 2010; among many others). However, this controversy is not so crucial for our arguments, which hinge on how budgetary and cyclical effects differ across fiscal instruments. There is a fair degree of consensus in the literature about the how these impacts compare across instruments.

A cut in public investment is commonly regarded as a particularly harmful way to reduce the deficit (Alesina et al., 1998). Even if it does stabilize the government budget in the short run, its medium and long run effects are negative. Public investment forms the basis for future growth and private investment, so a cut in public investment now both slows the economy today and undermines growth prospects. Therefore many countries follow “golden rule” policies that shield public investment from budget cuts.

There is also substantial consensus about the composition of fiscal consolidation that is most sustainable and persistent in time (Alesina and Perotti, 1997). Many studies of OECD and emerging economies confirm the finding that fiscal consolidations based on the government expenditure side are more sustainable than those based on revenues (Croce and Juan Ramon, 2003; von Hagen et al., 2002; Perotti *et al.*, 1997). Moreover, those fiscal retrenchments focused on spending cuts mainly in government wages and transfers tend to have an expansionary effect on output, whereas those focused on raising taxes are contractionary. Alesina and Perotti (1997) document that successful fiscal corrections rely on cuts in the government wage bill, and combine reductions in wages and employment. Von Hagen *et al.* (2002) quantify the contribution of the alternative fiscal tools to recent episodes of fiscal consolidation in Europe. To give some figures, the authors find that wage cuts contribute around 86% on average to a reduction in current government spending for countries carrying out successful consolidations.

One of the few papers opposed to fiscal consolidation through the public wage bill is Glassner and Watt (2010). They point out that the effects of this measure on total output are ambiguous since a rise in the unemployment of public workers would reduce aggregate demand. They find that same is true regarding a reduction in public wages. However, even they find a positive side effect, as a reduction in public wages reduces wage pressure in the economy as a whole.

3.3 Stabilization in a fiscal union

While joining a monetary union is likely to amplify a country's cyclical and budgetary fluctuations, these effects might be reduced if union members could agree on a mechanism to share fiscal risks. There are a variety of ways this could be done, involving more or less explicit forms of mutual insurance. All raise similar issues of moral hazard.

Ideally, member states might reduce debt fluctuations by fully insuring one another against asymmetric shocks, transferring funds to countries hit by bad shocks (financed by countries receiving good shocks). Effectively, this would allow members to run counter-cyclical deficits, so it would help stabilize the business cycle as well. In this scenario, an individual country no longer needs to balance its budget in the face of all possible contingencies; if it suffers unexpectedly bad fiscal conditions its losses are covered by other member states. Instead, it balances its budget "in expectation" at the time the fiscal union is established, because the transfers it expects to make if it is blessed with good shocks counterbalance the transfers it expects to receive if it suffers bad shocks. Arguably US states partially insure each other, with large transfers across states over time (Darvas, 2010). But transfers of this sort require substantial trust between union member states. Members that fail to run responsible fiscal policies have an incentive to misrepresent their deficits as the result of bad luck rather than bad policy. If some members expect others to be systematically irresponsible, no initial agreement will be possible.

Another way in which fiscal resources might be shared is by issuing "Eurobonds" that would be jointly guaranteed by all member states. Financing member state deficits through issuance of Eurobonds could help some states avoid the large risk premia they might face if they issued their own sovereign bonds. But again, moral hazard issues arise. Countries currently running surpluses may doubt that those with deficits will later make the effort to pay off the debts they have incurred. The surplus countries would then be unwilling to share in the guarantee of the bonds.

Another simple way to keep risk premia under control is for the ECB to cap spreads between the interest rates on member states' sovereign bonds. It could do this by promising to buy sovereign bonds (on secondary markets) whenever their risk premium exceeds a certain level. This promise is feasible, since the ECB can emit additional euros to pay for the bonds. And this is not inflationary, in principle, if the countries that emitted the sovereign bonds eventually make the fiscal effort to pay them off. But a moral hazard problem appears again: if the issuer fails to pay off the debt the ECB buys, then its purchases amount to a permanent increase in the money supply, and will cause inflation. Surplus countries are therefore opposed to ECB intervention of this sort.

Thus, limiting moral hazard is crucial to making any joint approach to budgetary and cyclical stabilization workable. Therefore, fiscally strong Eurozone members have emphasized the need for a “fiscal stability union” (rules to guarantee budget stability) rather than a “fiscal transfer union” (in which revenues are shared across countries). In the summit of December 8-9, 2011, Eurozone countries agreed to strengthen the Stability and Growth Pact, in an effort to avoid future breaches of debt and deficit limits. We next consider briefly why earlier versions of the SGP were so unsuccessful in enforcing these limits.

3.4 The Stability and Growth Pact as an example of fiscal delegation

Because the policy makers who established the euro understood that fiscal union was not a viable option at that time, they instead tried to restrain debt by establishing the Stability and Growth Pact (SGP), which reinforced the Excessive Deficit Procedure then in existence. Unfortunately, debt and deficits have not been constrained as the SGP envisioned. An instructive way to understand the workings (or failures) of the SGP is to consider its adequacy as an example of fiscal policy delegation. If we think of the pact as a transfer of fiscal powers from national governments to the European Council,³⁶ to what extent is it consistent with the principles of delegation discussed in Sections 2.2-2.3?

To think clearly about this question, we must first recognize that the mandate of the SGP has nothing to do with macroeconomic stability (the “stability” it refers to is budgetary stability) or growth. Instead, its requirements are all directed towards the objective of ensuring budget balance. Its intermediate targets are the debt level and the deficit level. Thus, consistent with principles of optimal fiscal policy delegation, most aspects of fiscal policy are left up to the democratic decisions of the national governments; the responsibilities delegated to the Council relate only to the overall stance of deficits and debts.

The consistency of the SGP with the theory of policy delegation ends there. First of all, the fact that the Council represents national governments implies that the body implementing the SGP has little independence. Moreover, the Council also has many other responsibilities. Given their multiple objectives, Council members have little direct accountability for their success or failure in implementing the Pact.

But the most serious failure of the SGP relates to instrument effectiveness. No instrument is delegated to the European Council that effectively controls its intermediate targets. The decisions which actually determine whether the debt and deficit limits are met are instead left directly in the hands of national governments. The instruments actually under the control

³⁶To be precise, the SGP empowered the European Commission to recommend sanctions to countries violating the rules, but these sanctions would be enacted by the European Council, consisting of member state heads of government.

of the Council are a series of warnings followed, in principle, by sanctions in the form of fines. In practice the warnings of the Council seem to have had little impact on government behavior, while fines have been regarded as such an extreme “nuclear option”³⁷ that they have never actually been imposed. In other words, the authority responsible for the SGP has no effective instruments for achieving its goals, only threats intended as incentives for the governments which actually control the effective instruments; moreover, these threats have not proved credible. Finally, note that the Council’s most powerful instruments would in fact affect their intended target variables— but their effect would go in the *opposite* of the intended direction. That is, the direct effect of actually carrying out the threat to levy a fine would be to *worsen* rather than improve a government’s deficit and debt.

On top of all these failings related to its actual goal of budget balance, the SGP appears to simply ignore all consequences related to its nominal goal of macroeconomic stability. By imposing a deficit limit of 3% of GDP, the Pact amplifies the business cycle, by forcing spending cuts or tax increases during recessions. The size of the deficits observed in the recent crisis make clear that, if it were seriously enforced, this limit would be strongly binding. In fact, the Pact always allowed exceptions to the 3% limit during sufficiently severe recessions, and its requirements have been weakened over time. But these changes only reduce rather than eliminate the problem. Thus in addition to ignoring the implications of the theory of optimal policy delegation, the SGP ignores the Mundell-Fleming theory of optimal currency areas.

4 Implementing a fiscal authority at the national level

We have argued that countries in a monetary union have a greater need to control fluctuations in their public debt, and that fiscal delegation could be a powerful tool for this purpose. In this section we consider the type of authority to which fiscal powers could be delegated, and the kinds of fiscal instruments it could control, and we discuss the details of its operation to make clear that such an institution is more than just a theoretical possibility. For clarity we often refer to the case of Spain, but the institution we describe would be relevant for any solvent European country wishing to protect itself against fluctuations in sovereign debt.

Fiscal delegation should be designed keeping a number of desirable criteria in mind. First, delegation is only worth considering if it serves democratic purposes. The decision to delegate should be taken democratically, and the vast majority of fiscal decisions should be left up the legislature; the instruments that are delegated should be no more than the minimum needed to attain the delegated objectives. Likewise, delegation should be designed

³⁷*The Economist*, 31 January 2002.

to preserve national fiscal sovereignty. The reason a member state might wish to place some fiscal decisions in the hands of independent technocrats would be to avoid the deficit bias that could eventually trap it in an unsustainable fiscal situation. As the Greek case has shown, unsustainable finances eventually limit the scope for sovereign fiscal decisions.

Second, it is crucial to delegate effective fiscal instruments. The fiscal authority must control levers that it can quickly and flexibly adjust, which will have a large and predictable effect on the budget. Third, delegation should be designed to avoid creating a tradeoff between budget stabilization and business cycle stabilization. Raising tax rates to balance the budget in times of recession means raising costs, potentially deepening the recession. Therefore, we emphasize budgetary adjustments on the spending side, rather than the revenue side. We now spell out a framework for fiscal delegation consistent with these three criteria. We organize the discussion around six main points.

Point 1. The legislature could establish an independent fiscal authority with a mandate to ensure budget balance.

Does the establishment of an independent fiscal authority imply a loss of sovereignty or democratic control? Note that other familiar institutions in democratic countries, such as independent judicial branches and independent central banks, also take some choices away from the legislature. Nonetheless, such institutions are considered legitimately democratic, because the original decision to delegate these choices is taken constitutionally, or by the legislature itself, and can likewise be revoked constitutionally or legislatively.³⁸

Moreover, the number of choices that the legislature would actually give up would be very small. As we explain in detail below, almost all fiscal decisions would still be made by the legislature; just a few instruments relating to overall spending or overall taxation would be delegated. More importantly, it is crucial to observe that the legislature cannot really control *all* margins of fiscal policy in mutually independent ways; it *must* choose tax policies consistent with its spending policies, or else it will eventually end up fighting off attacks on its debt. By delegating some fiscal parameters to an independent authority, the legislature acknowledges that it is technically (or politically) difficult to choose mutually consistent tax and spending policies. By inviting specialists to “do the math” (or to “take the flak”) in its place, the legislature is still free to choose any set of policies that are *actually financially feasible*; it just decreases its risk of failing to run mutually consistent tax and spending policies, due to technical or political errors. Indeed, if greater credibility lowers

³⁸This possibility is not just hypothetical; the current Hungarian government eliminated the fiscal monitoring council that had been established by the previous government. The possibility of revoking the mandate of a fiscal authority may weaken the guarantee of solvency it provides, but is essential from the point of view of democratic oversight and legitimacy.

risk premia, letting an independent authority guarantee budget sustainability may actually expand the set of financially feasible policies from which the legislature can choose.

Especially in the current European context, institutional reforms to ensure long-run budget balance should not be construed as a loss of fiscal freedom. Instead, the main risk to fiscal sovereignty today is any aspect of a country's governance that reduces its fiscal credibility, and thereby leads markets to demand a higher risk premium on its debt. If rising risk premia eventually cause debt to spiral out of control, necessitating a rescue by other EU member states or by the IMF, then inevitably the country will lose control of many fiscal decisions.³⁹ By delegating a few effective fiscal instruments to a national fiscal authority now, member states would diminish this risk of a true loss of fiscal freedom in the future.

Point 1A. The fiscal authority would forecast macroeconomic and public finance trends.

Point 1A makes clear the main type of expertise needed among fiscal authority staff. It suggests that one way to get the authority up and running quickly would be to base it in or affiliate it with one or more existing institutions already involved in economic forecasting.

Points 1B, 1D, and 1E outline the mandate of the fiscal authority: its objectives, and the instruments delegated to it for the purpose of achieving those objectives.

Point 1B. The primary objective of the fiscal authority would be to ensure long-term government solvency.

Decisions about what types of policies the government chooses to spend money on, and how it raises the revenues to pay for those policies, would be left up to the legislature. The main responsibility of the fiscal authority would simply be to evaluate whether spending and revenue are mutually compatible in the long run. The legislature would specify clearly, *ex ante*, which margins should be adjusted if the fiscal authority judges that spending and revenue have become mutually incompatible.

Point 1C. The fiscal authority should perform its forecasts under the assumption that deficits remain at least as large as current legislation implies.

³⁹A German proposal reported in the *Financial Times* on Jan. 27, 2012, argued that “Greece has to accept shifting budget sovereignty to the European level for a certain period of time”, and proposes a budget commissioner appointed by Europe to implement “surveillance... covering all major blocks of expenditure in the Greek budget” with power to “veto decisions not in line with the budgetary targets”.

The point here is to maintain a precautionary perspective on the legislative process. If the government promises reforms to improve its budgetary situation, the fiscal authority should not factor these reforms into its forecasts until the legislation is actually passed. On the other hand, if the government proposes legislation that the fiscal authority fears might cause a budget deterioration, it should take this into account as a possible risk factor for the public finances. It should also strive to calculate the fiscal implications as quickly as possible, and warn the government about its concerns.

Point 1D. A secondary objective of the fiscal authority could be to avoid excessive fluctuations in output and employment, insofar as this is compatible with the primary objective.

The objectives of the fiscal authority should be set by the legislature. While the main purpose of establishing the authority is to ensure budget balance, as it pursues that objective the authority will inevitably have other macroeconomic effects too. Therefore the legislature may wish to mandate that the fiscal authority take some of these other effects into account when setting its instruments. In particular, it could be beneficial if the fiscal authority attempts to avoid amplifying business cycle fluctuations, insofar as this is compatible with maintaining budget balance.

Point 1E. In order to achieve its objectives, the fiscal authority would set the values of several quantitative parameters affecting the overall fiscal stance.

In keeping with the theory of policy delegation, the fiscal authority should control just a few powerful fiscal parameters with unambiguous quantitative definitions. There are a variety of instruments the authority could control, as we discuss in Point 2. We will make some concrete suggestions in what follows, but ultimately the legislature would choose which instruments to delegate.

Point 2. The fiscal authority should be guided by rules that adjust the trend level of primary government surplus, in response to changes in debt, by an amount sufficient to ensure that the debt cannot spiral out of control.

Point 2A. The trend level of primary government surplus should increase by more than the rise in interest payments when debt rises. Likewise, it should fall more than interest payments do when debt falls.

By “primary” surplus, we mean government revenues minus government expenditures, prior to interest payments on the public debt. By definition, public debt is increasing whenever the primary surplus is larger than interest payments, and it is falling whenever primary surplus is less than interest payments.

Point 2A ensures that in the long run, the debt level tends to return to some steady state fraction of GDP. A rule consistent with Point 2A implies that a sufficiently large increase in debt eventually makes primary surplus larger than interest payments, so that the debt begins to decline. Likewise, under a rule consistent with Point 2A, a sufficient decrease in debt will eventually make primary surplus smaller than interest payments, so that the debt begins to rise. Thus the debt level always has a tendency to converge back to an intermediate level between these extremes, with no tendency to spiral out of control.

An equivalent way of stating this point is to say that any fiscal shortfall at a given point in time must eventually be paid off by a countervailing fiscal adjustment. Macroeconomists call a policy regime that satisfies this principle “Ricardian”.⁴⁰ In contrast, a non-Ricardian policy would be one in which a fiscal imbalance is eventually offset by some non-fiscal adjustment, such as a change in monetary policy.

Point 2B. The actual level of primary government surplus may differ from the trend level of government surplus.

Point 2A refers to “trend” primary surplus, by which we mean the level of surplus implied by the current debt level, estimated trend output, and public spending trends. This implies that temporary differences between output and trend output, temporary changes in public spending needs, and other temporary economic conditions are ignored in calculating trend primary surplus. Therefore actual primary surplus may differ from trend primary surplus.

Point 2C. The actual level of primary government surplus could respond to temporary deviations of macroeconomic or fiscal variables from their trends.

The rules that guide the fiscal authority’s decisions may take into account other objectives, besides long-run budget balance. In particular, the authority may be mandated to stabilize short-run business cycle fluctuations. This would imply that it might vary its policy instruments in response to temporary economic conditions, such as deviations of output from trend. This is one of the reasons actual government surplus might not equal trend surplus at any given point in time.

⁴⁰See Woodford (2003), page 312.

Point 2D. The legislature would define the instruments subject to adjustment by the fiscal authority, on the revenue side, or the expenditure side, or both.

Since primary surplus is the difference between revenues and expenditures, it can be adjusted by changes on either side of the budget. Thus there are many possible ways of adjusting the surplus. The most relevant types of adjustments are those with a large fiscal impact, and which are quick and simple to enact.

On the revenue side, two major classes of taxes that could be adjusted are income taxes and value added taxes. Even restricting the analysis to income taxes, many different changes are possible, since there are multiple types of income and multiple tax brackets, and deductions and exemptions of various kinds. But evaluating the tradeoffs across all these dimensions of income taxation is precisely the kind of political decision which should *not* be delegated to an unelected authority. Instead, for clarity and simplicity as well as to keep out of the political fray, any income tax adjustments made by the fiscal authority should be across-the-board adjustments affecting all rates in a uniform way. Likewise, there are multiple VAT rates on different types of goods, but any VAT adjustments made by the fiscal authority should be as simple, uniform, and broad-based as possible.

There are various other types of taxes that could also be adjusted, such as firms' payroll taxes, or copayments by users of public services; we cannot list them all here. While the effects of income taxes and payroll taxes are quite similar, we will focus on the former because using payroll taxes as a margin for budget stabilization is likely to destabilize hiring even more than income tax changes would. That is, raising payroll taxes during a recession in a country already plagued by volatile unemployment hardly sounds like a good idea.

On the spending side, the number of possible adjustments is even larger. Some public spending takes the form of consumption; some takes the form of investment; some simply represents transfers from certain citizens to others. Some public spending consists of employment by the government, while some consists of purchases of goods from other producers. Categories of spending include administration, law enforcement, defence, infrastructure, research, social services, and welfare payments, among others. Since each of these classifications can be subdivided even further, adjusting the spending side of the budget seems like a very complex task.

Point 2E. The legislature could also provide quantitative guidance about the size of the adjustments to be made by the fiscal agency.

The legislature would choose the objectives the fiscal authority should pursue, and would also define which instruments it should control to achieve these objectives. If it chooses, it could also provide quantitative guidance on the adjustments to be made by the fiscal authority when economic conditions change. For example, it might instruct the fiscal authority never to permit a deficit larger than 3% of GDP, or it might instruct the authority that a certain tax rate should rise by one percentage point when the debt-to-GDP ratio rises by ten percent (these are just hypothetical examples, not recommendations).

Alternatively, the legislature might prefer to rely more on the expertise of the fiscal authority. It could simply instruct the authority to pursue long-run budget balance as its primary objective, and stabilization of output and employment as its secondary objective, and define which instruments the authority should adjust, if necessary, to achieve these objectives. The authority would use its own judgment (refined over time with experience) to define the quantitative rule guiding its decisions. This would be analogous to the setup of the European Central Bank: it is mandated to achieve price stability, but the quantitative definition of price stability (an annual inflation rate below 2%) was set by the ECB Governing Council.⁴¹

Points 3, 4, and 5 now spell out the two main instruments we advocate for maintaining long-run budget balance. We will argue that one of the instruments is suited to infrequent responses to long run conditions, while the other permits a rapid response to short run changes.

Point 3. The low-frequency policy instrument of the fiscal authority could be a shift parameter in the schedule of sales taxes, and/or a shift parameter in the schedule of income taxes.

Point 3A. The baseline schedules for income and value added taxes would be set by the legislature.

In Spain, value added taxes are currently assessed at three different rates, depending on the type of good purchased. The three tax rates, $\{\tau_1, \tau_2, \tau_3\}$, are equal to 18% (the general rate), 8% (the reduced rate), and 4% (the super-reduced rate). The list of goods eligible for the reduced rate includes most foods, but also includes a variety of products such as transport and hotels, hairdressing, dentistry, and resales of real estate. The super-reduced rate includes some staple foods, books, wheelchairs, and publicly-subsidized housing.

Income tax rates are calculated as a function of taxable income, which is defined as income from employment and various other sources, minus a variety of deductions and exemptions. For an individual with positive taxable income $y > 0$, the (average) tax rate is a schedule $t(y)$, so that total tax payments are $t(y)y$, the product of the tax rate times taxable income (expressed in euros).

⁴¹See ECB (2009).

Point 3B. The actual tax schedule for income or value added taxes (or both) would be adjusted by an additive or multiplicative shift parameter.

The legislature would continue to set a variety of baseline VAT rates, and a baseline income tax rate schedule, as it does now. But the actual VAT or income tax rates could be adjusted by a shift parameter chosen by the fiscal authority.

The adjustment could be done in an additive way, or a multiplicative way, as the government prefers. For example, if VAT taxes are subject to an additive shift parameter σ , then actual VAT rates would be adjusted to $\{\tau_1 + \sigma, \tau_2 + \sigma, \tau_3 + \sigma\}$ (assuming the legislature continues to define three different rates). The advantage of an additive shift parameter is that it is particularly simple to calculate: all VAT rates could be just be shifted up or down by one or more percentage points, as necessary. By setting VAT percentages to simple whole numbers, merchants' calculations would be kept simple.

If income taxes are subject to a multiplicative shift parameter s , then actual income tax rates would be $(1 + s)t(y)$, so income tax collected from a person with y euros of taxable income would be $(1 + s)t(y)y$ euros. The advantage of a multiplicative shift is that it is progressive: it implies a larger adjustment at high tax rates, and a smaller adjustment at low tax rates. However, if the government is worried that high marginal tax rates are especially distortionary, income taxes could instead be shifted additively. In either case, actual income tax payments are usually calculated using tax tables or computer programs, so there is no reason to restrict income tax rates to simple whole numbers.

Point 3C. The shift parameters σ or s would be chosen by the independent fiscal authority. They should not be adjusted more than once per year.

Frequent adjustments of tax rates are likely to be costly or infeasible. In particular, income taxes are levied only once per year for most individuals, so rate adjustments more than once per year would have little advantage. Value added taxes are collected by many thousands of retail firms, many of them very small, so communicating frequent changes of tax rates to these firms could prove very costly. Therefore insofar as fiscal adjustments operate through the revenue side, they should be carried out infrequently.

Point 3D. In response to a rise (or fall) in the debt-to-GDP ratio, trend tax collection should increase (or fall) more than interest payments do.

This point ensures that taxes, by themselves, suffice to ensure that the debt-to-GDP ratio has no tendency to explode. In other words, Point 3D ensures a Ricardian fiscal policy.

To see what this implies quantitatively, consider a flat tax income tax rate $t = t(d)$ which the fiscal authority shifts only in response to changes in the debt-to-GDP ratio d . Assuming markets become less willing to hold public debt as d rises, the interest rate $r = r(d)$ will depend on this ratio too. Let us ignore income differences across individuals, so that y represents the per capita tax base, or equivalently per capita income. For realism, assume that output varies with the tax rate: $y = y(t)$. Per capita tax collection is ty , and per capita interest payments are ryd (since d is the debt-to-GDP ratio, yd is debt per capita, and ryd is per capita interest payments). Point 3D requires that tax collection increases more rapidly than interest payments do when d increases. Taking derivatives, this implies

$$t'y + ty't' > r'yd + ry + rdy't',$$

which can be simplified to⁴²

$$t' > r + r'd.$$

What this inequality says is simple: ensuring that debt has no tendency to explode only requires small adjustments in tax rates. Concretely, the increase in the tax rate with respect to a change in the debt ratio just needs to be slightly larger than the interest rate. Thus, taxes can be very smooth, and still ensure intertemporal budget balance. On the other hand, the equation also says that taxes must respond more strongly to the debt ratio if the additional term $r'd$ is large. Thus, it is harder to stabilize debt around a high steady state level (a high d , which is likely to imply a more rapidly growing risk premium, that is, a high r') than it is to stabilize debt around a low steady state level (low d).

Point 3E. Tax rates should not respond too strongly to the debt level.

While some variation in tax rates is needed in order to follow the “Ricardian” tax policy discussed in Point 3D, excessive variation in tax rates is inefficient. As Barro (1979) pointed out, efficient taxation requires “tax smoothing”. That is, tax rates should remain as constant as possible over time, to spread the marginal cost of tax distortions across many periods.

Since the future is not known with certainty, keeping tax rates perfectly constant over time is impossible. So in practice, what the tax smoothing principle means is that an unanticipated increase in public spending in the current period should not be financed by a large increase in taxes now. Instead, it should be financed by a small increase in tax rates spread

⁴²Here we simplify the equation at the steady-state debt level, which necessarily satisfies $t = rd$.

out over many future periods. Of course, this implies that in the short run the government runs a deficit and accumulates debt.

Thus, over several periods with adverse fiscal surprises, Point 3E implies that the government could accumulate a substantial debt. Therefore, how strongly tax rates must respond to debt depends on how high its debt level can become before the government begins to face a risk of a speculative attack. Also, in the context of new constitutional debt limits and new European agreements, tax rates must eventually respond sufficiently strongly to keep the debt below the maximum level permitted.

On the other hand, insofar as there are other fiscal instruments available to stabilize deficits and debts, tax rates will not need to adjust so much. This is one of the main motivations for considering a second, high-frequency fiscal instrument in Points 4-5: making some fiscal adjustments on the spending side allows greater tax smoothing.

Point 3F. Actual tax rates could also respond to other temporary factors, such as temporary changes in output or in public spending needs.

So far we have assumed the fiscal authority adjusts the tax rate only in response to the debt-to-GDP ratio. The legislature could choose to instruct the authority to respond to other macroeconomic conditions too. For example, it could instruct the authority to raise tax rates temporarily when there are temporary increases in required public spending, such as natural disasters or financial crises. It could also instruct the authority to change taxes in response to temporary changes in output, but here we see a tension: it might be advisable to *raise* taxes temporarily when the economy falls into recession (to avoid large deficits), or to *lower* them in recession (to avoid aggravating the downturn).

One possible example of a rule to guide the fiscal authority's choice of the time- t income tax shifter s_t would be

$$s_t = s^d \left(\frac{D_t}{Y_t^*} - d^* \right) + s^g \left(\frac{G_t}{Y_t^*} - g_t^* \right) + s^y \left(\frac{Y_t}{Y_t^*} - 1 \right).$$

In this equation, s^d , d^* , s^g , and s^y are constant parameters defining the behavior of the rule, which could either be mandated by the legislature, or fixed by the fiscal authority (if the legislature prefers to leave these quantitative settings up to nonpolitical experts). D_t is the current nominal public debt; G_t is current nominal public spending; Y_t is current nominal GDP; Y_t^* is the trend level of nominal GDP; and g_t^* is the trend ratio of public spending to GDP (these trends must be estimated by the fiscal authority). Thus the coefficients s^d , s^g , and s^y define how strongly taxes are adjusted to changes in debt, public spending, and output. The constant d^* represents a long-run target for the debt-to-GDP ratio. Under this rule, the

debt ratio will tend to fluctuate around d^* , so d^* must be set much lower than the maximum debt-to-GDP limit permitted by the national constitution or by commitments to Europe.

As we saw in Point 3D, taxes must rise by slightly more than the interest rate when the debt-to-GDP ratio rises. Letting y represent a taxpayer's taxable income, "Ricardian" fiscal policy would require

$$s^d t(y) > r$$

on average, where r is the interest rate on public debt. In order to keep taxes as smooth as possible, the coefficient s^d should not be much larger than this inequality requires. The coefficient s^g could be positive, in order to raise taxes when public spending is unusually high. As for s^y , we have seen that there is a tradeoff: making it positive would help stabilize the business cycle, but making it negative would help minimize debt fluctuations.

In Points 4 and 5 we will describe another fiscal instrument that avoids this tradeoff, and which makes much faster adjustments possible. Given the availability of this additional instrument, we recommend setting $s^g = s^y = 0$, so that taxes shift only in response to the debt ratio. Responses to other temporary economic fluctuations would be better managed using the second instrument instead.

Point 4. In order to create an effective instrument for adjusting budget balance on the spending side, public sector pay and gross public transfers could be budgeted in an alternative unit of account.

As we observed under Point 2D, at first it is hard to imagine how to adjust government spending quickly and flexibly. Indeed, the slowness of the policy-making process is one of the main reasons monetary policy has historically been favored over fiscal policy for purposes of cyclical stabilization. This reflects the complex, multidimensional nature of government spending decisions, the costly negotiations those decisions require, and the substantial lags and fixed costs involved in public investment projects.

Thus, changes in the programs and projects the government undertakes, or the quantities of goods and labor it employs for consumption or investment purposes, are always unlikely to result in rapid budget adjustments. Such changes are an essential part of large fiscal consolidations, but they are slow and complex, and involve decisions more appropriate for the legislature than the fiscal authority. In order to make high-frequency spending adjustments feasible, what is crucial is to define a single lever that rescales government spending as broadly as possible. We argue that broad, across-the-board adjustments are more easily defined by focusing on changes in the prices the government pays, rather than the quantities it purchases. A particularly simple and effective way to adjust the public price level would be to define an alternative unit of account for budgeting public expenditures.

Point 4A. The fiscal authority would define a unit of account benchmarked to a quantity of public sector labor.

One way to make it easier to shift the euro value of public spending across the board would be to negotiate some or all public contracts in a different unit of account, the value of which could subsequently be adjusted. For clarity, from here on we refer to the alternative unit of account as the “public spending unit” (PSU).

For the maximum possible fiscal impact, public spending should be budgeted in PSU to the widest practical extent. In principle, all public spending could be denominated in PSU. Then adjustments to the value of the PSU would change the value (in euros) of all public spending. In practice, we will argue below (in points 4B-4D) that budgeting in PSU is more appropriate for some types of public spending than others. The single most important input to government spending is public sector labor, so making large adjustments in public spending inevitably requires changes in labor compensation. This could be achieved by budgeting all forms of public labor compensation in PSU. The other major budget item that could easily be shifted in the same way is transfer payments.

If public labor compensation is budgeted in PSU, it would be convenient to define this new unit of account in terms of public sector labor. For example, one public spending unit could be defined as the monthly base salary of some specific, well-defined type of civil servant (such as a police officer, a firefighter, a nurse, or a medical doctor) at a specific level of qualification (for example, entry level) in a specific geographical location (for example, in the capital city). Civil servants of different types, with different qualifications, or working in different places, would generally negotiate different monthly base salaries; but these salaries would also be budgeted in PSU.

Point 4B. By law, all public sector labor contracts would be negotiated and budgeted in PSU, but paid in euros.

Thus, suppose the value of one PSU is determined to be X euros (in effect, X can be seen as an “exchange rate” between the public and private units of account). Then a civil servant with a base salary of one PSU would be paid a base salary of X euros. A civil servant that has negotiated a base salary of $\text{PSU}1.5$ would be paid a base salary of $\text{€}1.5X$. A public worker with a performance bonus of $\text{PSU}0.1$ would receive that bonus in the form of $0.1X$ euros.

For maximum effectiveness, the PSU should be a broad-based fiscal instrument capable of shifting all the government’s labor compensation payments simultaneously. Therefore it would be the unit used to define public employees’ base salary, and also all other aspects of their compensation. This may include many separate items, such as geographical cost-of-living adjustments, performance bonuses, seniority bonuses, and so forth. The requirement

that contracts be written in PSU would be applicable both to permanent and temporary employees of the government, and also to payments by the government to private employment agencies for subcontracted workers. We emphasize that it would also apply to employees of public agencies formally independent of government, including the central bank and the fiscal authority itself.⁴³

Note also that defining a new unit of account need not imply any other change in labor market institutions, or bargaining and budgeting practices. For example, in Spain these institutions are currently undergoing major reforms, but this is irrelevant from the point of view of implementing the PSU mechanism. Among other things, the reforms affect the level of firing costs, and the extent to which labor contracts may be negotiated at the firm rather than the sectoral level. But regardless of these reforms, the mechanism discussed here simply requires that salaries (and all other forms of compensation in the contract) for public workers be defined in PSU rather than euros. Who negotiates the quantity of PSU, and how the negotiation is carried out, are entirely separable questions.

Likewise, the definition of salaries in terms of PSU has no effect on tax policy. Since public salaries are actually paid in euros, they will be subject to taxes, in euros, like any other taxpayer. The fact that the PSU framework does not require large changes in other areas of public policy could greatly facilitate and speed up its implementation.

However, we emphasize that requiring PSU contracting as a matter of law is crucial; otherwise, some public workers might attempt to insist on contracts in euros. By invalidating any contract denominated in euros, such a law would ensure that any budget adjustment by the fiscal authority would affect all public employees proportionally. While negotiating a time-varying PSU salary need not be prohibited, any clause that indexed the PSU salary to changes in the euro value of the PSU would likewise be invalid.

Point 4C. By law, all gross transfer payments from the public sector would be negotiated and budgeted in PSU, but paid in euros.

In particular, pensions and unemployment benefits would both be defined in PSU, but the actual monthly payment would be made in euros. Defining unemployment benefits in PSU could be especially helpful for employment incentives, by avoiding a rise in the value of unemployment benefits relative to private wages when the economy enters a recession. In other

⁴³Obviously the fact that the fiscal authority would control the numeraire for its own salary is potentially problematic. But as in the case of central banks, keeping the authority's mandate simple by focusing it entirely on budget balance is likely to minimize its incentives to bias its own forecasts in order to pursue its own financial gain. As Blinder (1998, page 45) points out, no one worries that central bankers might change inflation policy in consideration of their own personal financial incentives. But if additional incentives are necessary for the fiscal authority, its governor and staff could face penalties in their own income in case they fail to stabilize debt adequately.

words, it is a way of avoiding the downward wage rigidity that can amplify unemployment in recessions.

Point 4C is also crucial in the context of a decentralized system of government, as in Spain, where many public functions are “devolved” to the regions, and part of the spending to provide these functions is financed by transfers of tax revenues from the central government.⁴⁴ On one hand, we emphasize that the law requiring salaries to be defined in PSU should apply at all levels of government, including regional and local governments. On the other hand, gross transfers of tax revenues from the central government to regions or localities would be defined in PSU. In effect, this means that a very high percentage of total public spending would be affected by our mechanism— not only all public salaries and social welfare benefits, but also all gross transfers to lower levels of government, would be defined in PSU.⁴⁵ The fact that gross transfers of euros to the regions would decline when the fiscal authority devalues the PSU need not prove harmful to the regions, since their required euro payments to their public servants and welfare recipients would decline too.

Point 4D. The government could budget or negotiate other forms of public spending in PSU as well, if it finds this advantageous.

Another area of public spending where PSU budgeting could be beneficial is general contingency funds. That is, any spending item that is not defined for a specific purpose at the time the budget is passed, but is instead held in reserve for a “rainy day”, could be budgeted in PSU rather than euros. This would oblige the government to cut back on general discretionary spending if funds turn out to be unexpectedly short.

However, insofar as these discretionary funds are spent in spot markets, there is no advantage from denominating the purchases themselves in PSU. After all, the actual payments would be made in euros, so there is nothing to be gained from asking for a price quote in PSU when making an occasional purchase from a competitive supplier at a given point in time. For example, an office supply retailer would have no reason to change its real price when making occasional small sales to public agencies; it is likely to just apply its standard euro list price, even if its invoice must show this as a quantity of PSU.

In principle, there could be benefits from PSU contracting in the case of long-term relationships between suppliers and the government. For example, if a government ministry

⁴⁴See Fernández-Caballero, Pedregal, and Pérez (2011) for recent details of Spanish regional finances.

⁴⁵Income tax payers in any Autonomous Community in Spain pay two taxes: one to the central government, and one to the region. Taxes designated for the region which stay in the region would simply be defined in euros. Only tax revenues designated for the central government but budgeted for transfer to a lower-level government should be budgeted in PSU.

makes repeated purchases of office supplies from a single firm, or enters into a long-term contract with a construction firm to undertake an infrastructure project, writing the contract in PSU is a way for the government to eliminate some budgetary risk. The government does not know what the future holds when it enters into a long-term relationship of this sort; by contracting its future expenses in PSU it ensures that its actual costs (in euros) will decrease if its tax revenues are lowered by a recession. In effect, a supplier that agrees to a long-term contract with the government with prices denominated in PSU is selling the government some insurance against macroeconomic risk.

Some firms may indeed be willing to attract government business by offering it this sort of implicit insurance at a reasonable price. When the government is convinced that it is getting a good price on a long-term PSU contract, it should take advantage of the opportunity. But this is unlikely to be frequent. While borrowing is costly for the government in recessions, private firms are often highly-leveraged borrowers whose borrowing costs rise even more steeply when a recession comes.⁴⁶ Therefore private firms are likely to demand a high *ex ante* expected price when entering into a long-term supply relationship contracted in PSU. That is, private firms are likely to place a heavy risk premium on PSU contracts. This would make PSU contracting of nonlabor expenses costly for the government on average, even if it is less risky than euro contracting.

Point 4E. Defining an alternative unit of account would simplify fiscal adjustments, compared with other apparently similar budgeting mechanisms.

On first thought, defining a new unit of account might seem a needless complication in setting up a system for making across-the-board adjustments to government spending. But further reflection suggests that some apparently similar systems would be harder to implement in practice.

One alternative that might superficially seem equivalent would be to define two tax schedules: one for private income, and one for income received from the public sector (as wages, or as social transfers). A fiscal authority could then shift public spending by adjusting the taxes on public sector income. But this brings up many complications. For example, since some individuals receive income both from the private and public sectors, implementing sector-specific tax rates would require rewriting the tax code to define how marginal rates interact across the two types of income. In contrast, as we mentioned in point 4B, implementing the PSU mechanism would not require any changes in Spanish tax regulations.

⁴⁶In contrast, public sector employees are likely to be savers, or at any rate less leveraged than private firms are. Therefore they are likely to demand a smaller risk premium when selling their labor to the government in PSU than that demanded by private firms.

The advantages of the PSU framework are further illustrated by considering a recent example of a fairly broad-based expenditure cut: the Spanish government's unexpected announcement of a 5% cut in civil service salaries in the middle of the 2011 budget cycle. Many thorny questions immediately arose, implying costly and time-consuming political negotiations and legal challenges. Would the cut be applied equally to all civil servants, or would it be applied progressively? Would it be applicable to base salary only, or also to other aspects of labor compensation (which are a large fraction of the total)? Would it apply also to workers subcontracted by the state from private companies? The institutional setup considered in this paper would resolve all of these questions *ex ante* by denominating some promised public payments in PSU rather than euros. By accepting a contract denominated in PSU, workers would acknowledge their acceptance of possible future shifts in the euro value of their compensation. As points 4B-4D made clear, the same system could easily be extended to most components of public spending, including transfer payments, and some public investment projects.

Defining this alternative unit of account could also make it easier for the public to understand fiscal tradeoffs, by clarifying who actually bargains with whom. Since salaries and transfers are the large majority of government spending, increasing compensation of one class of workers or benefit recipients without increasing taxes or debt implies decreasing the compensation of other workers or benefit recipients. That is, as long as taxes and debt are held fixed, different classes of public workers and benefit recipients can only negotiate *between each other* about the *relative* value of the payments they will receive. If unions instead demand an increase in all public salaries and benefits, then they are in effect *demanding higher taxes*; the fiscal authority will raise all public salaries and benefits if and only if the legislature sets higher tax rates. Hopefully this clarity could help to eliminate a certain form of money illusion—the illusion that public workers and benefit recipients are paid “by the government” (implicitly assumed to have some costless source of finances available) instead of being paid *by the taxpayers*. Eliminating this illusion might help eliminate deficit bias.

Distinguishing between the unit of account and the medium of exchange seems like a radical idea, but it has historical precedents, particularly in situations of high inflation where private agents have spontaneously begun to distinguish the two.⁴⁷ An interesting example of a policy regime that deliberately separated the unit of account from the medium of exchange occurred in 1994 at the beginning of the “Real Plan” that ended hyperinflation in Brazil. In the wake of several unsuccessful currency reforms, Brazil introduced a virtual unit of account called the “unidade real de valor” (URV) which tracked the value of the US dollar.

⁴⁷Buiter (2007) studies how macroeconomic policy would differ in a world with a unit of account distinct from the medium of exchange.

The government mandated the conversion of all wages and salaries to URV, to be paid in the currency actually in circulation (the cruzeiro), at an official exchange rate which the government calculated daily. To avoid menu costs, many firms began posting their prices in URV rather than cruzeiros (again, actual payments were made in cruzeiros, since URV cash did not exist). After roughly six months, the public understood that prices were stable in URV. At that point, the government introduced a new currency (the real) with a value equal to one URV. Inflation was effectively defeated.⁴⁸ This example demonstrates that the private sector is perfectly capable of understanding a unit of account that differs from the medium of exchange. We argue that distinguishing between the two is not only useful in inflationary situations, but could also strengthen a monetary union.

Point 5. The high-frequency policy instrument of the fiscal authority could be the valuation of the PSU in terms of euros.

Point 5A. In the long run, a permanent change in the value of the PSU has no real effects. Therefore changes in the value of the PSU are only relevant for short-run adjustments.

Changing the value of the PSU is a purely nominal change. That is, it only redefines accounting units, without changing the fundamentals of the economy. Like any other purely nominal change (like the changeover from pesetas to euros), it will have a property of “monetary neutrality” in the long run. In other words, redefining the euro value of the unit of account for public spending should have no long run real economic effects. Since workers can always renegotiate their salaries with their employers, sooner or later they can be expected to demand a quantity of euros consistent with the level of supply and demand for their particular skills. In this sense, cutting X in half should eventually lead workers to double the value of their salaries in PSU (leaving the euro value of their salaries unchanged).

This is why our analysis considers two instruments rather than one: a change in tax rates may be necessary to solve a highly persistent difference between public revenues and spending. Also, since the debt level adjusts relatively slowly over time, a change in tax rates may be necessary to undo a long-term buildup of debt. Nonetheless, changes in X can have real effects on the economy in the short run, due to the stickiness of prices and especially of wages. This means adjustments to the PSU exchange rate are a potentially useful short run stabilization tool.⁴⁹

⁴⁸See Fig. 1 of Dornbusch (1997). We thank Marcel Jansen for bringing this example to our attention.

⁴⁹In Costain and de Blas (2012), we show that in the short run, both these instruments have large effects on the government budget, and on the rest of the economy, even though a change in the value of the PSU has no real effects at all in the long run. See also Gomes (2011).

Point 5B. The fiscal authority would update its predictions of future macroeconomic and budgetary trends at least once per month.

Recent European reform proposals call for independent monitoring of the economy and the budget. This would be one of the roles of the fiscal authority. To maximize the effectiveness of the PSU exchange rate, it would update its forecasts continually. This sort of forecasting is standard practice today. Setting up a forecasting model is difficult, but once it is running, updating its forecasts is easy. Contemporary forecasting allows continuous updates based on a large number of indicators that become available at different times or different frequencies, or which may occasionally be missing or revised; forecast models of this type are currently in use in Spain.⁵⁰

Point 5C. Given its latest predictions, the fiscal authority would reset the value of the PSU around the 15th of each month.

A major advantage of the PSU mechanism, compared with adjustments of tax rates, is its potential speed. The current debt turmoil has repeatedly shown that fiscal adjustments must be extremely quick if they are to respond to the fluctuations of the bond market. By resetting the value of the PSU once per month, the fiscal authority would be able to control spending at what is effectively the highest relevant frequency. That is, the majority of public spending consists of public salaries and transfers; assuming these are paid monthly, near the end of the month, all government agencies could simply multiply their PSU budgets by the newly-published value of X to determine the euro quantities to be transferred to the bank accounts of public workers and transfer recipients. In this way the authority would readjust its fiscal instruments prior to *every major act of public spending*. This should be a sufficiently quick reaction even for the tastes of the bond markets.

Points 5D and 5E explain how the long-term objectives of the fiscal authority could be translated into short-term quantitative targets.

Point 5D. The fiscal authority's determination of the value of the PSU would be guided by a rule designed to stabilize debt levels without requiring large fluctuations in tax rates.

The fiscal authority would decrease X in recessions and raise it in booms. This would lower the cost of government spending when the tax base decreases (recessions), helping to minimize public deficits and stabilize public debt. Raising X again in booms means that public workers' salaries will not change on average (though they may be more variable).

⁵⁰See for example Camacho and Pérez-Quirós (2010).

These adjustments in the cost of employing public workers would permit greater smoothing of tax rates.

In addition, X should decrease when there is a temporary increase in public spending needs (and it should increase when public spending needs fall temporarily). Again, this is a way of stabilizing deficits and debts while minimizing changes in tax rates. Taking public spending needs into account, separately from the business cycle, is important because increased public spending stimulates the economy. *Raising X* when the economy starts to boom due to increased public spending would amplify the rise in the deficit. Therefore it is important to distinguish economic fluctuations driven by changes in public spending from other economic cycles.

A second advantage of establishing the PSU instrument is that there are limits on the total revenues that can be obtained through taxation. In normal times, stabilizing debt on the basis of tax adjustments only is possible in principle. But in the face of exceptionally large fiscal shocks, like those caused by the recent financial crisis, it might be impossible to raise enough tax revenues to prevent the debt level from exploding, because of the so-called “Laffer curve”. Tax *rates* can be raised arbitrarily close to 100%, but this will not result in additional tax *revenues*, because eventually taxation will become so distortionary that it will decrease the tax base. Having a second instrument available as an alternative to tax increases allows the economy to confront larger fiscal shocks than it would if were forced to rely on tax adjustments alone.

In other words, there is an upper bound on the amount that can be raised through taxation in any period, and if the economy starts from a high level of debt, and faces an exceptionally severe fiscal shock, even the maximum possible tax revenue may be insufficient to prevent a debt spiral. Roughly speaking, this is why the crisis forced Greece to restructure; Spain also faced a huge fiscal shock due the crisis, but since it started from a lower debt level it has been able to make sufficient fiscal adjustments to avoid an explosion of its debt level. Moreover, some of those fiscal adjustments have been on the spending side, including a large reduction in public salaries. If Spain had attempted to adjust to the crisis by increasing tax rates only, its fiscal situation would be even more difficult than it is now.

Point 5E. The rule guiding the valuation of the PSU could also seek to achieve other objectives, such as stabilizing fluctuations of the output gap, or accommodation of temporary government spending needs.

The third great advantage of the PSU instrument is that there is no tradeoff between Points 5D and 5E. If the economy falls into recession, and the fiscal authority lowers X to avoid a large deficit (Point 5D), this has the beneficial side effect of lowering wage pressure

throughout the economy, which helps to stimulate the economy and thus to minimize the recession (Point 5E). A decrease in X lowers the euro value of public salaries and the euro value of unemployment benefits. For both of these reasons, workers become more likely to accept jobs at lower wages, giving firms a stronger incentive to hire them. This offsets the effects of the recession on employment.

One possible rule to guide the fiscal authority's valuation of the PSU at time t would be

$$X_t = X^* \left(1 + x^y \left(\frac{Y_t}{Y_t^*} - 1 \right) + x^g \left(\frac{G_t}{Y_t^*} - g_t^* \right) \right).$$

Here, X^* , x^y , and x^g , are constant parameters defining the behavior of the rule, which could either be mandated by the legislature, or fixed by the fiscal authority (if the legislature prefers to leave these decisions in the hands of nonpolitical experts). The other variables are defined as before. X^* represents a long-run target value for PSU, in terms of euros; x^y and x^g represent the effects of temporary changes in output and spending on the current exchange rate. The coefficient x^y should be positive, so that the value of the PSU rises in booms and falls in recessions. But x^g should be negative, so that the PSU becomes cheaper when government spending rises.

Point 5F. Creating an internal exchange rate between public and private spending would strengthen the Eurozone by reducing the rigidity of relative prices associated with a monetary union.

In his classic analysis of optimal currency areas, Mundell (1961) argued that fluctuations caused by asymmetric demand shocks are exacerbated in a monetary union. The amplification results from the stickiness of prices and especially of wages: the fact that wages tend to remain too high for too long in recessions causes an excessive rise in unemployment. In a country with a floating exchange rate the effects of wage stickiness are partially eliminated, since the currency tends to depreciate in recessions, making wages lower in terms of foreign currency even when they remain unchanged in local currency terms. This stabilization mechanism is eliminated when a country joins a currency union.

However, Mundell's analysis assumes traditional monetary and fiscal instruments. The scenario outlined in this paper demonstrates that nontraditional fiscal instruments could mitigate these costs of monetary union.⁵¹ Defining a different unit of account for most public spending would give a country an additional fiscal instrument that could be used for budget stabilization and for fiscal stabilization, without creating a tradeoff between the two. Devaluing the public spending unit when the country is hit by a negative demand shock would both

⁵¹Adao, Correia, and Teles (2009), and Farhi, Gopinath, and Itskhoki (2011) also explore how alternative instruments could improve policy outcomes in open economies.

diminish the fiscal impact of the recession and reduce the recession itself. That is, the expanded set of policy instruments considered here helps eliminate some of the nominal rigidity that makes a monetary union vulnerable to excessive fluctuations in output and employment and debt. A Eurozone endowed with the fiscal institutions and instruments described here would be more resilient against shocks like those highlighted by Mundell.

Point 6. Establishment of the fiscal authority.

Point 6A. Independence of the fiscal authority would be guaranteed through adequate financing, independence in hiring of junior staff, and appointment of senior staff (subject to legislative approval) for terms at least as long as one full legislative session.

Point 6A mirrors the safeguards that ensure the independence of central banks today.

Point 6B. Before the first implementation of the PSU unit of account, the fiscal authority would report to the legislature on the compatibility of public spending and revenue trends under current legislation. It would estimate what changes in tax rates would suffice to maintain public payrolls and transfers at their current real levels. and what changes in public payrolls or transfers would suffice to maintain current tax rates.

This point emphasizes that the establishment of an independent fiscal authority need not imply a decrease in public salaries and welfare payments. Whether these should be higher or lower is a political issue that ought to be in the hands of the legislature, because it is subject to valid normative disagreement. Instead, the reason to establish a fiscal authority is to ensure that public salaries and welfare payments are *consistent, over the long term, with available tax revenues*. Therefore it would be important for the fiscal authority, at the beginning of its mandate, to spell out its best estimate of the options: how high would taxes have to be in order to maintain current public spending, and how low would spending have to be in order to maintain current tax rates? The legislature would then have an opportunity to immediately adjust taxes or spending as it deemed necessary.

Point 6C. When compatible with its budget and its other duties, the fiscal authority would provide feedback to legislators about new legislative proposals, estimating how these proposals would affect budget trends, and the likely future values of the PSU and of tax rates.

Forecasting the impact of new spending on the PSU and on tax rates could be especially important in the case of large, unexpected fiscal obligations like those implied by financial crises. The fiscal authority should, whenever possible, provide its best estimates of the long-term budgetary impact of any major policy interventions before they actually occur.

Point 6D. The valuation of the PSU, and the choice of the tax shift parameter, would be the responsibility of the fiscal authority only; pressure by the executive or the legislature to change these variables would be prohibited.

Point 6E. The fiscal authority would regularly explain its operating procedures to the public and the legislature, and would regularly publish its economic and budget forecasts. It would also publish quantitative data documenting the degree of accuracy of its adherence to its quantitative rules.

Points 6D-6E mirror the framework for independence of central banks today. Delegating decisions to an independent authority makes transparent reporting of results essential, so that the public can evaluate the authority's success or failure in achieving its mandate.

5 Implications for Euro area reforms

5.1 Sanctions are the wrong approach to moral hazard in the Eurozone

While this paper has focused on how a Eurozone member state could sort out its own fiscal problems, our analysis also points toward possible improvements in Eurozone debt policy as a whole. The key point of disagreement today in addressing the sovereign debt crisis is how to deal with moral hazard. Financial mechanisms sufficient to end the crisis are easy to identify, such as issuing Eurobonds, or large-scale sovereign bond purchases by the ECB.⁵² The reason Germany and other core countries oppose these “solutions” to the crisis is that they create moral hazard, reducing the incentives for peripheral countries to get their deficits and debts under control.

Europe is actively working to find a solution for these moral hazard problems. In September the European Parliament passed a “six-pack” of new fiscal regulations to strengthen the Stability and Growth Pact (European Council, 17 March 2011). These regulations imply earlier and more intensive monitoring of a wider range of fiscal and other imbalances, with a series of warnings and progressively harsher sanctions applied “semi-automatically”, that is, the sanctions would be applied unless the European Council votes to suspend them and

⁵²See also Pisani-Ferry (2012).

offers public justification for the suspension. The fundamental problem with these proposed solutions is that they are based on the same mechanisms as the SGP. We have argued that the SGP failed to create an effective instrument for budget balance. Instead, it threatened harsh punishments that would actually *worsen* budget balance if they were ever applied; in practice this means the punishments were never applied, and the threats were never regarded as credible in the first place. Current reforms may in fact make the sanctions more credible, but if so this only increases the risk that countries in fiscal difficulty will face punishments that make their troubles worse.

Punishing member governments that fail to be fiscally responsible is a very indirect way for Europe to ensure national budget balance. It is therefore encouraging that some recent proposals to combat moral hazard (European Commission, Memo/11/822, 23 Nov. 2011) not only strengthen monitoring, but also appear to imply more direct mechanisms for imposing member state budget balance. On one hand, they seek to harmonize budgetary procedures across countries, and they suggest the establishment of independent fiscal monitoring councils at the national level, making it much easier for Europe to detect national fiscal imbalances. Countries would be subject to enhanced surveillance if fiscal problems begin to build up; the council may eventually recommend that member states seek a financial rescue from European or IMF institutions, implying a macroeconomic adjustment program in which an outside agency would impose some control on national fiscal decisions. Likewise, Herman van Rompuy has suggested the possibility of giving European authorities the right to intervene in national budget processes (*Cinco Dias*, 16 Nov. 2011), and the most recent intergovernmental agreement speaks of “automatic correction mechanisms” that will be triggered if deficit rules are violated (European Council, 9 Dec. 2011). However, exactly what types of interventions are implied remains somewhat unclear.

Thus, the possibility of direct European control over some aspects of national budgets in some circumstances is now being openly debated (*e.g. The Economist*, 22 Oct. 2011). Still, this is a long way from defining effective fiscal instruments for budget balance. The emphasis seems to be on parachuting European administrators into a member country’s fiscal process after it has reached a crisis stage, while relying only on monitoring and threats to prevent that stage being reached in the first place. And while outside administrators may be committed to fiscal rectitude, they will lack local knowledge and may be unable to quickly assess tradeoffs in the multiple dimensions of fiscal decisions. Therefore, we believe it would be better to create a framework *ex ante* to clarify and simplify the relevant fiscal levers that should be pulled by outside authorities, if necessary — preferably long before a crisis is reached.

5.2 Effective fiscal instruments for the European Commission

To ensure sustainability of national debts in a credible, efficient, and democratic way, each Eurozone country could be required to define at least one effective fiscal instrument, and to delegate executive power over that instrument to the European Commission. Each national legislature would decide for itself which fiscal instrument to delegate. One country might choose to delegate control of a multiplicative shift parameter in its income tax code; another might delegate an additive shifter in its value added tax schedule; another might define a shift parameter in the growth rate of pension benefits; another might delegate valuation of a public unit of account like the one we discussed in Sec. 4. Some countries might choose to give the Commission greater flexibility by delegating more than one parameter.

The European Commission would set up a body which might be called the Debt Management Office (DMO), following the terminology used in a recent proposal (European Commission, Memo/11/822, 23 Nov. 2011) . This authority would exercise control, when it deemed necessary, over the instruments delegated by the national governments. Unlike the “six-pack” reforms, there would be no need for the DMO to impose fines and other sanctions. Nor would the DMO face the possibility of entering suddenly into *ad hoc* control of a member state’s budgeting process in case of a crisis. Instead, whenever it detected a situation of fiscal irresponsibility, the DMO could simply adjust the delegated fiscal parameter as necessary to steer the national budget onto a sustainable course. Rather than pursuing budget balance indirectly, by monitoring countries and threatening painful sanctions on those found to be irresponsible, the DMO would pursue budget balance directly, by monitoring countries and using the instruments under its control to adjust the deficit towards sustainability when countries fail to do so themselves.

Like a fiscal authority at the national level, the main job of the DMO would be one of macroeconomic forecasting. It would need to forecast output, other macroeconomic variables, and budget variables, while keeping track of national policy changes. The multiple improvements to reporting and surveillance of national budgets implied by the “six pack” reforms will be helpful in this regard. Likewise, the recent legislative proposals that would require establishment of national fiscal monitoring offices would allow the DMO to coordinate closely with those offices and take advantage of their local knowledge.

The very first responsibility of the DMO would be to evaluate the effectiveness of the fiscal instruments proposed for delegation by national governments. Effectiveness requires a large budgetary impact. For example, a member state proposing to delegate control over the VAT rate on automobile purchases only would be informed that such a narrow instrument is insufficient for effective control of budgetary stability, so the DMO would require an alternative proposal. The relevant criterion here is simply whether adjustment of the proposed

instrument would have a large impact on the budget; whether the instrument is appropriate in terms of its economic, political, and distributional effects is a question that should be left up to the judgment of the national legislature. Effectiveness also requires that the instrument has actually been implemented in national legislation. Merely proposing to delegate a certain instrument would be unacceptable; the DMO would have to verify that legislation creating the instrument has been passed, that any relevant constitutional issues have been resolved, and that the administrative structure needed to operate the instrument has been put in place.

When we say that countries should be required to delegate an effective fiscal instrument, we mean that no European backing would be available for member states that failed to delegate. In particular, the ECB would not accept their sovereign bonds as collateral. Likewise, if in the future a system of Eurobonds is established, participation in the system would be conditional on fiscal delegation. These requirements would give member states a strong incentive to delegate an effective fiscal instrument to the Commission, making other sanctions to enforce budget balance moot.

Even after an fiscal instrument has been delegated to the DMO, it would not normally be necessary for the DMO to use it. Instead, control of all aspects of fiscal policy could be left in national hands until the DMO judges that those policy actions are inconsistent with budget stability. If the DMO detects a deficit problem in the making, it would normally first warn the national government and recommend corrective action. The DMO would then actually have to adjust its fiscal instruments only if the country failed to take sufficient corrective action. In exceptional circumstances requiring especially quick action (costly natural disasters, sudden discovery of systemic financial losses, or the beginning of a speculative attack on sovereign debt), the DMO might adjust its fiscal instruments immediately, but it would normally do so in consultation with the national government.

To make it easier for the DMO to judge the sustainability of fiscal policy, national governments would also be required to define rules to guide their deficits and debts over time. Indeed, the establishment of fiscal rules is already required under the “six-pack” reforms and the intergovernmental agreement of Dec. 9, 2011. These rules should have the properties outlined in Section 4— in particular, they should ensure that trend primary government surplus adjusts more than interest payments do when the debt-to-GDP ratio changes. The rules could allow temporary deviations of actual surplus from trend surplus, in order to allow for other factors such as the state of the business cycle or exceptional public spending needs.

Just as the DMO would have the responsibility of evaluating the effectiveness of the delegated national fiscal instruments, it would also have the responsibility of evaluating the quantitative realism of the national fiscal rules. If it judged that the proposed fiscal rule was based on unrealistic economic assumptions, it could require the national legislature to make a more adequate proposal. If it judged that the temporary deviations from trend primary

government surplus implied by the rule would be excessively large or persistent, it could require a more restrictive rule.

Once the DMO judges that a member state has delegated an effective fiscal instrument, under an adequate fiscal rule, that member state would be free, in principle, to manage its own fiscal affairs. The DMO would monitor the member state's adherence to its own fiscal rule, and would monitor the behavior of the state's deficit and debt over time, in consultation with the member state's fiscal council. It would warn the member state of developing fiscal or macroeconomic imbalances, and also evaluate the fiscal impact of new policy proposals. It would normally allow the member state adequate time to choose its own path of fiscal adjustment when a deviation from the fiscal rule is detected. But when this fails it would always be able to impose a fiscal adjustment directly by adjusting its instruments.

By reducing the risk that national debt will spiral out of control, delegation of effective fiscal instruments to the European Commission would mitigate the problem of moral hazard in European backing for national debt. It would thereby open the door to any of the obvious solutions to the debt crisis. The EU or the Eurozone could issue bonds with joint and several backing, and trade these for national debt, knowing that fiscal instruments are in place to ensure that all member states pay their obligations. The ECB could risklessly purchase national debt on secondary markets, and could commit to limit interest rate differentials across national bonds, knowing that all national debts have equally strong backing.

Finally, note that this approach to the debt crisis avoids pointless sanctions, and would preserve more national sovereignty than the alternatives that are now being discussed at the highest levels of EU government. If necessary, budget stability would be achieved by adjustment of the fiscal parameters delegated to the DMO. While this might be construed as a punishment (and certainly provides incentives for fiscal responsibility *ex ante*), the point is not to punish, but simply to attain the budgetary objective. The margins of adjustment would be proposed *ex ante* by the member state in question, reflecting its own preferences about how to balance the budget if for some reason its own political process fails to do so. The looming risk that a national political impasse might lead eventually to a debt crisis, implying sudden forcible restructuring imposed by outsiders, would be eliminated.

6 Conclusions

At the date of this writing, further fiscal innovation remains essential in Eurozone countries—the question is *which* innovation would be most effective. We argue that the missing ingredient of a monetary union is neither a fiscal transfer union, nor a system of sanctions to prevent deficits. While a union providing fiscal transfers across regions is clearly feasible in a long-established nation state (given the US example), it was not politically feasible when EMU

was established in Europe. Moving gradually to such a system has not proved feasible either, since the vulnerabilities of a monetary union without mechanisms to guarantee national budget balance have burst into the open long before political convergence occurred. Thus, European authorities are now trying to establish a new fiscal framework quickly, before the crisis destroys the monetary union itself. But they are making their proposals in the face of strong political opposition, both from countries that fear they may end up paying for the profligacy of others, and from countries that feel they are having reforms forced upon them. There is a clear danger that the negotiations could drive the union further apart rather than bringing it together. There is also the danger that the incremental, compromise implementation of a new fiscal framework could simply fail to change Europe deeply or quickly enough to avoid bond crises in some major debtor countries and thus banking crises in the creditor countries.

Therefore we insist on the point (made previously by Wyplosz 2005, 2011) that fiscal union is neither necessary nor sufficient to prevent attacks on sovereign debt. Instead, the essential requirement to stop speculation on sovereign debt is any mechanism that ensures the budget balance of the sovereign government. That might sound like a fantasy, but a long list of previous proposals inspired by the operation of contemporary central banks suggest that it is achievable. We have closely examined the counterarguments to these proposals, and found them unconvincing. The primary objections to delegating fiscal policy instruments are that unlike monetary policy, fiscal policy is highly multidimensional, normative, distributional, and controversial, and therefore more appropriately addressed directly by the democratic government itself. The answer to this set of objections is to point out that most fiscal questions would indeed remain in the hands of the legislature. Any well-designed fiscal authority would only be responsible for a small number of instruments with a clear, quantitative definition and a broad, direct effect on overall budget balance.

Which instruments the fiscal authority would control is the main way the mechanism discussed here differs from the proposals of Wyplosz (2005, 2011) and the current European proposals to reinforce the Stability and Growth Pact. Assigning the fiscal authority the task of choosing the deficit at the beginning of a given budget cycle does not create an effective instrument, because the actual determination of the deficit remains in the hands of the government. Setting up a system of sanctions to punish recalcitrant governments does not create an effective instrument either; again, the actual determination of the deficit remains in the hands of the government. Threatening stronger sanctions in the SGP just makes these threats less credible; making the sanctions of the SGP more automatic just increases the risk that they will indeed be imposed, *worsening* the budget problems of the punished countries and increasing the risk that these countries might choose to leave the union.

A more effective instrument could instead be defined along the lines of Gruen (1997). Like him, we consider a shift parameter that would have a broad fiscal impact *after* detailed budget plans are enacted by the government. But maintaining budget balance by varying tax rates, as he proposes (and which we also advocate as a secondary mechanism) has the unfortunate side effect of amplifying recessions. Instead, to maximize tax smoothing, we emphasize adjustments on the spending side. While adjusting the quantities of goods and services purchased by the government is a complex, multidimensional decision, we point out that most public spending takes the form of labor compensation and transfers, which are relatively simple to adjust across-the-board. We describe a system whereby these adjustments could be made frequently, at low cost. By law, public salaries, social transfers, and gross transfers from the central government to the regions would all be multiplied by an adjustment factor, which would be determined by an independent fiscal authority, according to a rule consistent with long-term budget balance. This framework would allow rapid adjustments of fiscal policy in the face of bond market pressure, and any decrease in the adjustment factor due to unexpected bad economic news would stimulate employment by helping to reduce wage pressure. This framework is deliberately designed to be administratively simple, and it is unlikely to require major changes in other areas of public policy, like labor law or the tax code, making it a potentially quick reform.

While our paper mainly studies how individual Eurozone member states could solve their own debt problems, it also suggests possible improvements in fiscal policy at the European level. Some rapid progress has been made in defining a new European fiscal framework. However, the main reforms up to now still emphasize threats of stronger sanctions as the main solution to the moral hazard problem. This is misguided. It would be better to require each member state desiring European backing for its debt to delegate at least one effective fiscal instrument to an independent fiscal authority mandated to maintain long-run budget balance. Member states would maintain full fiscal sovereignty as long as they heeded warnings from the fiscal authority about possible risks to budget balance; in the worst case, if they failed to maintain budget stability on their own, they would be subject to a budget readjustment of their own designing. If Europe nonetheless persists in a threat-based solution to the moral hazard problem, individual states would be wise to set up their own independent fiscal authorities, in order to avoid ever suffering the consequences of those threats.

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Figure 1: International comparison of debt-to-GDP ratios.

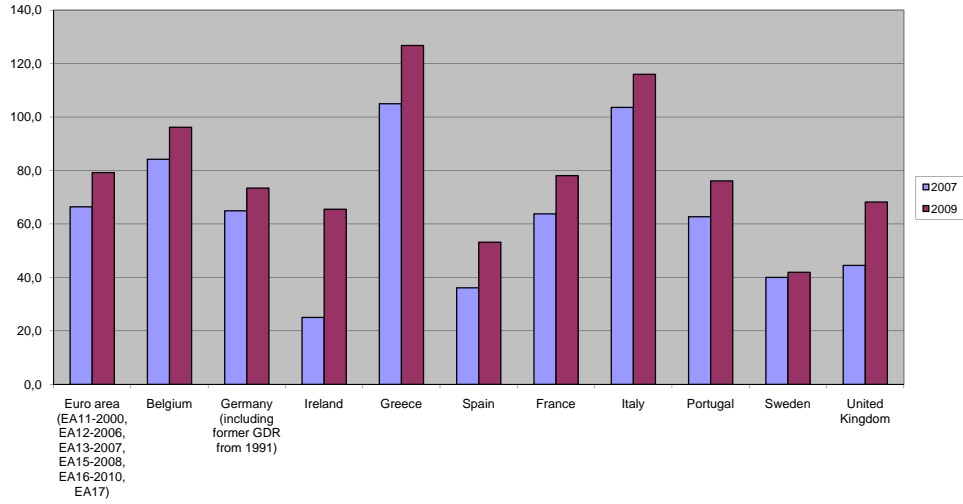


Figure 2: International comparison of deficit-to-GDP ratios.

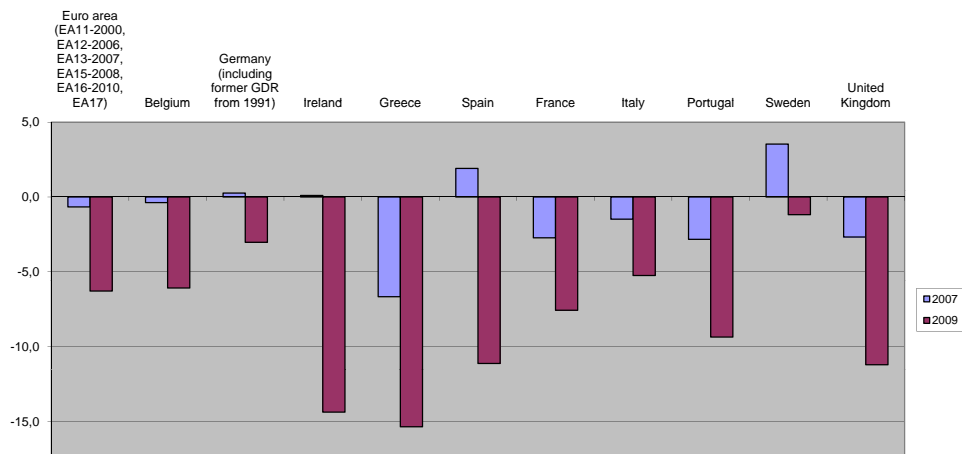


Figure 3: *Evolution of Spanish public debt: 1995-2009.*

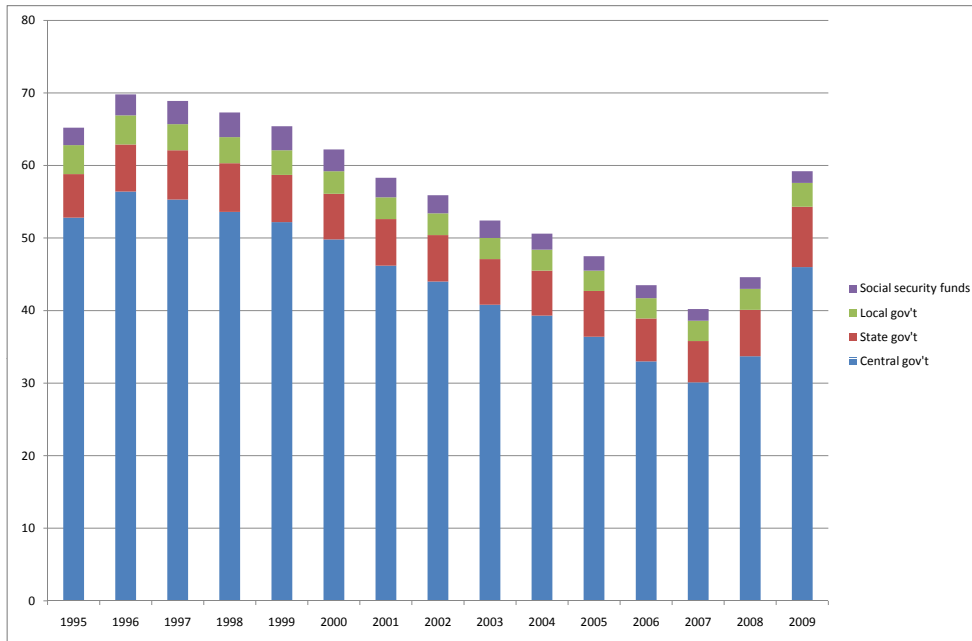


Figure 4: *Evolution of Spanish public deficit: 1995-2009.*

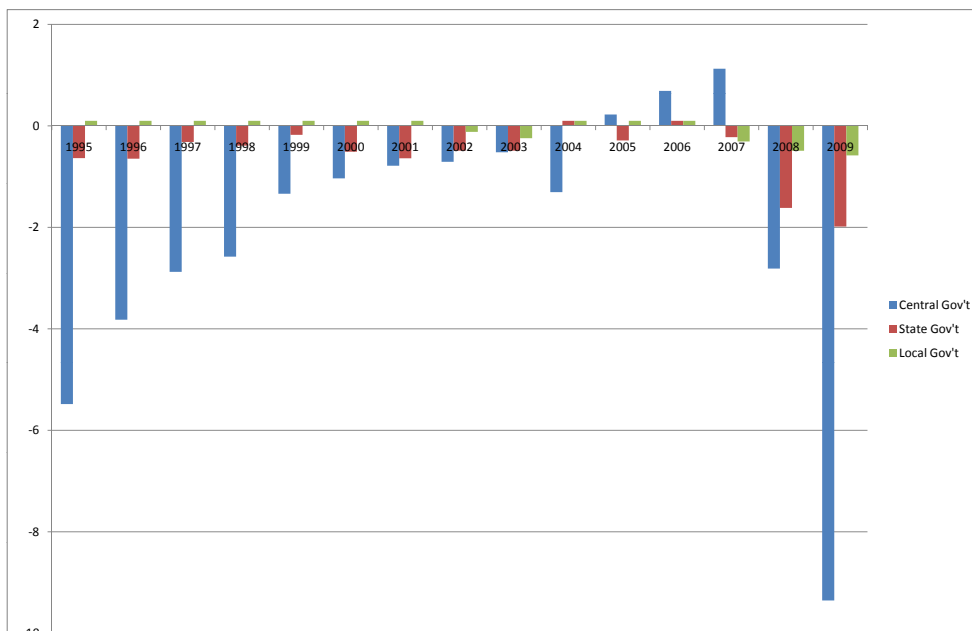


Figure 5: Evolution of components of Spanish public expenditure: 2007-2009.

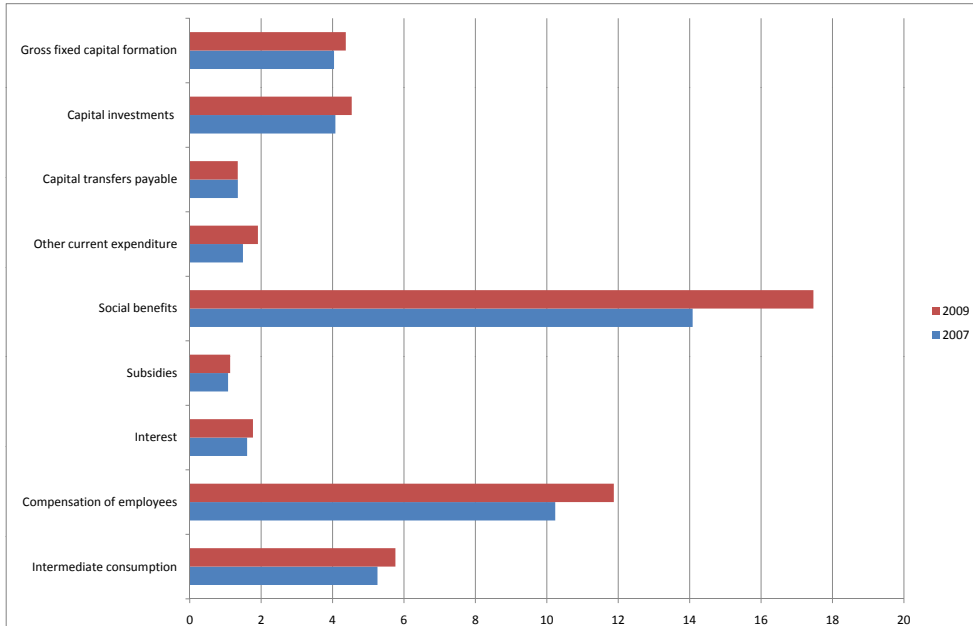


Figure 6: Evolution of components of Spanish public revenues: 2007-2009.

