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Playing by the Rules: Reforming Fiscal Governance in
Europe

By Luc Eyraud and Tao Wu

I N T E R N A T I O N A L M O N E T A R Y F U N D

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Playing by the Rules: Reforming Fiscal Governance in Europe¹

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Abstract

The paper contributes to the discussions on fiscal governance in Europe. It takes stock of recent reforms, identifies areas for further progress, and discusses a menu of policy options for the medium-term. The issues covered include: (i) the growing complexity of the European framework and ways to simplify it; (ii) the difficulties to measure and implement structural stance indicators; (iii) the challenge of reconciling fiscal sustainability and growth; (iv) the need to enhance coordination in the area of monitoring; and (v) the obstacles to compliance and proposals to strengthen enforcement.

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I. INTRODUCTION

The Stability and Growth Pact (SGP) is at the core of the European fiscal governance framework. The SGP's origin dates back to the 1992 Maastricht Treaty, which launched the Economic and Monetary Union (EMU). Because of the unique structure of euro area integration—with a common monetary policy and decentralized fiscal policies—fiscal rules were introduced to prevent national fiscal policies from producing negative spillovers on other countries and on the conduct of monetary policy (EC, 2013a). These fiscal spillovers may take several forms, including unwanted monetary tightening to contain inflation fueled by fiscal expansion in a particular country; higher area-wide interest rates due to crowding out; contagion effects; and bailout costs.

The euro area crisis has revealed gaps in the effectiveness of the fiscal governance framework and in the functioning of the monetary union. In a context of a severe economic downturn and large private sector imbalances, fiscal institutions could not prevent a dramatic surge in public debt, which was, in part, due to national public support provided to the impaired financial sector. The fiscal rules were put to a test, in particular those that did not explicitly foresee how to deal with exceptional economic circumstances (IMF, 2013b). The crisis also showed that sovereigns could be priced out of the market or even lose market access altogether. It highlighted how contagion could set in, with deep recessions and fiscal stress in some member states spilling over to the rest of the membership.

Yet, weak fiscal governance is not a recent development. Most countries had built insufficient fiscal buffers in good times before the crisis hit. The windfall from lower interest and debt payments had not been saved in the early years of the EMU, and higher budget revenues generated by unsustainable domestic demand booms were wrongly deemed permanent (Allard and others, 2013). In the pre-crisis years, individual member states did not fully take into account the potential spillovers from their idiosyncratic policies on other countries. Moreover, the enforcement of the European fiscal governance framework was uneven. Governance failures became particularly apparent when the European Council decided to hold in abeyance the SGP procedures in 2003.

Over the years, steps have been taken to strengthen the framework. Fiscal slippages during the first decade of the EMU and the financial crisis led to successive reforms. These reforms were anchored by several objectives, including: better economic underpinnings of the rule system; tighter national enforcement; stronger and earlier sanctions; and enhanced oversight of national budgetary processes.

The euro area cannot afford a repetition of the imprudent fiscal policies undertaken by some countries in the first decade of the EMU. Public debt is now approaching dangerously high levels in some countries, and confidence in existing enforcement mechanisms is undermined. Further reforms should aim to restore the commitment to fiscal discipline and bring back debt to safe levels. Addressing remaining gaps in the fiscal governance architecture should also

help prevent debt crises of such magnitude in the future, while supporting current crisis resolution efforts.

This paper aims to contribute to the ongoing discussions on fiscal governance in Europe. It takes stock of recent reforms, identifies areas for further progress, and discusses a menu of policy options. The paper is structured as follows. Section II briefly reviews the underlying drivers of the public debt increase in euro area countries under the EMU. Section III and IV examine past reforms and the track record of the framework. Section V identifies remaining gaps in the areas of rule design and implementation. Section VI presents options for future reforms. Section VII concludes with some considerations on reform priority, sequencing, and the links between fiscal and economic governance.

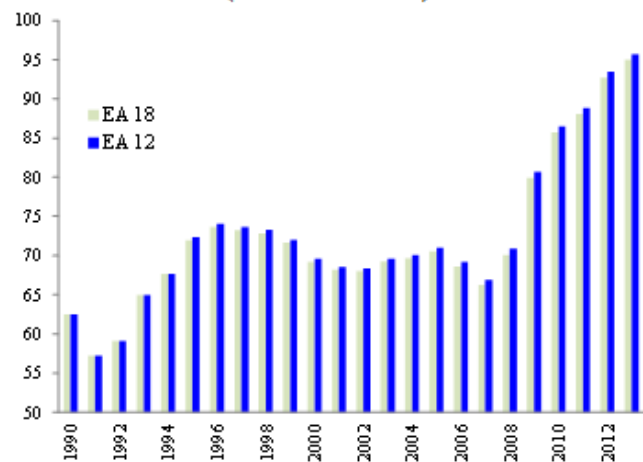
II. THE SETTING: PUBLIC DEBT ON AN UPWARD TREND²

During the past three decades, a gradual accumulation of public debt has been a salient feature of the euro area economy. Many countries experienced persistent budget deficits and rapidly rising public debt during the 1990s. The public debt-to-GDP ratio increased from an average level of below 60 percent of GDP in 1991 to over 70 percent of GDP in the late-1990s, substantially above the level required by the Maastricht Treaty (Figure 1).

Despite a favorable macroeconomic environment prior to the crisis, the debt level did not decline. During the mild downturn of early 2000s, fiscal policies in the euro area were generally relaxed, and the low interest rate environment encouraged increases in primary spending and tax cuts (ECB, 2004). Several countries breached the 3 percent threshold for the overall deficit around 2003. As recovery turned into booms during 2004–07, member countries largely failed to consolidate their public finances. During these four years, the average structural balance stood at a substantial deficit of 2.6 percent of GDP. Moreover, favorable market sentiment prior to 2007 led to minimal market scrutiny of sovereign debt developments (Allard and others, 2013).

Debt dynamics were asymmetric. The debt level in the euro area rose quickly during

Figure 1. Public Debt Ratio
(Percent of GDP)



Source: AMECO

² In the paper, public debt refers to general government consolidated gross debt (ESA95), as measured in the AMECO database.

downturns; for instance, the average debt-to-GDP ratio increased from 57 percent in 1991 to 74 percent in 1996—a 17 percentage point increase in only five years. However, during expansions, the debt-to-GDP ratio declined mildly and slowly; for instance, during 2004–07, it edged down by only 3 percentage points despite the strong economic performance (Figure 1).

This asymmetry in debt dynamics is partly related to frequent expenditure slippages. An analysis of stability programs during 1999–2007 suggests that actual expenditure growth in euro area countries often exceeded the planned pace, in particular when there were unanticipated revenue increases. Countries were simply unable to save the extra revenues and build up fiscal buffers. For instance, considering all the country-year observations with revenue *windfalls* since 1999, expenditure slippages were smaller than these windfalls in about half of the cases (thereby generating extra savings). By contrast, in the presence of unanticipated revenue *shortfalls*, expenditures were adjusted down to match these shortfalls (and prevent the fiscal balance from deteriorating) only in a quarter of the cases. This reveals an important asymmetry: governments were often unable to preserve revenue windfalls and faced difficulties in restraining their expenditure in response to revenue shortfalls when consolidation was needed. As a result, European countries were ill-prepared when the financial crisis started in the summer of 2007.

Since 2008 public finances have deteriorated significantly. In the EA18 as a whole, the primary deficit-to-GDP ratio rose by about 7.7 percentage points during 2008–13. The public debt-to-GDP ratio soared to 95 percent in 2013, almost 30 percentage points above the pre-crisis level. Some countries were priced out of the market and had to seek financial assistance from European and international sources.

The debt increase during the crisis was due to a combination of cyclical and discretionary factors, as illustrated by an accounting decomposition (Table 1) that uses the Debt Sustainability Analysis framework (IMF 2013c). The formula is presented in Appendix 1.

Stock-flow adjustment residuals accounted for about one-third of the total debt increase in the euro area during the crisis. To a large extent, these reflected financial sector intervention and rescue packages in the early stages of the crisis, as well as the realization of contingent liabilities.³ For instance, in Ireland, banking sector rescue led to an unexpected increase in the debt-to-GDP ratio by 25 percentage points.⁴ State-owned enterprises in Portugal incurred substantial losses that eventually had to be included within the general government, generating about 10-percentage point increase in the Portuguese debt ratio (Blanchard and others, 2013).

³ In some cases, these were partly recorded in the deficit.

⁴ Part of the bank support cost (amounting to about 40 percent of GDP) was financed through financial assets sales, reducing the impact on gross debt.

Table 1. Decomposition of Debt Changes in the Euro Area Between end-2007-end-2013¹

	Total Changes	
	in pps	proportion
Increases in Debt/GDP Ratio	28.8	100%
<i>of which:</i>		
Stock-flow adjustment	9.4	33%
Overall deficit	19.4	67%
<i>of which:</i>		
Interest rate-growth differential	11.6	40%
<i>of which:</i>		
Nominal GDP growth	-5.0	-17%
Interest rate 2/	16.6	58%
Primary deficit	7.8	27%
<i>of which:</i>		
Cyclical component	5.3	18%
CAPB	2.5	9%
<i>of which:</i>		
One-offs	1.3	5%
Structural balance	1.1	4%

Source: IMF staff calculation

1/ The decomposition is applied to the EA18 aggregate data.

2/ Cumulative interest payments over the period.

Fiscal deficits in European countries were another important factor behind the debt rise. About two-thirds of the overall debt surge can be attributed to the accumulation of fiscal deficits. In particular, the interest bill was the largest contributor.

The economic slowdown during the crisis added to the debt problem. In normal times, a continued economic expansion would offset the effect of interest payments and thus reduce the debt-to-GDP ratio over time (other factors being equal). However, the sharp decline in economic activity and the very sluggish recovery thereafter led to very minimal increases in nominal GDP during 2008–13. As a result, the interest component dominated the interest rate-growth differential term, with a net contribution of 11.6 percentage points, or 40 percent of the total increases in debt-to-GDP ratio.

One-fourth of the debt increase resulted from the accumulation of primary deficits over time, although the discretionary part was limited. Of the 28.8 percentage point increase in the debt ratio since end-2007, 7.8 percentage points can be accounted for by the cumulative primary deficits, more than half of which were due to changes in cyclical conditions (18 percent). The remainder reflected the accumulation of cyclically adjusted primary deficits (CAPB). Further analysis reveals that a substantial part of the accumulated CAPB can be attributed to one-off

(idiosyncratic) items. The contribution of the accumulated structural balance to the debt increase since 2008 was modest—about 1.1 percentage point for the euro area, or about 4 percent of the total increase.

An important lesson of this exercise is that countries should build sufficient fiscal buffers in good times to accommodate cyclical and exogenous shocks in bad times. As shown above, most of the deterioration in public finances during the crisis was *not* due to discretionary fiscal stimulus. It was the effect of automatic stabilizers (as revenues fell and expenditures rose in the recession) and exogenous factors (like the bailout of the banking sector or the interest bill). In essence, countries did not enter the crisis with strong enough fiscal positions to withstand such large shocks. The 3 percent of GDP nominal deficit ceiling did not prevent countries from spending their revenue windfalls in the mid-2000s. Partly to address this issue, the European authorities have introduced several changes in the European Union (EU) fiscal and economic governance framework since its inception.

III. PAST REFORMS OF THE FISCAL FRAMEWORK

The European fiscal governance system is established by a number of legal texts. The main principles are defined in the two EU treaties (the Treaty on European Union and the Treaty on the Functioning of the European Union) that lay the groundwork for the surveillance and coordination of the member states' fiscal policies. The SGP refers to the secondary legislation that implement the Treaties' requirements.

The SGP itself embraces two forms of surveillance—preventive and corrective—defined in separate regulations. The purpose of the preventive arm is to ensure that fiscal policy is sustainable and excessive deficits do not occur. If such deficits nonetheless appear due to “gross policy mistakes,” the corrective arm provides for sanctions and corrective actions to return to a more sustainable position.

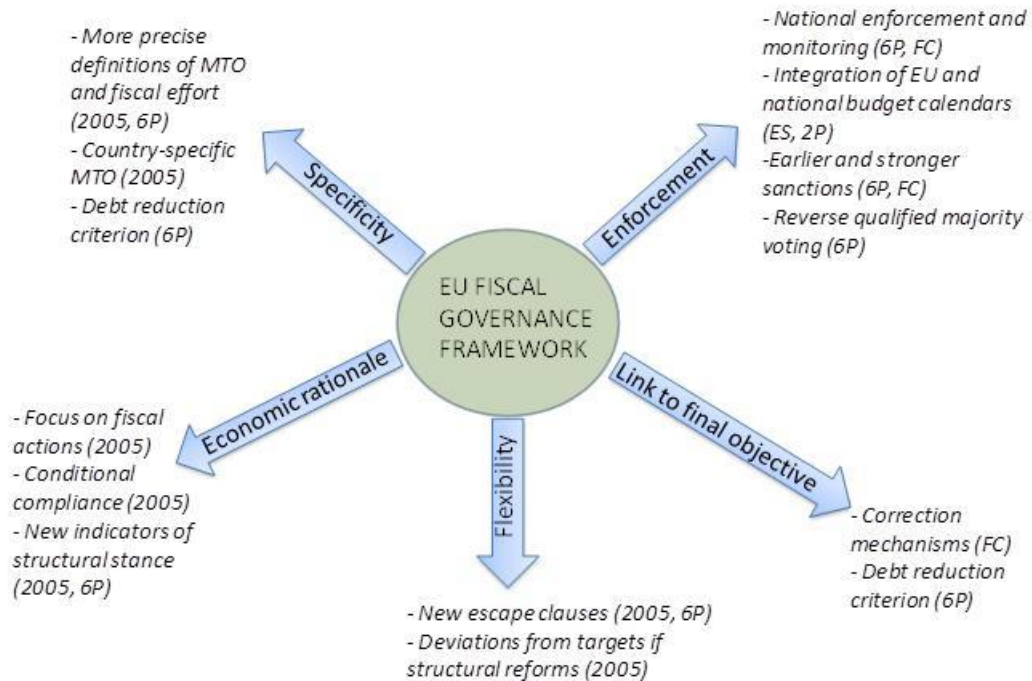
Since 1997, the secondary legislations governing the SGP have been reformed several times (Appendix Tables A.1 and A.2). The first major revision, in 2005, introduced more flexibility in the procedures, while improving the economic underpinning of fiscal rules. In the context of the sovereign debt crisis, the SGP was further amended in 2011 with five new regulations and one directive (the “Six-Pack”) that brought numerous modifications to the framework, including new rules, new and earlier sanctions, and additional escape clauses. In 2013, fiscal governance was again strengthened. The Two Pack reinforced budgetary surveillance and coordination for euro area countries, reflecting the higher risk of spillovers within the single currency area. Additional commitments were taken by 25 member states through the intergovernmental Treaty on Stability, Coordination and Governance (TSCG), whose fiscal provisions—referred to as the “Fiscal Compact” (FC)—transpose elements of the SGP into national legislations.

On the whole, successive revisions of the framework have pursued five primary objectives (Figure 2):

- *To provide stronger economic underpinnings to the framework.* Fiscal rules have increasingly focused on fiscal actions rather than fiscal outcomes, the latter being affected by economic circumstances beyond the control of governments. The principle that policymakers should not be penalized if they have taken the appropriate measures underlies the partial shift from nominal towards “conditional” compliance (that is, abstracting from cyclical effects). The 2005 reform put the concepts of structural balance at center stage under both the preventive and corrective arms. In 2011, the European Commission improved the measurement of the structural effort with the introduction of the expenditure benchmark and the concept of “adjusted fiscal effort.”
- *To better align fiscal targets with the final debt objective.* As highlighted by the financial crisis, high public debt could be an important source of vulnerability. Concerns about debt sustainability may become self-fulfilling when they trigger a surge in interest rates and sudden loss of market access. In addition, the idea, present in the initial version of the SGP, that focusing on the fiscal deficit would be sufficient to contain debt and that the debt criterion could be overlooked proved incorrect for two reasons. First, in the absence of correction mechanisms, past fiscal deficit slippages were not subsequently offset and therefore piled up overtime. Second, a large portion of the debt increase resulted from “stock-flow adjustments” (such as bank recapitalization) that were not captured by the deficit target. These elements led to a renewed focus on public debt, with the 1/20th debt reduction benchmark becoming a possible trigger of the Excessive Deficit Procedure (EDP) in 2011.
- *To strengthen enforcement mechanisms.* Successive reforms have stepped up enforcement in several ways. Their main purpose has been to: (i) foster ownership of the supranational framework by transposing some rules at the national level and better integrating supranational surveillance with the national budget calendar (this should ensure that the Commission’s recommendations are better incorporated into national budgets and policies); (ii) introduce earlier and stronger sanctions, as late sanctions were found to be non-credible and counter-productive; and (iii) entrust independent institutions such as fiscal councils in monitoring fiscal rules.
- *To implement fiscal rules with more flexibility.* Another lesson from past experience is that rules that are too rigid and do not foresee how to deal with exceptional economic circumstances are often disputed and quickly suspended. To mitigate this risk, some flexibility was brought to the initial framework by extending the scope of escape clauses and allowing deviations from targets when structural reforms are adopted, provided that these entail short-term budgetary costs and long-term gains.
- *To bring more specificity to the definition of the rules.* Rules that are vague or ambiguous are difficult to implement. This was a major criticism of the initial debt criterion, which did not include any metric to assess whether debt was “sufficiently

diminishing.” Successive reforms improved the measurability and specificity of the rules, including the definition of medium-term objective (MTO), the quantification of annual fiscal effort, and the pace of debt reduction. Another important step was the recognition that some rules needed to be differentiated across member states to reflect diverse debt sustainability concerns. In 2005, the MTO became country-specific, with the formula taking into account the debt level and prospective population ageing costs.

Figure 2. Main Objectives of Past Fiscal Governance Reforms



Note: 2005 = 2005 reform; ES = European Semester ; 6P = six pack; FC = Fiscal Compact; 2P = two pack.

IV. TRACK RECORD UNDER THE SGP

Although successive reforms have brought many positive elements to the framework, they have not been sufficient to prevent a steady deterioration in public accounts. Under the SGP, noncompliance has been the rule rather than the exception (Appendix Tables A3-A5). As of 2014, most euro area economies breached at least one of the fiscal rules. Figure 3 compares fiscal outturns with SGP targets or ceilings since the adoption of the euro.⁵

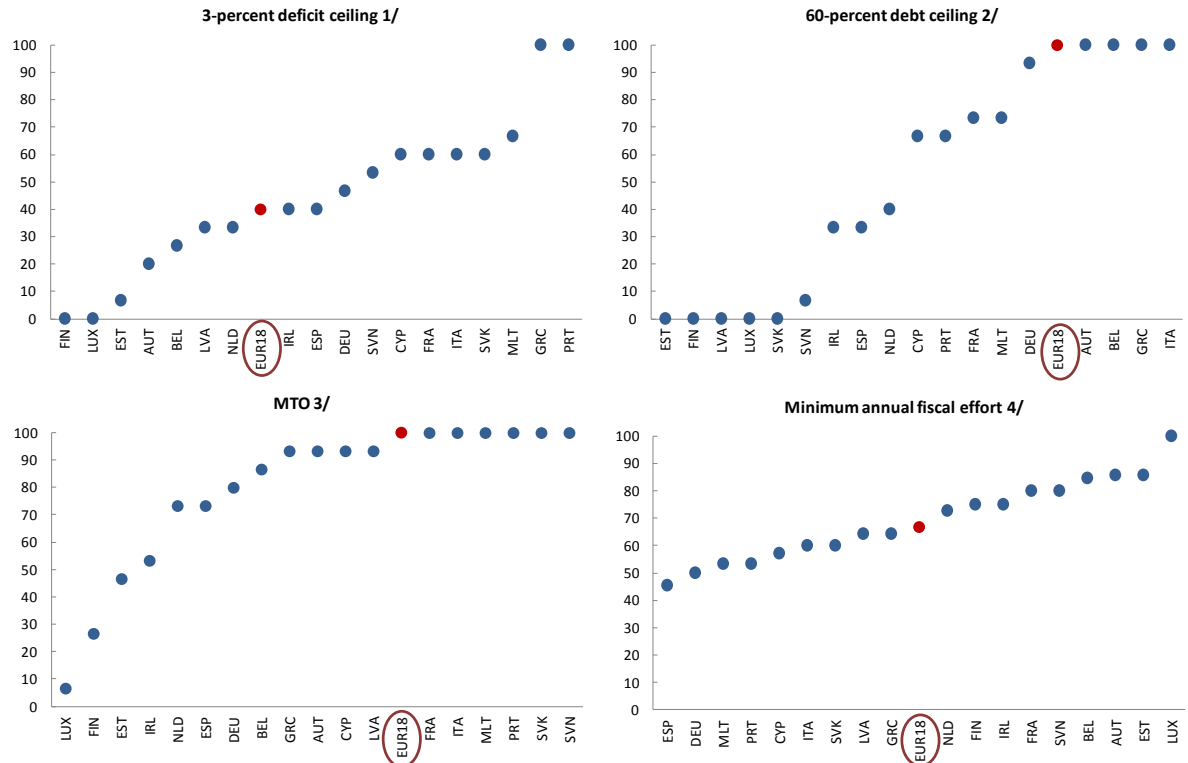
Compliance has been the highest with the 3 percent deficit ceiling. Most countries have complied with the target during the pre-crisis period. On average, the deficit of the euro area

⁵ This simplified exercise should not be considered a formal test of compliance, because (i) it is based on ex post data; (ii) targets are assumed to be similar across countries and constant over time; and (iii) the comparison is carried out for all 18 euro area countries, including those that introduced the euro after 1999. In addition, Figure 3 covers the whole EMU period, including the financial crisis years when the member states breached fiscal rules more systematically (Appendix Tables A3-A5 provides detailed data by year and country).

was slightly below 2 percent of GDP during 1999-2007.

About half of the countries have missed the 60 percent debt ceiling more than half of the time. At the member state level, compliance with the 60 percent rule has been uneven, with smaller countries being, on average, more compliant. At the level of the euro area as a whole (EA12 or EA18), public debt has been above 60 percent of GDP every year since 1999.

Figure 3. Non-compliance with European Fiscal Rules
(Frequency of missed targets over 1999-2013)



Source: AMECO database.

Note: Not all member states had to comply with the rules over the whole period, as some countries joined the EMU after 1999.

1/ Number of years with fiscal deficit above 3 percent divided by total number of years.

2/ Number of years with debt above 60 percent divided by total number of years.

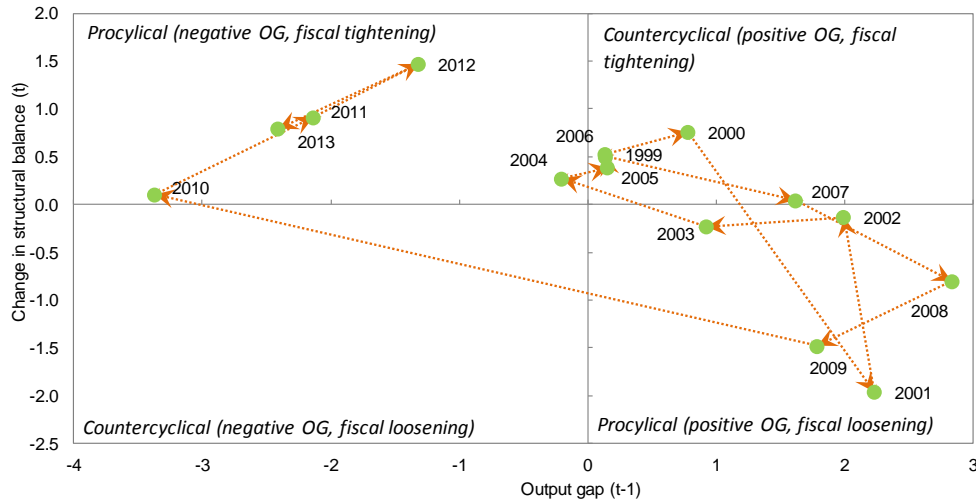
3/ Number of years with structural deficit higher than 0.5 percent divided by total number of years.

4/ In the subset of years with structural deficit above 0.5 percent, share of number of years with annual fiscal effort below 0.5 percent of potential GDP. Fiscal effort is defined as the change in the structural balance.

Structural deficits have been persistent, reflecting difficulties in building buffers in good times. Compliance with the “close to balance position” has been extremely rare, except in Finland and Luxemburg. In the euro area-18 as a whole, there has not been a single year with a structural deficit below 1 percent of potential GDP. As discussed in Section II, the preventive arm has failed to encourage the buildup of sufficient buffers in good times. Although the output gap was positive or close to zero from 1999 to 2008, the structural balance recorded, on average, a deficit of 2.5 percent in the euro area. Beyond the absolute level, what is striking is the response of the structural position to the output gap (Figure 4). Over 1999–2013, the euro area as a whole had a tendency to tighten (resp. loosen) the

structural stance by about 1 percentage point following a year with a negative (resp. positive) output gap.⁶ At the individual country level, the correlation between the change in the structural balance and the initial output gap is also negative (except in Finland and Luxemburg), suggesting that the fiscal stance was pro-cyclical over the period.⁷ Appendix 2 confirms these results based on a panel econometric analysis, which shows that procyclicality has been particularly marked during upturns since 1999 (while fiscal policy has been mildly countercyclical in downturns).

Figure 4. Structural Balance and Output Gap 1/
(Euro area aggregate; ex post output gap data)



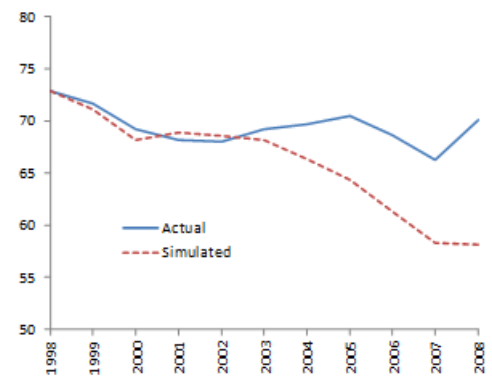
Source: AMECO database.

1/ The figure uses the *previous year's* output gap to minimize the feedback effect from the fiscal stance to the output gap. Using the *current* output gap, which is directly impacted by the fiscal actions taken in the same year, could bias the interpretation of the results.

Note: The 2009 data point relates the 2008 output gap to the change in the structural balance in 2009 relative to 2008.

Had the euro area pursued a more countercyclical fiscal stance in the first decade of the EMU, it would have entered the crisis in a far stronger position. Figure 5 presents the results of a simulation assuming that the euro area follows a simple countercyclical rule from 1999 to 2008—with the structural position improving (resp. decreasing) by 0.5 percent of GDP when the previous year's output gap is positive (resp. negative).⁸ The simulation is based on EA-18 aggregate data. A fiscal multiplier of 1 (declining

Figure 5. Public Debt
(Percent of GDP; 1998-2008)



Source: AMECO data; IMF staff calculation.

Note: Calculations based on ex-post output gap data.

⁶ Years with a small output gap (between -1 and +1) are excluded from the average.

⁷ The negative correlation is also observed with real-time output gap data (extracted from stability programs).

⁸ The simulation assumes that the structural stance is unchanged when the output gap is small (between -1 and 1 percent).

to 0 in five years) is used to estimate the GDP effect of the implicit fiscal shock corresponding to the difference between the structural positions in the baseline and in the scenario. The main finding is that the euro area would have entered the crisis with a neutral (that is, balanced) structural position and with a debt ratio slightly under 60 percent of GDP—about 10 percentage points below the actual 2008 level.⁹

V. PENDING ISSUES AND AREAS FOR FURTHER PROGRESS

The implementation of the SGP has exposed gaps in both the design of the rules and enforcement mechanisms. Sections A to C identify and discuss three design-related issues, while Sections D and E focus on key dimensions of implementation.

A. The Growing Complexity of the Framework

Successive legislative changes have made the SGP increasingly complex

The growing complexity of the system is rooted in the history of the SGP. The initial Pact only included three supranational rules, of which only one was truly binding.¹⁰ Later on, the fiscal crisis and the unsuccessful experience with a small set of constraints prompted the adoption of additional rules—some of them to address the shortcomings of previous ones (e.g., the structural balance supplementing the nominal deficit ceiling). More complex rules were also introduced as a way to ensure enforcement in a wide range of circumstances; for instance, the structural balance rule and expenditure benchmark were seen as effective tools to prevent lax policies in good times (see below). Another explanation for the proliferation of supranational rules is the relative paucity in self-imposed national rules, particularly in the initial years.¹¹ Finally, political factors also played a role, with the mutual lack of confidence leading member states to over-specify rules and procedures.

As of 2014, fiscal aggregates are tied by an intricate set of constraints, which makes the monitoring and communication of the rules more difficult. Both the preventive and corrective arms impose constraints on member states' fiscal targets (Figure 6). Countries are required to converge towards the 60 percent of GDP debt target at a sufficient pace; prohibited from breaching the 3 percent of nominal GDP deficit threshold; and mandated to improve the structural balance to GDP ratio at an average rate of 0.5 percent per year until they reach their MTO. In addition, government spending (net of new revenue measures) is constrained to grow in line with trend GDP. When countries are under EDP, they are also subject to

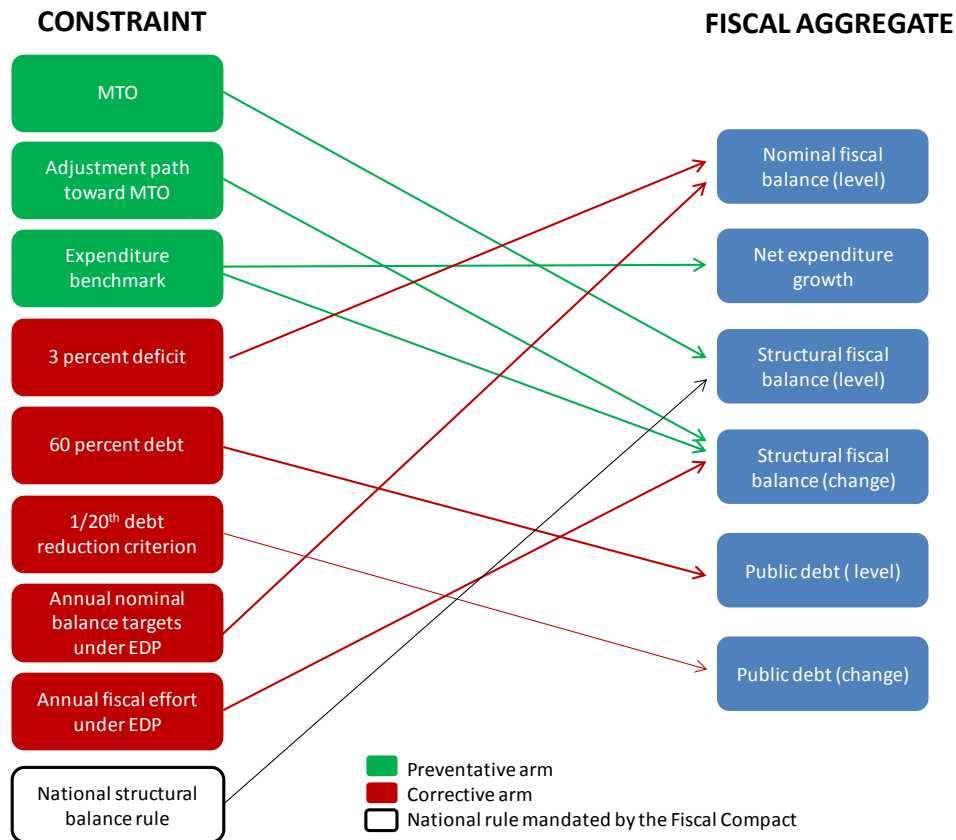
⁹ Using real-time output gap data would not fundamentally change this result. As discussed in Section VI, the downward bias of the output gap concerns its *level* rather than its *first difference* (Balassone and Kumar, 2007). There is little reason to think that the annual structural effort would be reduced if countries based their fiscal decisions on real time (rather than ex post) output gap data.

¹⁰ The initial rules were the 60 percent debt cap, the 3 percent deficit ceiling, and the requirement that medium-term budget positions should be “close to balance or in surplus.”

¹¹ In the mid-1990s, there was, on average, only one national rule per country in the European Community.

specific nominal and structural balance targets. Finally, the Fiscal Compact, signed by 25 member states, requires contracting parties to ensure convergence toward their MTOs by means of a national rule, whose specification and scope may be slightly different from the MTO's (see below).

Figure 6. Supranational Constraints and Rules on Fiscal Aggregates



Sophisticated rules are more difficult to communicate to the public

The recent crisis has challenged the traditional view that fiscal rules should be as simple as possible. Before the crisis, it was widely believed that keeping rules simple and transparent would help enforcement via market discipline and public oversight (Kopits and Symansky, 1998). One lesson from the crisis has been that overly simple rules lack flexibility to adapt to large shocks (IMF, 2013b). Pre-crisis budget balance rules, typically defined in headline terms, called for pro-cyclical and politically difficult tightening when the economy weakened. Moreover, many pre-crisis national rules did not explicitly foresee how to deal with exceptional economic circumstances. Consequently, during the crisis, many rules had to be put into abeyance on an ad hoc basis to avoid fiscal tightening.

With the adoption of more advanced rules, the European fiscal governance follows a trend observed in many countries. The crisis showed that national rules that built in some flexibility—either by accounting for the cycle (e.g., Australia, Switzerland) or by including explicit escape clauses (e.g., Brazil)—generally fared better. Some countries have already

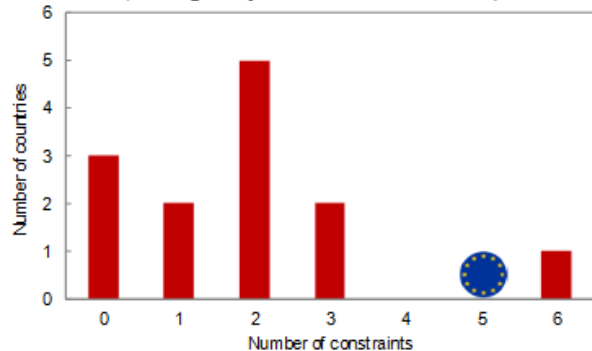
taken steps to reflect this lesson by adopting “second generation” fiscal rules (Schaechter and others, 2012). Such rules tend to explicitly combine the sustainability objective with more room to accommodate economic shocks. In Europe, recent reforms are going in the same direction. For instance, the “six pack” introduced additional elements of flexibility, including new escape clauses in case of severe economic downturns (expanding on the original ones), as well as new structural indicators (expenditure benchmark).

Although sophisticated rules may be warranted, they are more difficult to communicate and explain to the public. While the 3 percent deficit target has served as a simple yardstick and is prominent in the public debate, recent rules are less transparent. Independent fiscal institutions can play an important role in this area by ensuring that the costs of greater complexity and less transparency do not outweigh the added flexibility. In particular, with the right expertise, independent fiscal institutions can estimate structural budget balances or assess those of the government, monitor their development, and explain changes and potential deviations from the rule to the public in a credible way.

The high number of rules and sub-rules creates risks of overlap and inconsistency

Compared with most federations, the EU imposes a larger set of constraints on subnational governments. In a sample of 13 federations, Eyraud and Gomez (2014) find that the federal level imposes, on average, two constraints on sub-central governments (states and sub-state entities), compared with five in the euro area (Figure 7).¹² In Canada, the United States, and Switzerland, no federal restrictions are placed on subcentral fiscal targets. In addition, most European rules include restrictions on both the level and the first difference of fiscal targets, the second restriction being conditioned on the breach of the first one. Fiscal rules are, thus, implemented in stages. For instance, when countries do not comply with the 60 percent debt ceiling, a constraint on debt changes—the 1/20th rule—applies. Similarly, if a member state’s structural deficit is higher than its MTO, it has to improve its fiscal position by 0.5 percent of GDP per year in structural terms. Corrective actions and sanctions are also progressive, becoming more stringent when the target in level is breached *and* efforts to correct the imbalance are deemed insufficient. This multi-step approach—probably motivated by the relative weakness of

Figure 7. Number of Federations with Central Constraints on Subnational Entities
(Arranged by number of constraints)



Source: Eyraud and Gomez, 2014.

Note: The sample includes 13 federations. The constraints in the chart include negotiated and imposed fiscal rules, direct controls by the center, and cooperative arrangements. Constraints that are self-imposed by subnational governments are not included.

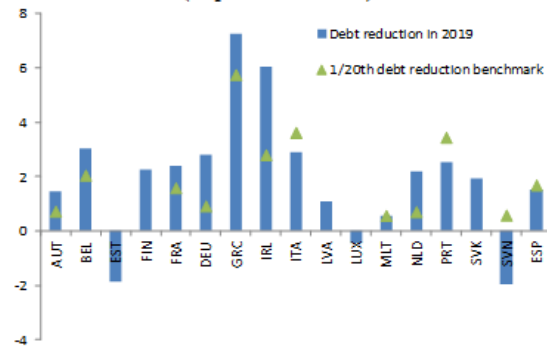
¹² Given the complexity of the European framework, the counting of rules is a matter of judgment. In the authors’ view, the framework has four main supranational rules—the 3 percent deficit rule, the 60 percent debt rule, an expenditure benchmark, and MTOs defined in structural terms. It also requires countries to enshrine a structural balance rule in national legislation.

enforcement tools, and the desire to make peer pressure more effective—is non-existent in the federations reviewed by Eyraud and Gomez (2014). Overall, the large number of primary and secondary rules may result in redundancy and inconsistency.

Specifically, the complexity of the framework creates a number of policy risks:

- Revisions to medium-term growth have weakened the link between deficit and debt ceilings. While the 3 percent nominal deficit rule was initially set to stabilize and cap public debt at 60 percent of GDP (under the assumption of 5 percent nominal growth),¹³ downward revisions to potential growth, which is currently estimated to be about 3 percent in nominal terms in many euro area countries, suggest that debt would actually converge towards 100 percent of GDP.¹⁴
- A second issue is the overlap and potential redundancy between structural and nominal targets. Provided that it is measured accurately, the MTO, which is a structural balance target, is generally more binding than the other rules (abstracting from the distinction between preventive and corrective arms). It does not come as a surprise that the MTO dominates the 3 percent nominal deficit rule, given that the output gap rarely deteriorates beyond 5 percent¹⁵—a situation that would, in any case, lead to a temporary suspension of the fiscal rule framework. Also, the MTO typically brings the fiscal balance above the debt-stabilizing level, resulting in a steady debt ratio reduction.¹⁶ Simulations show that this pace of reduction is sufficient to either reduce public debt to less than 60 percent by the end of the forecast period or, if the debt is greater than 60 percent, comply with the 1/20th debt benchmark in its backward-looking version (Figure 8).¹⁷

Figure 8. Simulated Debt Reduction in 2019
(In percent of GDP)



Source: IMF staff calculation; WEO.

Note: Countries with a public debt ratio below 60 percent are not subject to the 1/20th debt reduction benchmark. No result is reported for Cyprus, as output gap data are not available in the WEO.

¹³ In principle, the SGP target has always been a balanced budget, with “3 percent” as reference value. In practice, the 3 percent has become a fiscal target de facto.

¹⁴ The debt-stabilizing overall balance is computed as $d^*g/(1+g)$ in which d denotes the debt-to-GDP ratio and g the potential growth in nominal terms (Escolano, 2010).

¹⁵ With a budget semi-elasticity of 0.5 and a structural deficit of up to 0.5 percent of potential GDP, a 3 percent nominal deficit appears if the output gap deteriorates to 5 percent: $-0.5 \approx -3 - 0.5*(-5)$.

¹⁶ With an initial debt of 95 percent of GDP (average of the euro area in 2013) and nominal growth of 3 percent, the debt-stabilizing nominal deficit is around 3 percent of GDP. Because a structural deficit below 0.5 percent would generally translate into a nominal deficit below 3 percent, the debt ratio would decline.

¹⁷ The simulation is based on WEO forecasts and covers 2014–19. Countries are assumed to improve their structural deficits by 0.5 percent of potential GDP annually until they reach their respective MTOs (an annual effort of half a point of potential GDP is the benchmark under both the preventive and corrective arms). Countries above their MTO in 2013 are supposed to converge towards it by loosening their fiscal stance at a pace of 0.5 percent per year. To simulate GDP (relative to WEO forecasts), we use a fiscal multiplier of 0.5 declining steadily to 0 in 5 years. It is worth noting that the simulation results are

(continued...)

- Another form of inconsistency may arise between national and supranational rules. The Fiscal Compact requires some supranational obligations—in particular the MTO—to be transposed into national legislation in order to strengthen compliance and ownership. Targets and procedures can be defined differently by the national and supranational legislations.¹⁸ Such differences complicate the conduct and reduce the transparency of fiscal policy—for instance if a fiscal target is met at the supranational but not at the national level (or vice versa).¹⁹ A similar issue may arise with the path towards the MTO, as the preventive arm requires a minimum annual effort of 0.5 percent of potential GDP, which may differ from the correction mechanism imposed by national rules. Deadlines for achieving the targets and escape clauses may also not match exactly.

B. The Difficult Migration from Nominal to Structural Balance Targets

Successive reforms of the framework have recognized (and partly remedied) the shortcomings of nominal balance rules:

- Although the 3 percent deficit ceiling leaves sufficient room for automatic stabilizers to operate under normal circumstances,²⁰ it does not prevent and may even encourage a procyclical fiscal stance (see Section IV). During the last decade, the deficit ceiling allowed for fiscal expansion during the pre-crisis boom (e.g., in Spain) and called for politically difficult tightening when the economy weakened in 2011–13. The drawbacks of the nominal deficit ceiling are particularly apparent when the economy is booming, as it is compatible with very large structural deficits. For instance, when the current output is 4 percent above potential,²¹ a 3 percent deficit would translate into a structural deficit of 5 percent, which would be seen as unsustainable in most countries.
- A second issue is that the nominal deficit ceiling does not prevent a structural medium-term drift of public finances. As discussed previously, a 3 percent deficit would bring public debt towards 100 percent of GDP (under the assumption of 3 percent nominal growth).
- Other shortcomings of the rule are that the ceiling is identical for all countries—unrelated to the debt level and growth potential; creates incentives for creative accounting/one-off

very sensitive to the underlying assumptions, including the fiscal multiplier estimate, the budget semi-elasticity, and the choice of the baseline.

¹⁸ For example, Germany has enshrined in its constitution the principle that the structural deficit of the federal government cannot exceed 0.35 percent of GDP from 2016 and the states have to be structurally balanced from 2020. These thresholds are different from the current MTO, which sets a 0.5 percent structural deficit ceiling for the general government.

¹⁹ These discrepancies would be less problematic if the general government's fiscal target was fully consistent with the targets imposed at all levels of government (federal, states, and local entities). However, this consistency is difficult to achieve in practice—in particular when the fiscal objectives are set in structural terms. In Germany, for instance, the general government's MTO is generally less demanding than the combination of the federal and state rules set at the national level.

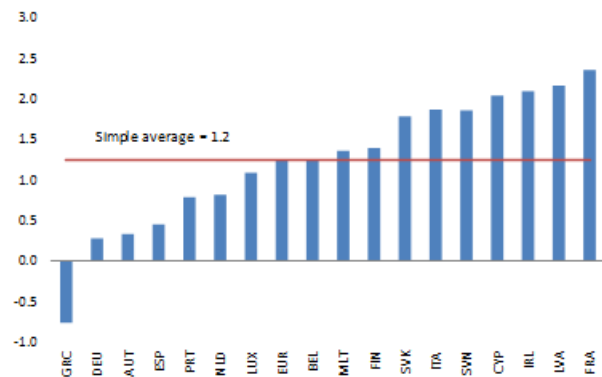
²⁰ Provided that the country's structural position is close to balance and the negative output gap is not excessively large.

²¹ Current output 4 percent above potential corresponds to the average of the peak output gaps in euro area countries since 1995 (excluding Estonia and Latvia, which are outliers).

measures; and does not capture stock-flow adjustments, which accounted for about one third of the euro area debt increase during the recent crisis (see Section II).

The structural balance, which has been central in the EU framework since the 2005 reform, addresses some of these issues. Its computation entails decomposing the fiscal position into two parts: one representing the fiscal response to economic activity and other transitory factors, and another measuring the policy stance. A first advantage of the structural balance is that this indicator is a tractable fiscal target, which is more directly under the control of governments than the nominal balance. Its changes should, in principle, be mapped directly to discretionary fiscal measures. In addition, the structural balance helps policymakers take a more medium-term perspective rather than attempting to fine-tune fiscal policy: if a country pursues a predetermined structural position, it does not have to offset cyclical factors and can let automatic stabilizers operate. For this reason, the structural balance entails a more binding fiscal stance in good economic times (relative to the nominal balance), while allowing some room for maneuver when the economy is weak. This feature is particularly important in Europe, where countries struggled to save revenue windfalls before the crisis (see Section II, and Lemmer and Stegarescu, 2009). A third advantage of the structural balance target (as defined in the European framework) is that the MTO is country-specific and takes into account debt levels and ageing costs. The formula for the MTO “reference value” is designed to ensure that member states are on course towards a sustainable debt position (EC, 2013b).

Figure 9. Real-Time Estimation Error of the Output Gap
(Difference between ex-post and real-time data; 2003–13)



Source: AMECO database (ex post data), and stability programs (real-time estimates).

However, computing structural budget balances is difficult and subject to significant errors.²² Specifically, the structural balance is prone to ex-post revisions resulting from the measurement bias of potential GDP. Even when measured on the production side, potential output calculations typically involve the use of statistical filters that give excessive weight to the most recent observations and result in frequent revisions—an issue described as the “end-point bias.” In the euro area, real-time output gaps are found to be underestimated, on average, by about 1 percent compared to ex post data (Figure 9).²³ This suggests that the structural balance is initially overestimated by half a percent of potential output—under the assumption of a budget semi-elasticity of 0.5. In other words, a structural balance rule relying on real-time estimates would tend to allow excessively large deficits, namely deficits

²² All the issues discussed in this section also apply to subcentral governments, for which structural indicators are an even more elusive concept. Although important, the practical difficulties to transpose supranational (general government) targets at the national level are not discussed in this paper.

²³ In particular, this means that, in downturns, the real-time output gap is typically estimated too negative compared to ex-post data. This result is consistent with Kempkes (2012), who finds that in the EU 15 sample, the output gap was underestimated by 1 percent, compared with final estimates for 1996–2011.

exceeding ex-post their targeted values by about 0.5 percentage point per year. Without a correction mechanism, relying on this rule would produce a permanent drift of public finances. This problem affects all structural stance indicators of the European framework, including the expenditure benchmark.

Another issue is the difficulty of extracting the non-discretionary component of revenue. The standard methodology filters out cyclical movements by using constant elasticities of revenue to the output gap. However, this is not always sufficient to remove all cyclical factors. The business cycle is the most prominent source of macroeconomic fluctuations, but such fluctuations can also arise from other disturbances such as boom-and-bust cycles of asset or commodity prices, and changes in the composition of the output. To address this issue, the calculation of the structural balance has evolved in two distinct directions. The first approach adjusts the structural balance formula beyond the output gap. New structural balance indicators have been developed to correct for a broader range of macroeconomic fluctuations but they add further complexity to the concept (Bornhorst and others, 2011). In this vein, the “adjusted fiscal effort” used in the corrective arm explicitly corrects for revenue windfalls or shortfalls unrelated to the economic cycle. The second approach, which is pursued with the expenditure benchmark, consists of measuring discretionary revenues through a “bottom-up” approach that uses budget estimates of tax measures mandated by law.²⁴ While this second approach is conceptually more appealing, the estimation faces practical difficulties (Box 1).

Box 1. The Bottom-Up Approach to Estimating Discretionary Revenues

The bottom-up approach relies on budget estimates of tax measures to proxy discretionary revenue shocks. This approach presents some practical difficulties:

- Fiscal measures are assessed against a benchmark of “unchanged policy,” which is not always clearly defined. A no-policy change scenario describes what would have happened in the absence of government interventions, but there is room for interpretation.
- The methodology used to quantify the effect of measures may not be transparent or even be incorrect.²⁵ Methodology may differ across countries and be influenced by data availability, as well as political decisions—this issue is particularly problematic when the EC takes revenue estimates from national authorities at face value. Moreover, the quantification may be based on wrong macro assumptions. The yield of administrative measures is particularly difficult to assess.
- There may also be conflicting evidence from various official sources, which would necessitate building a “consensus estimate” of the size of fiscal shocks.
- Suspended measures create specific recording difficulties. If measures are announced for the future and then reversed, two or zero measures can be registered (depending on whether the initial measure is included or not in the baseline).

²⁴ The expenditure benchmark, which is net of revenue measures, is conceptually equivalent to the change in the structural balance (EC, 2013b). The revenue part of the expenditure benchmark relies on bottom-up estimates.

²⁵ To promote budgetary transparency, a number of governments now provide “policy costings” of tax (and spending) measures in the budget with accompanying documentation (e.g., in the United Kingdom).

In addition, in most countries, the MTO implies a very steep decline in debt ratios, which may raise issues of practical feasibility and political acceptability. The steady state debt associated with a medium-term position at the MTO (-0.5 percent of potential GDP) is around 20–30 percent of GDP.²⁶ The SGP partially recognizes this problem, under the formula used to derive the MTO (which takes into account the debt level) and through a provision stipulating that MTOs can be lower when debt is low and there is no long-run sustainability issue. In addition, MTOs are updated every three years, allowing for adjustments if the target is not appropriate. However, there is a lower bound and MTOs cannot fall below a structural deficit of 1 percent of potential GDP. This requirement still implies very low steady-state debt ratios. This is not a major concern for most countries for the foreseeable future given the high starting debt levels (and may even be needed). But the specific values of the MTO will probably need to be revised in the future.

Despite these issues, the emphasis on structural indicators remains appropriate. Although the structural balance imperfectly filters out asset and commodity price cycles, it is still more “accurate” than the nominal balance, which does not extract these factors at all. In addition, the output gap measurement error is usually lower than the “noise” created by the cyclical component of the nominal balance.²⁷ Table 2 shows that, if the nominal balance is used to measure the underlying fiscal position, the error is about 25 percent higher than with the real-time structural balance (whether or not Estonia and Latvia are included in the sample). The discrepancy is particularly large at the peaks/troughs of the cycle. Finally, the output gap measurement error is less of an issue when structural indicators are expressed in first-difference (see Section VI).

Measurement issues point to the need to further improve the methodological underpinnings of the concept. They may also explain the proliferation of structural indicators in the European framework. Currently, the European Commission maintains four alternative measures of the structural stance (the structural balance and expenditure benchmark in the preventive arm; and the observed and adjusted fiscal efforts in the corrective arm) and has recently proposed a fifth one—the discretionary fiscal effort (EC, 2013c). All these indicators differ in their specification and purpose, increasing the complexity of the system, and creating risks of conflicting messages and assessments. Section VI discusses options to consolidate these indicators and address their shortcomings.

²⁶ In the steady state (with an output gap equal to zero), a deficit of 0.5 percent of GDP would bring the debt ratio towards 17 percent of GDP ($\text{deficit} \cdot (1+g/g) = 0.5 \cdot 1.03/0.03$) if nominal growth equals 3 percent a year. According to the formula, the MTO level is readjusted when debt declines, but it cannot go beyond a 1 percent deficit, which would bring debt towards 34 percent of GDP

²⁷ If CAB^* is the “true” (ex post) cyclically-adjusted balance; CAB is the “incorrect” cyclically-adjusted balance based on real-time output gap data; OB is the nominal balance; OG_{RT} (resp. OG_{EP}) is the real-time (resp. ex post) output gap; and OCF denotes other cyclical and temporary factors; then: $CAB^* = OB - 0.5 \cdot OG_{EP} - OCF$ and $CAB = OB - 0.5 \cdot OG_{RT} - OCF$. Therefore, CAB is more accurate than OB to measure CAB^* under the condition that the output gap level is larger than its measurement error. Indeed, $|OB - CAB^*| > |CAB - CAB^*|$ if $0.5 \cdot |OG_{EP}| > 0.5 \cdot |OG_{EP} - OG_{RT}|$. These formulas are used in Table 2.

Table 2. Measurement Error of the Structural Stance

	Period 1/	Nominal Balance		Structural Balance
		Average error 2/	Maximum error 3/	Average error 4/
Austria	2003-2013	0.64	1.45	0.35
Belgium	2003-2013	0.64	1.31	0.62
Cyprus	2004-2013	0.75	1.88	1.21
Estonia	2004-2013	2.84	6.20	2.54
Finland	2003-2013	1.12	2.70	1.02
France	2004-2013	1.09	1.71	1.18
Germany	2006-2013	0.69	2.10	0.45
Greece	2003-2010	0.86	2.33	0.65
Ireland	2003-2013	0.98	2.25	1.15
Italy	2003-2013	1.11	1.75	0.94
Latvia	2004-2013	3.25	6.00	2.08
Luxembourg	2003-2013	1.11	2.52	0.81
Malta	2004-2013	0.50	1.51	0.78
Netherlands	2005-2013	0.92	1.24	0.48
Portugal	2003-2013	0.95	2.51	0.86
Slovak Republic	2004-2013	1.41	3.94	1.30
Slovenia	2004-2013	1.37	2.93	1.01
Spain	2005-2013	2.18	3.67	0.83
Simple Average		1.24	2.67	1.01

Source: IMF Staff estimates using real-time data from stability and convergence programs, and ex-post data from the AMECO database.

1/ Depends on the availability of stability and convergence programs.

2/ Average absolute value of the cyclical component of the nominal balance (measured as the product of the budget semi-elasticity and the ex post output gap).

3/ Maximum absolute value of the cyclical component (corresponding to the maximum absolute output gap over the period times the budget semi-elasticity).

4/ Average of the absolute differences between ex-post and real-time output gaps times the semi-budget elasticity.

C. Reconciling Fiscal Sustainability and Growth Objectives

As its name suggests, one purpose of the SGP is to foster growth. In the absence of a sizeable federal budget and given the inability of the common monetary policy to offset asymmetric shocks, national budgets have kept a stabilization function under the EMU. In a difficult balancing exercise, the European framework tries to achieve two potentially conflicting goals: leaving sufficient space for member states to offset asymmetric shocks with fiscal instruments, while ensuring that they do not take advantage of the single currency to free ride on collective discipline and build unsustainable fiscal positions. In light of the lackluster growth performance of the euro area since the 1990s (with an average annual GDP growth rate 1 percentage point below that of the United States), some have argued that the balance has tilted toward sustainability at the expense of growth.

A first question is whether the SGP leaves sufficient room for macroeconomic stabilization. Stabilization may take the form of automatic stabilizers or discretionary fiscal policy.

Regarding the first type, it seems that the SGP provides adequate margins. With a budget semi-elasticity of 0.5 and a structural deficit of 0.5 percent, a deficit ceiling of 3 percent is compatible with full operation of automatic stabilizers in downturns up to a negative output gap of 5 percent. In other words, the SGP does not compel countries to offset cyclical variations in spending and revenue unless the crisis is exceptionally severe—in which case the escape clause would probably be triggered and fiscal rules held in abeyance. The second issue is more difficult and controversial, as not all agree that stabilization should involve discretionary fiscal policy. It is often argued that the SGP impairs the ability to conduct countercyclical policy, in particular in downturns. Admittedly, the lower limit of the MTO (-0.5 percent as a general rule, and -1.0 percent in low-debt countries) leaves little room for fiscal relaxation if the initial position is balanced. However, the preventive arm includes economic downturn escape clauses, which authorize temporary deviations from the MTO or the path towards it.²⁸ Therefore a more relevant question is whether the 3 percent deficit ceiling (rather than the MTO) constrains the scope for fiscal stimulus. In a “normal” downturn corresponding to an output gap of -2 percent, a 3 percent deficit would correspond to a structural deficit of 2 percent, leaving some room for discretionary actions if the initial position is close to balance.

By focusing on annual/short-term constraints, the SGP may limit the fiscal space available to introduce structural reforms and foster long-term growth. The experience of past fiscal consolidations suggests that a balance needs to be found between fiscal adjustment and structural reforms (Box 2). The 2005 reform of the SGP explicitly recognized possible trade-offs, by allowing temporary deviations from the MTO in the preventive arm as well as flexibility in the EDP for countries introducing some reforms. However, in practice, the current framework only applies to pension reforms, whose short-term budgetary cost and long-term impact on public finances are well understood and estimated.

Going beyond pension reforms is a matter of current debate. The literature on the budgetary impact of structural reforms does not provide much guidance. Empirical studies do not find significant effects of *broad* reforms on the cyclically-adjusted deficit, (Giorno and others 2005; Heinemann, 2005; Deroose and Turrini, 2006). Nonetheless, some evidence suggests that some *specific* reforms have large and measurable short-term costs. For example, the budgetary cost of active labor market policies, as estimated by the OECD, exceeds 1 per cent of GDP in some countries. In light of the mixed evidence, further research should be conducted, perhaps focusing on particular structural measures. Another issue is that many reforms remain little more than policy announcements. Any flexibility provided by the framework should therefore be tied to the implementation of reforms, going beyond the

²⁸ “In the case of an unusual event outside the control of the Member State concerned which has a major impact on the financial position of the general government or in periods of severe economic downturn for the euro area or the Union as a whole, Member States may be allowed temporarily to depart from the adjustment path towards the medium-term budgetary objective referred to in the third subparagraph, provided that this does not endanger fiscal sustainability in the medium term.”

“promise stage.” But monitoring implementation may prove difficult.

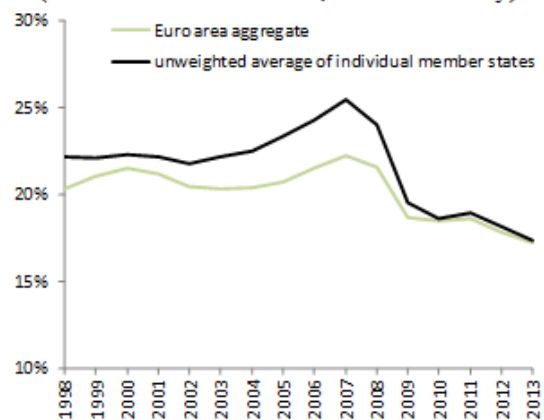
Box 2. Is There a Trade-Off Between Fiscal Consolidation and Structural Reforms?

There is substantial empirical evidence that structural reforms can lift growth in the medium to long-term. And in many countries suffering from weak economic performance, structural reforms are often essential. But structural reforms are also generally successfully implemented in countries with healthy initial fiscal positions or countries that adopt policies supporting aggregate demand (IMF 2004; Beetsma and Debrun, 2004; Høj and others, 2006). Several explanations have been advanced to explain why fiscal adjustment should be gradual when a major structural reform program is undertaken:

- Political capital may be limited and governments that are too ambitious are unlikely to be reelected.
- Some structural reforms have large short-term budgetary costs. These costs can be direct, such as funding a public research and development program. But there are also indirect costs—in particular the cost of compensating the losers. All these costs make it more difficult to simultaneously reform and consolidate in the short-term.
- Structural reforms may not yield maximum benefits when the economy is weak. For instance, when demand is depressed, relaxing employment protection may not stimulate job creation. Or increasing the retirement age may just raise the number of unemployed. For this reason, Barkbu and others (2012) recommended that structural reforms be complemented by policies to boost aggregate demand.

A related question is whether the MTO and, to a lesser extent, the 3 percent deficit cap may discourage public investment. This is an old debate, but the question has recently come to the fore again, because the financial crisis prompted politically-easier cuts in government investment in many advanced economies, reinforcing a long-term declining trend (Figure 10). With private investment also falling in many countries, medium- and long-term growth prospects could be affected. The public investment deceleration was particularly pronounced in the countries hit hard by the crisis, such as Greece, Ireland, and Portugal (IMF, 2014). Although this problem extends beyond the fiscal governance framework, the SGP should set the right incentives to avoid further depletion of capital.

Figure 10. Investment in the Euro Area (Share of Potential GDP; Total Economy)



Source: AMECO.

A fundamental question is whether the fiscal framework should exclude capital outlays from targeted fiscal balances (the “golden rule”) on the grounds that such spending contributes to

growth in the long term. This type of rule has some intuitive appeal²⁹ but raises concerns, as it weakens the link between fiscal targets and gross debt. In addition, capital expenditure may not necessarily be productive, while other items such as expenditures on health and education may raise productivity and potential growth even more. Thus, the exclusion of capital expenditure needs to be weighed against the risks of lower transparency, “creative accounting,” and weaker links to sustainability (Cangiano and Ter-Minassian, 2003). Another direction that the SGP could take is to induce member states to better internalize the benefits of domestic investment. For instance, EDP targets and deadlines could be adjusted when fiscal consolidation protects capital expenditure. Nonetheless, this would further complicate the framework and raises practical difficulties, which are, to a large extent, similar to those previously described.

A better approach could be to boost the ability of the center to fund pan-European public infrastructure. Such investments could include cross-border projects with network externalities, in particular in the energy sector. As national budgets have to be kept within the bounds of the fiscal framework, other sources of financing should be considered, such as, for example, the European Investment Bank (EIB) and other forms of common borrowing. Although difficult, this option should not be lightly discarded, at least in a medium-term perspective, given that low public investment is a serious issue in the euro area, with implications for potential growth and debt sustainability. In this vein, the EC has recently announced plans for a European Fund for Strategic Investments (EFSI), which aims to use €21 billion of existing public funds (in the form of a guarantee) to stimulate private investment totaling €315 billion over three years (2.3 percent of EU GDP). The EFSI represents a change in the EU’s format of public funding for investment, as it emphasizes private or public-private partnership projects rather than traditional government-financed public infrastructure investment.

D. Dealing with Multiple Monitoring Schemes

Current European law does not envisage any formal structure for coordination between fiscal councils and the European Commission. The Commission has nevertheless acknowledged the importance of building good communication lines with fiscal councils through bilateral contacts and workshops. In terms of horizontal dialogue and information exchange among fiscal councils, the OECD’s “network of parliamentary budget officials and independent fiscal institutions” regularly brings together staff from fiscal councils—although it does not cover all EU member states and issues examined by the network are broader than those directly relevant to fiscal councils. In addition, a European group of fiscal councils—the EU Network of Independent Fiscal Institutions (EUNIFI)—was created in 2013. Time will tell whether this new institution will become a coordination mechanism of fiscal councils’ views or whether it will be merely a discussion forum organizing regular seminars.

²⁹ The main argument in favor of the golden rule is that, as in the case of a private company, a government should not attribute the full cost of a project that is expected to yield gains over several periods to a single year’s account.

The lack of coordination creates a risk of conflicting messages. Diverging views expressed between the fiscal councils and the European Commission could undermine the credibility of these institutions and jeopardize the enforcement of fiscal rules (at least in countries where fiscal councils monitor them). Such risks are more likely to materialize in three particular instances. First, most fiscal councils are tasked with assessing the quality of macroeconomic and budget forecasts, and preparing independent projections. Confusion could arise from different assessments of the quality of macroeconomic and budgetary forecasts if the Commission and the fiscal council do not communicate in synch and/or use divergent methodologies (for instance, methods to calculate structural balances). A second source of risk concerns the implementation of correction mechanism and escape clauses in case of significant deviation from MTOs. Both the fiscal council and the Commission will express views and formulate advice, the council by virtue of the “two-pack” requirement, and the Commission in the context of the Stability and Growth Pact. Third, when fiscal councils are allowed to provide normative assessments—for example, about the appropriateness of fiscal policy in a given macroeconomic environment, or by recommending a particular fiscal stance—, their policy proposals may collide with the country-specific recommendations adopted by the European Council at the end of the European semester.

E. Enforcement: the Limits of Peer Pressure

Both rule design problems and governance failures have contributed to the poor enforcement of the SGP. First, compliance may be at risk when SGP targets are too demanding or rigid, in particular in a low-growth environment. While recent reforms have strengthened the economic underpinnings of the framework, greater complexity is likely to create new loopholes. Second, the unique surveillance and coordination procedures within the EMU pose new challenges to enforcement. The textbook model of supranational surveillance rests on a strict separation of powers between the monitoring entity of the rules and the executing entity to minimize the risk of moral hazard. In practice, this separation has been incomplete in the European Union, as the Council has the final word on monitoring decisions, while the Commission, guardian of the Pact, makes recommendations. In other words, the Commission has the right and duty to monitor the SGP implementation without having full power to take actions in case of non-compliance. As such, the system falls between the peer pressure model and complete supranational control, reflecting the absence of a full-fledged political and fiscal union.

This incomplete separation of powers has long been seen as a weakness of the Pact. Finance ministers make the ultimate judgment on whether or not excessive deficits exist and penalties should be imposed. In assessing the fiscal performance of other member states, Council members may have incentives to be lenient and avoid actions that are politically costly for other members, because they might find themselves in a position of fiscal distress in the future. This makes collusion more likely than strict application of the sanctions and correction mechanisms. In addition, enforcement could be tainted by political considerations.

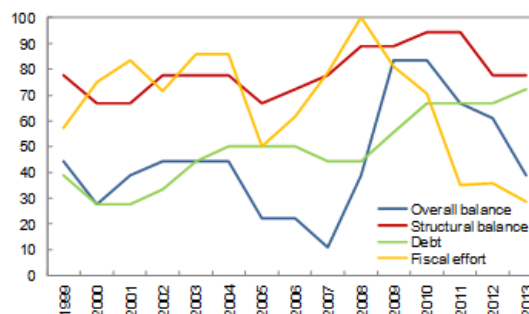
Otmar Issing, former chief economist of the ECB, described the situation as one in which potential sinners pass judgment on actual sinners. As a result, the credibility of the EDP as a tool to safeguard fiscal discipline has been questioned. Recent reforms may have, nonetheless, mitigated this problem (see below).

The crisis has further highlighted the limits of moral suasion. Peer pressure is less effective when the number of fiscal delinquents rises, as observed during the global crisis (Figure 11). This is because reputation costs decline; the “sinners judging sinners” incentive problem becomes more acute; and the difficulty of imposing sanctions increases with the number of delinquent countries.

Another issue is that the SGP enforcement mechanisms are not as strong as in other federations. While the unique structure of the EMU and the relative “weakness” of the supranational level would call for strong enforcement tools, sanctions and corrective actions are, on the contrary, relatively mild in Europe. Sanctions usually consist of opportunity costs from financial deposits.³⁰ The conditions for converting these deposits into outright fines are very strict, and have, so far, never been applied. In addition, the EU framework does not provide for administrative sanctions, whereas they exist and are applied in other countries. In some federations, individual officials are held liable for the fiscal slippages. In addition, sanctions only apply to euro-area member states. For instance, countries under the EDP that are not part of the euro area are neither required to hold a deposit at the EU, nor liable for fines in case of insufficient progress. By contrast, in federations, central constraints usually bear on *all* subnational governments in a nondiscriminatory way (Eyraud and Gomez, 2014). Finally, corrective actions required for noncompliance are also relatively weak, in part because the European authorities do not have the ability to impose direct controls on national budgets. For instance, borrowing restrictions imposed by the federal level do not exist in the European framework, whereas they do exist in some federations.

Recent reforms to EU fiscal governance have strengthened enforcement. To foster domestic ownership, the Fiscal Compact requires countries to introduce structural balance rules in national legislation (preferably in the constitution); these rules should be monitored by

Figure 11. Euro Area: Share of “Non-Compliers”^{1/} (1999–2013, EA18)



Sources: AMECO; and IMF.

Note: Fiscal effort compliance defined as those countries who failed to comply with the structural balance rule but had a change in structural balance larger than 0.5 percent of GDP.

¹ The “share of non-compliers” refers to the share of euro area countries who did not comply with fiscal rules.

³⁰ If the Council adopts a decision on non-effective action under the preventive arm, the euro area member state in question can be asked to lodge an interest-bearing deposit, which can then be turned into a non-interesting deposit if an EDP is opened (EC, 2013b).

independent institutions and incorporate correction mechanisms for deviations. In addition, sanctions for euro-area countries have become more automatic, because they are now adopted by the “reverse qualified majority” procedure. This new voting system gives more power to the Commission by ensuring that its recommendation or proposal is approved by the Council unless a qualified majority of member states votes against it. It is now more difficult for the Council to go against the Commission’s advice.

Nonetheless, the new procedures may not be sufficient to ensure absolute evenhandedness and eliminate the perception that some large countries are treated in a more lenient way. The EC staff has constant interactions with national authorities (including at the technical level), creating a risk that political constraints be internalized by the Commission. In this case, additional safeguards would be needed. For instance, independent and public reviews of the EC recommendations and technical work may strengthen its legitimacy and provide further guarantees of impartiality.

VI. ISSUES FOR DISCUSSION AND POLICY OPTIONS

This section presents options for future reforms. Its main argument is that it is possible to simplify the system of rules while keeping some flexibility against shocks and strengthening enforcement mechanisms.

Should the preventive and corrective arms be consolidated?

In federations, fiscal targets are generally constrained by rules that follow a standardized design (Box 3). This design includes three main features. A rule delineates a *numerical target* for a fiscal variable (often the overall balance) over a long period. A number of *provisions deal with non-compliance* when targets are breached. Subcentral governments failing to abide by the rules may be subject to sanctions and/or corrective actions.³¹ Finally, *escape clauses* allow for temporary suspensions of these provisions for predetermined events.

³¹ Corrective actions can be defined as a set of measures intended to put local finances back on a sound footing, and that entail some temporary loss of autonomy for subnational entities. Sanctions are financial and administrative penalties imposed on the subcentral government or its officials; contrary to corrective actions, they only have a disciplinary function and do not contribute to restoring fiscal soundness (financial sanctions may in fact aggravate fiscal stress).

Box 3. How Do Federations Constrain the Fiscal Policy of Sub-central Governments?

Federations resort to institutional arrangements to reduce the fiscal discretion of individual states. These arrangements pursue two main objectives, namely enforcing fiscal discipline and strengthening coordination across levels of government. Constraints take mainly three forms, depending on the degree of “fiscal autonomy” they leave to subnational governments. *Direct (administrative) controls* by the federal government are associated with the lowest degree of fiscal autonomy. For instance, the central government may set and revise every year ceilings on subnational debt or regulate the type of borrowing allowed. *Fiscal rules* are less binding than direct controls, because rules preclude the central government from micromanaging subnational fiscal policy, and because their design often preserves some policy flexibility. In addition, subnational governments have generally margins to comply with rules. Rules themselves can be ranked, depending on whether they are imposed by the center or self-imposed. Finally, *cooperative approaches* ensure the highest degree of subnational autonomy. Unlike fiscal rules, they allow subnational governments to renegotiate their fiscal targets on a regular basis.

Fiscal rules are by far the most common form of institutional constraint in federations. Eyraud and Gomez (2014) find that they account for almost 90 percent of the constraints in a sample of 13 federations. Rules are primarily imposed on the fiscal balance of sub-central governments. Borrowing constraints and debt rules are also widespread, followed by expenditure rules.³² Revenue rules are rare. The prevalence of fiscal balance constraints and borrowing restrictions is not specific to federations; Sutherland and others (2005) find the same result for subnational governments in unitary countries.

About half of the sub-central rules in federations tend to be self-imposed, rather than imposed by the federal government. For instance, in Canada and the United States, provinces and states set their own balanced budget rules and other types of fiscal rules. In Australia, rules are also self-imposed and differ from state to state. The same occurs at the canton level in Switzerland. This differentiates federations from unitary countries, where most rules are imposed by the center (Journard and Kongsrud, 2003; Sutherland and others, 2005).

The corrective arm of the SGP broadly fits into this standard model, while the preventive arm is more specific to the EU governance system. Similar to existing federations, the corrective arm defines numerical targets for certain fiscal variables (deficit and debt) and foresees procedures in cases of non-compliance (EDP), as well as escape clauses. By contrast, the preventive arm has no clear equivalent outside Europe. Its surveillance and coordination procedures are meant to prevent the emergence of fiscal imbalances and ensure that member states achieve sound fiscal positions in the medium-term.

Successive reforms have blurred the distinction between the two arms of the Pact. While the preventive arm was initially thought of as a surveillance and peer pressure mechanism, reforms have added many features of the standard rule model, including a fiscal target (structural deficit below 0.5 percent), a convergence path towards this target in case of deviation, escape clauses, and, more recently, sanctions. The fact that the Fiscal Compact

³² Borrowing constraints apply to gross borrowing flows. Hence, they differ from debt ceilings (stock concept), and fiscal balance targets (net concept).

requires the transposition of the MTO into national law creates another bridge between the preventive and corrective concepts, as the MTO has been given a more central role as annual target for fiscal policy—instead of being simply a “medium-term objective” used for the multilateral assessment of member states’ fiscal plans.

While maintaining the gradual approach of the SGP, there may be beneficial ways to integrate the two arms of the Pact. The strengthening of the preventive arm is a welcome development (early corrections and sanctions are more likely to be effective). However, the conceptual distinction between the two arms has weakened over time, creating potentially redundant and conflicting fiscal targets (see Section V.A). The fact that the most elaborate set of corrective actions and sanctions—the EDP—is triggered by the 3 percent deficit rule which has weaker economic rationale than the structural balance rule of the preventive arm is somewhat problematic. It is very difficult to justify, on economic grounds, that a country at the MTO be placed under EDP if it breaches the 3 percent ceiling (this has happened in the past).

A range of options for consolidating the two arms of the Pact are available. A minimal approach could be to enhance the consistency of the two arms—in the same spirit as recent reforms that set similar benchmarks for the annual fiscal effort. A more ambitious approach, which raises substantial legal difficulties, would merge the two arms into a two-step procedure based on a common set of rules, possibly with a structural balance indicator as the overarching target.³³ Minor slippages would trigger mild corrective actions; the EDP would be used exclusively for serious cases of noncompliance. Along these lines, IMF (2010) proposes tying the EDP exit to the fulfillment of the MTO.

Should the current system of fiscal rules be simplified (and how)?

The ultimate objective of preserving debt sustainability suggests a two-pillar approach to the design of the fiscal framework, with a fiscal anchor and an operational target. By analogy with monetary policy, a fiscal rule framework should set targets for both intermediate and final objectives. Because the final objective of the framework is to preserve fiscal sustainability, a natural anchor for expectations is the debt ratio, which creates an upper limit to repeated (cumulative) fiscal slippages.³⁴ In addition to the anchor, the framework should also include an operational target, which would be under the direct control of governments, while also having a close and predictable link to debt dynamics. To the extent possible, the operational target should be easy to monitor, and serve to communicate the fiscal stance to the public.

³³ The following section discusses the pros and cons of various operational targets, including structural balance indicators.

³⁴ While the choice of the debt rule as long-term anchor is generally well accepted, setting its threshold is a more controversial issue. The economic basis for imposing a similar ceiling across member states is weak, as some countries are able to sustain higher debt levels for various reasons. However, there is no agreement on how to measure country-specific safe debt levels and the debate remains far from settled. This important issue goes beyond the scope of the paper.

The choice of an operational target is difficult and controversial. Available options include a revenue rule, an expenditure rule, a nominal balance target (possibly excluding investment spending), a structural balance target—in level or in first difference—or some combination (IMF, 2009). Public debt cannot play this role, given that factors other than policy decisions affect public debt changes, including below-the-line operations and valuation effects. In addition, using debt as a short-term target may prompt countries to sell financial assets in a way that is inconsistent with sound asset management principles.

Currently, the European framework includes a plethora of operational targets. To name a few: the 3 percent deficit; the expenditure benchmark; the nominal deficit targets under the EDP; and various structural balance indicators in levels and changes (see Section V.A). Reducing their number and focusing on the most economically relevant should be a priority. If consolidating indicators raises too many legal obstacles, a first step could be to give more attention and prominence to the preferred target(s) in the fiscal analysis and advice of the EC.

From a policy standpoint, the most natural operational target is the “fiscal effort” variable. The fiscal effort is defined as the change in the fiscal stance resulting from *discretionary* fiscal actions taken during the year on the spending and revenue sides.³⁵ By definition, the fiscal effort should be directly impacted by discretionary budgetary policy actions. Using this variable as main policy target would define a structural path for future fiscal balances and, implicitly, allow automatic stabilizers to operate fully along this path (in case of cyclical surprises).

The fiscal effort variable can be measured in different ways. Specifically, it can be estimated (i) by identifying and aggregating budget measures in percent of potential GDP (“bottom-up approach”); (ii) or by calculating the change in the structural fiscal balance (“top-down approach”); (iii) or through other structural indicators such as an annual expenditure growth ceiling linked to potential output growth.³⁶ While these concepts are theoretically equivalent, they often return different amounts of fiscal effort (see Bi and others, 2013). One of the reasons is that the change in the structural balance calculates the fiscal effort relative to the previous year, while expenditure and tax measures are typically estimated relative to an unchanged-policy scenario at a given point in time.

Of the three fiscal effort variables, the expenditure growth ceiling may seem the most appealing. This indicator is tractable (directly constraining the budget), easy to communicate to the public, and conceptually sound provided that it is linked to some measure of long-term

³⁵ By contrast with a rule in level, the fiscal effort target could be described as a “first-difference rule.”

³⁶ Conceptually, certain expenditure growth rules are equivalent to first-difference structural balance rules. Indeed, the structural fiscal balance declines (resp. improves) when expenditure grows above (resp. below) potential GDP—other things being equal. In addition, expenditure rules can incorporate the effect of revenue measures (see the design of the European expenditure benchmark).

output growth. Based on simulations, Debrun and others (2008) show that an expenditure growth rule with a debt feedback ensures a better convergence towards the debt objective, while allowing greater flexibility in response to shocks. IMF (2012) demonstrates the good performance of the expenditure growth ceiling against several criteria (stabilization, transparency and fiscal discipline) when it is supplemented with a correction mechanism. Carnot (2014) also shows that a rule targeting the evolution of primary expenditure relative to trend output growth (adjusted for discretionary revenue measures) can strike a good balance between the objectives of long-term sustainability and short-term macroeconomic stabilization.

A difficult question is whether, in addition to the fiscal effort, a structural balance target *in level* should also be maintained in the framework. The ceiling chosen for the public debt anchor determines implicitly a steady-state level for the structural balance, which suggests that setting targets for both variables could be redundant (and potentially inconsistent). That is not to say that the structural balance indicator (in level) is not useful and should be eliminated from the framework altogether. It fulfills a function, which is to monitor the progress towards the steady-state—that is the distance between the current structural position and the level consistent with the debt anchor. Thus, this variable should be seen as a *measuring instrument* relating the operational target (the fiscal effort) to the anchor (the debt) rather than as an additional *short-term target*.

Specifically, the structural balance (in level) is a useful indicator when the fiscal effort target is not directly calibrated to bring back the debt level towards its long-term anchor. For instance, in the European system, countries have to make a fiscal effort of 0.5 percent of GDP per year until they reach their MTO (under the preventive arm). The framework uses the structural balance variable to evaluate the remaining distance from the MTO and, thus, to ascertain whether additional effort is required.³⁷

From a measurement point of view, the structural balance (in level) creates greater issues than its first-difference version. This is mainly because ex-post revisions of the output gap generally affect the series level rather than its slope (Balassone and Kumar, 2007). A wide range of options are available for addressing the shortcomings of the structural balance measure (Box 4). Each of these options has advantages and disadvantages. As a first step, this indicator (in level) should perhaps be given less prominence in the current framework. The methodology should be further improved until the risk of misjudging the fiscal stance and the resulting policy errors are deemed sufficiently contained.

³⁷ On the contrary, the structural balance (in level) is superfluous if the fiscal effort target is tied to the debt objective through some form of correction mechanism formula. For instance, Carnot (2014) shows that it is possible to compute a path of fiscal efforts that ensures the convergence of public debt towards its anchor.

Box 4. How To Move Forward with the Structural Balance Indicator?

Methodological improvements can contribute to reducing measurement errors of the output gap. Recent research shows that multivariate filters, which extract information about the cycle from additional observable variables (such as capacity utilization) are less exposed to the end-point problem (see Benes and others, 2010; and IMF, 2013a). In 2010, the European Commission introduced a new method for computing the output gap (d'Auria and others, 2010), which uses capacity utilization data to help identify supply. These surveys do not get revised, which has lowered the spread between real time and mature output gap estimates by around 20 percent on average. In addition, the expenditure benchmark uses, as a reference rate of potential growth, the 10-year average of the series including 5 years of outturn, the current year and 4 years of forecasts—smoothing the series volatility and thus reducing the size of future revisions.

Another possibility could be to *explicitly account for the bias ex-ante*. Bias could be accounted in advance by including an ad hoc adjustment factor in the structural balance formula and/or by conducting a study about the predictability of revisions to the output gap. However, if the bias is not rooted in exogenous technical flaws but in strategic behavior of a political-economy nature, introducing an adjustment may result in a larger bias to compensate for the adjustment. Moreover, the bias is unlikely to affect all countries equally. Thus, the adjustment would have to be tailored to each member country and possibly readjusted over time.

The structural rule could include a *notional account recording ex-post deviations* between real-time and mature estimates (in the vein of the Swiss debt brake). When cumulative deviations exceed a threshold, correction measures would have to be taken, for instance by cutting spending to realign it with the lower-than-initially estimated potential GDP.

Some have proposed *replacing the structural balance with an indicator mimicking its properties* without relying on output gap estimates. For instance, the “augmented growth-based balance rule” extracts cyclical effects from the nominal balance by using the difference between economic growth and trend growth (IMF, 2009). However, this indicator does not have strong theoretical underpinnings and may entail a procyclical stance.

More radical options suggest to *abandon the structural balance* altogether. For instance, Debrun and others (2008) propose replacing it with an expenditure rule that includes a correction mechanism associated with the debt level.

Some of the existing rules do not fit well in this simple framework. Although it is easy to monitor, the 3 percent deficit rule has weak economic rationale and entails large costs when it fosters a pro-cyclical fiscal stance. Dominated by the structural balance rule, the 1/20th debt reduction benchmark would become redundant if the structural balance were used to determine the necessity of an EDP, as suggested in the previous section.³⁸

How to better coordinate fiscal policy monitoring?

Formal exchanges of information and policy dialogue between fiscal councils and the

³⁸ Nonetheless, measurement errors and uncertainties affecting the estimates of potential output and the structural budget balance could argue in favor of maintaining the 1/20th debt rule—as an objective and simple benchmark for consolidation progress.

Commission could substantially reduce the risk of conflicting assessments. Two-way information flows between national fiscal councils and the EC would benefit both institutions. On the one hand, the Commission could provide helpful guidance and clarify how to implement the new fiscal governance framework, from technical (e.g., calculation of the output gap) and procedural (e.g., allocation of structural balance targets across government levels) standpoints. On the other hand, the Commission's surveillance could benefit from the independent views of councils, which may have easier access to information and better knowledge of institutional specificities of the country.

A range of institutional structures could be envisaged to formalize this cooperation. A minimal approach would be to institutionalize and intensify mutual exchanges through regular meetings between fiscal councils and the EC in a multilateral setting—for instance in the context of the EUNIFI network (see Section V.D). Although this approach may be sufficient to disseminate information, deeper cooperation could be complicated by the large number of actors and the nature of the Commission as a political authority. The potential risk that the network could be perceived as a channel of influence of the supranational authority on national councils would argue for establishing a stand-alone body representing and coordinating the views of individual councils. This new body could then become a discussion partner with the Commission (IMF, 2010). Some have advanced more ambitious proposals, like the creation of an EU-wide council reporting directly to the European Parliament (Fatás and others, 2003), which could substitute for or complement national councils. However, the interest in creating new European institutions seems limited at the moment and the transfer of national responsibilities at the supranational level could undermine the greater compliance and ownership of fiscal rules sought by the recent reforms of fiscal governance.

How can enforcement be further strengthened?

Two main directions can be followed to improve compliance.³⁹ The first approach reinforces the existing supranational framework by stepping up procedures, correction mechanisms, and sanctions, while making them more automatic. The second approach relies on alternative (and complementary) mechanisms to promote fiscal discipline, such as stronger market oversight or transfer of fiscal powers to the center.

First, existing enforcement mechanisms can be made stronger. More automaticity could be introduced in moving up steps after a rule is breached and the breach is acknowledged. In some cases, procedural steps could be accelerated in well-defined circumstances—such as misreporting. The imposition of sanctions should nevertheless remain the result of a discretionary decision based on sound economic judgment. One option could be to increase

³⁹ National fiscal frameworks have a key role to play in strengthening the overall fiscal architecture (Cangiano and Ter-Minassian, 2003). Reliance on national fiscal rules, fiscal councils, fiscal management systems, and other institutional arrangements is a central part of the efforts to foster compliance with supranational requirements. In essence, enforcement is likely to be more credible if it takes place at the level at which fiscal sovereignty is exerted. This important issue, which goes beyond the scope of the paper, is not discussed here.

the role of the Commission by placing the decision to impose sanctions directly in its hands, with only a veto right from the Council decided at unanimity. Alternatively, the Council could have to publicly justify (for instance before the European Parliament) why it deviates from a Commission's recommendation (IMF, 2010).

A broader set of sanctions could be envisaged. Financial sanctions in bad times lack credibility, because they exacerbate the financial difficulties of distressed governments. Hence, these sanctions could be imposed only in good times (e.g. reduced access to structural funds and other EU subsidies⁴⁰), while non-pecuniary sanctions could also be considered in bad times. Administrative sanctions (e.g., personal sanctions or constraints on new staff hire) exist in other federations. Political sanctions (e.g. limitation of voting rights) are another option, although their scope is limited by political and democratic constraints.

A key question is whether past deviations from supranational fiscal targets should be offset.⁴¹ Currently, countries breaching the 3 percent rule or the MTO are required to bring the deficit back below the ceiling. But the effect of past deviations on debt does not need to be corrected subsequently, creating a risk that debt ratchets up overtime until it reaches 60 percent of GDP.⁴² The debt brake model addresses this issue by requiring compensation for past slippages. For instance, the Swiss debt-brake rule specifies a one-year ahead ex-ante ceiling on central government expenditure equal to predicted cyclically adjusted revenue, which effectively corresponds to maintaining a structural budget balance every year. Differences between budget targets and outcomes are recorded in a notional account. If the negative balance in the account exceeds a threshold, the authorities are required to take measures sufficient to reduce the balance below this level within three years. Debt brakes have been criticized for imposing unrealistic adjustments following large slippages, given that the fiscal position should not only get back to the targeted level in the following year but also overshoot it because of the correction. However, never offsetting past deviations is misguided, because debt eventually increases to a point that the debt ceiling becomes binding. A more balanced approach would be to target a gradual correction for countries with a debt below 60 percent of GDP. This approach could be achieved by proper calibration of the fiscal rule formulas (IMF, 2009).

Second, better compliance with fiscal rules may also come from stronger market oversight and discipline. Enforcement is stronger when financial markets penalize countries that breach fiscal rules. The provision enshrined in the Maastricht Treaty to ensure that member states do not assume other member state's fiscal commitments (Article 125 of the TFEU)—often referred to as the “no bailout” clause—was meant to give financial markets an incentive to

⁴⁰ Since January 2014, structural funds can be suspended if a country does not comply with the EDP recommendations under the corrective arm.

⁴¹ Strictly speaking, correction mechanisms exist at the national level (they are mandated by the Fiscal Compact), but not at the supranational level.

⁴² For countries with public debt greater than 60 percent of GDP, the 1/20th debt reduction criterion functions de facto as a debt-brake correction mechanism.

discriminate among countries and price each member state's default risk. However, market discipline has not worked properly in the EMU for various reasons: the no-bailout provision has lacked credibility since the EMU inception; the scale of the financial crisis has warranted the creation of risk-sharing institutions such as the European Stability Mechanism; and the sovereign-bank link has distorted the pricing of risk by markets (Allard and others, 2013). Restoring market discipline and mitigating moral hazard are long-term endeavors. Some conditions should be fulfilled, including clear rules for the involvement of private creditors in bailouts (e.g., EU Bank Recovery and Resolution Directive). The transition to such a regime would have to be carefully managed and implemented in a gradual and coordinated fashion, so as to not trigger sharp readjustments in investors' portfolios and abrupt moves in bond prices.

Another possibility would be to rely more extensively on central controls. Restoring market discipline is an important element for fostering compliance and fiscal discipline, but doing so will take some time. Therefore, in the interim—and possibly as a long term solution too—enforcement may have to be imposed more directly by the center. This could come at the expense of a permanent loss of fiscal sovereignty for euro area members (for instance, if a veto power of the center on national budgets were to be introduced). A thorough analysis of options to deepen fiscal integration in the euro area goes beyond the scope of this paper (see Allard and others (2013) for an assessment of the costs and benefits of a fiscal union).

VII. CONCLUSION

Despite recent improvements, the European fiscal governance system faces a number of challenges. The remaining gaps are most apparent in the complex design of fiscal rules and weak enforcement mechanisms. While public debt is approaching unsafe territory in several member states, the fiscal framework has a key role to play to put public finances back on a sound footing. Fiscal governance needs to be particularly strong ex-ante, as preventing the emergence of fiscal imbalances is more effective and sometimes easier than correcting them ex-post. In this regard, the preventive arm of the Pact has to become more effective in enforcing structural balance targets and limiting the ability of member states to spend revenue windfalls in good time.

Fiscal reforms have to be properly sequenced, while taking into account the trade-offs between priority and practicability. The most important reforms—those tackling the complexity of the framework and its enforcement—are probably the most difficult to implement (in part because of the legal constraints) and constitute medium-term objectives. Simplifying the framework may require rethinking its overall structure, including by consolidating the preventive and corrective arms and eliminating some redundant or ill-designed rules. Enhancing enforcement mechanisms is also complicated, because the assessment of compliance has to take into account multiple practical and political considerations. At the other end of the spectrum, some of the most tractable problems are lower down the priority list—for instance enhancing monitoring by creating a discussion forum with fiscal councils.

Going beyond the fiscal framework, better economic governance can play an important role in reducing future imbalances. While the Maastricht approach held fiscal indiscipline as the primary risk to the euro viability, the global crisis has showed that private sector imbalances also constitute serious weaknesses (Moghadam, 2014). In particular, the original framework neglected the risks associated with excessive private leverage and divergence in competitiveness. Another lesson from the crisis is that there is no clear-cut separation between private and public sector balance sheets. Private imbalances can eventually end up as public sector liabilities—either through a direct bailout of the banking system (as in Ireland) or the lost revenue and increased spending required by deep and prolonged declines in output (as in Spain). Conversely, public imbalances can aggravate private imbalances. For instance, a weak sovereign may increase private sector stress if banks have large exposures to domestic public debt or if the government ability to honor financial safety net obligations is impaired (Goyal and others, 2013). Therefore, improvements in fiscal and economic governance should be pursued together to minimize the occurrence of internal imbalances (both private and public), as well as their scope for disruption to the economy. Some recent reforms are positive steps in this direction. The Macroeconomic Imbalance Procedure goes beyond fiscal metrics to consider private debt, external current accounts and net international investment positions. The banking union, especially the bail-in regime, better aligns incentives in the financial sector and should reduce taxpayer exposure to banking sector losses.

Table A.1. Reforms of the Preventive Arm of the SGP

		1997	2005	2011 1/	2013 2/
RULE		Countries should pursue MTO of close to balance or surplus	Country should be at MTO or on a path towards it	Country should be at MTO or on a path towards it	Country should be at MTO or on a path towards it MTO should be transposed into national legislation
FEATURES	Specification	MTO defined in nominal term Identical target for all countries	MTO is country-specific and takes into account the debt level and ageing effects Adjustment path defined as adjustment of 0.5 percent of GDP per	MTO is country-specific and takes into account the debt level and ageing effects Adjustment path defined as adjustment of 0.5 percent of GDP per year in structural Progress towards MTO is also assessed with an expenditure benchmark Quantification of "large deviations" from MTO or path towards it	MTO is country-specific and takes into account the debt level and ageing effects Adjustment path defined as adjustment of 0.5 percent of GDP per year in Progress towards MTO is also assessed with an expenditure benchmark Quantification of "large deviations" from MTO or path towards it
	Escape clauses	None	Deviations are possible if structural reforms with short-term budgetary cost	Possible deviation if structural reforms with short-term budgetary cost New escape clauses for unusual events with major budgetary impact and for general crisis	Possible deviation if structural reforms with short-term budgetary cost New escape clauses for unusual events with major budgetary impact and for general crisis
MONITORING		EC and European Council	EC and European Council	EC and European Council European Semester	EC and European Council European Semester Assessment of euro area MS draft budgets in the Fall Monitoring by fiscal councils
ENFORCEMENT	Corrective actions	None	None	None	None
	Sanctions	None	None	Sanctions for euro area MS	Sanctions for euro area MS

1/ Six-pack and European Semester.

2/ TSCG and Two-pack.

Table A.2. Reforms of the Corrective Arm of the SGP

		1997	2005	2011 2/	2013 3/
RULE		MS should not have "excessive deficits"	MS should not have "excessive deficits"	MS should not have "excessive deficits"	MS should not have "excessive deficits"
FEATURES	Specification	Deficit below 3% 1/	Deficit below 3% 1/	Deficit below 3% or, if debt above 60%, should be sufficiently diminishing based on 1/20th criterion	Deficit below 3% or, if debt above 60%, should be sufficiently diminishing based on 1/20th criterion
	Escape clauses	Exceptional circumstances defined as GDP contracting by 2% a year	Exceptional circumstances redefined as negative output gap or protracted below-potential growth	Exceptional circumstances defined as negative output gap or protracted below-potential growth	Exceptional circumstances defined as negative output gap or protracted below-potential growth
MONITORING		EC and European Council	EC and European Council	EC and European Council	EC and European Council
ENFORCEMENT	Corrective actions	EDP recommendations	EDP recommendations Annual adjustment of at least 0.5% of GDP in structural terms Possible deadline extensions if fiscal effort is delivered	EDP recommendations Annual adjustment of at least 0.5% of GDP in structural terms; New indicator of "adjusted fiscal effort" For pluriannual EDP, intermediate objectives are binding Deadline extensions in case of general crisis	EDP recommendations Annual adjustment of at least 0.5% of GDP in structural terms; New indicator of "adjusted fiscal effort" For pluriannual EDP, intermediate objectives are binding Deadline extensions in case of general crisis
	Sanctions	Financial sanctions at the very end of the procedure	Financial sanctions at the very end of the procedure	Financial sanctions at the very end of the procedure	Early and gradual financial sanctions for euro area countries New voting procedure to enforce sanctions

1/ Debt criterion was initially not implemented, because not defined precisely.

2/ Six-pack and European Semester.

3/ TSCG and Two-pack

Table. A.3. Euro Area: General Government Overall Balance, 1999-2013
(Percent of GDP)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Euro Area (18)	-1.5	-0.1	-2.0	-2.7	-3.2	-2.9	-2.5	-1.4	-0.7	-2.1	-6.3	-6.2	-4.1	-3.7	-3.0
Austria	-2.4	-1.8	-0.2	-0.9	-1.7	-4.6	-1.8	-1.7	-1.0	-1.0	-4.1	-4.5	-2.4	-2.6	-1.5
Belgium	-0.7	-0.1	0.4	-0.2	-0.2	-0.2	-2.6	0.3	-0.1	-1.1	-5.6	-4.0	-4.0	-4.1	-2.7
Cyprus	-4.3	-2.3	-2.2	-4.4	-6.6	-4.1	-2.4	-1.2	3.5	0.9	-6.1	-5.3	-6.3	-6.4	-5.4
Estonia	-3.5	-0.2	-0.1	0.3	1.7	1.6	1.6	2.5	2.4	-3.0	-2.0	0.2	1.1	-0.2	-0.2
Finland	1.7	7.0	5.1	4.2	2.5	2.3	2.7	4.1	5.3	4.3	-2.7	-2.8	-1.0	-2.2	-2.5
France	-1.8	-1.5	-1.7	-3.3	-4.1	-3.6	-3.0	-2.4	-2.8	-3.3	-7.5	-7.0	-5.2	-4.9	-4.3
Germany	-1.6	1.1	-3.1	-3.8	-4.2	-3.8	-3.3	-1.7	0.2	-0.1	-3.1	-4.2	-0.8	0.1	0.0
Greece	-3.1	-3.8	-4.5	-4.9	-5.8	-7.5	-5.6	-6.2	-6.8	-9.9	-15.6	-11.0	-9.6	-8.9	-12.7
Ireland	2.5	4.9	1.0	-0.3	0.4	1.4	1.6	2.9	0.2	-7.4	-13.7	-30.6	-13.0	-8.1	-7.0
Italy	-2.0	-0.9	-3.2	-3.2	-3.6	-3.6	-4.5	-3.4	-1.6	-2.7	-5.4	-4.4	-3.6	-2.9	-2.8
Latvia	-3.8	-2.8	-2.0	-2.3	-1.6	-1.1	-0.4	-0.6	-0.7	-4.4	-9.1	-8.1	-3.5	-1.4	-0.9
Luxembourg	3.4	6.0	6.1	2.1	0.5	-1.1	0.0	1.4	3.7	3.2	-0.7	-0.8	0.2	0.0	0.1
Malta	-6.9	-5.7	-6.3	-5.7	-9.0	-4.6	-2.9	-2.7	-2.3	-4.6	-3.7	-3.5	-2.7	-3.3	-2.8
Netherlands	0.4	2.0	-0.3	-2.1	-3.2	-1.8	-0.3	0.5	0.2	0.5	-5.6	-5.0	-4.3	-4.0	-2.4
Portugal	-3.1	-3.3	-4.8	-3.4	-3.7	-4.0	-6.5	-4.6	-3.2	-3.7	-10.2	-9.9	-4.3	-6.5	-5.0
Slovak Republic	-7.4	-12.3	-6.5	-8.2	-2.8	-2.4	-2.8	-3.2	-1.8	-2.1	-8.0	-7.5	-4.8	-4.5	-2.8
Slovenia	-3.0	-3.7	-4.0	-2.4	-2.7	-2.3	-1.5	-1.4	0.0	-1.9	-6.3	-5.9	-6.4	-4.0	-14.7
Spain	-1.3	-1.0	-0.6	-0.3	-0.3	-0.1	1.3	2.4	2.0	-4.5	-11.1	-9.6	-9.6	-10.6	-7.1

Source: AMECO database (based on ESA95).

Note: Red cells: overall deficit above 3 percent of GDP.

Table A.4. Euro Area: General Government Debt, 1999-2013
(Percent of GDP)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Euro Area (18)	71.6	69.2	68.2	68.0	69.2	69.6	70.5	68.6	66.2	70.1	79.9	85.7	88.1	92.7	95.0
Austria	66.8	66.2	66.8	66.2	65.3	64.7	64.2	62.3	60.2	63.8	69.2	72.5	73.1	74.4	74.5
Belgium	113.6	107.8	106.5	103.4	98.4	94.0	92.0	87.9	84.0	89.2	95.7	96.6	99.2	101.1	101.5
Cyprus	59.3	59.6	61.2	65.1	69.7	70.9	69.4	64.7	58.8	48.9	58.5	61.3	71.5	86.6	111.7
Estonia	6.5	5.1	4.8	5.7	5.6	5.0	4.6	4.4	3.7	4.5	7.1	6.7	6.1	9.8	10.0
Finland	45.7	43.8	42.5	41.5	44.5	44.4	41.7	39.6	35.2	33.9	43.5	48.8	49.3	53.6	57.0
France	59.0	57.5	57.1	59.1	63.3	65.2	66.8	64.1	64.2	68.2	79.2	82.7	86.2	90.6	93.5
Germany	61.3	60.2	59.1	60.7	64.4	66.2	68.6	68.0	65.2	66.8	74.5	82.5	80.0	81.0	78.4
Greece	94.9	104.4	104.7	102.6	98.3	99.8	110.0	107.8	107.3	112.9	129.7	148.3	170.3	157.2	175.1
Ireland	47.0	37.0	34.5	31.8	31.0	29.4	27.2	24.6	24.9	44.2	64.4	91.2	104.1	117.4	123.7
Italy	113.1	108.6	108.3	105.4	104.1	103.7	105.7	106.3	103.3	106.1	116.4	119.3	120.7	127.0	132.6
Latvia	12.4	12.4	14.1	13.6	14.7	15.0	12.5	10.7	9.0	19.8	36.9	44.5	42.0	40.8	38.1
Luxembourg	6.4	6.2	6.3	6.3	6.2	6.4	6.1	6.7	6.7	14.4	15.5	19.5	18.7	21.7	23.1
Malta	55.2	53.9	58.9	57.9	66.0	69.8	68.0	62.5	60.7	60.9	66.5	66.0	68.8	70.8	73.0
Netherlands	61.1	53.8	50.7	50.5	52.0	52.4	51.8	47.4	45.3	58.5	60.8	63.4	65.7	71.3	73.5
Portugal	51.4	50.7	53.8	56.8	59.4	61.9	67.7	69.4	68.4	71.7	83.7	94.0	108.2	124.1	129.0
Slovak Republic	47.8	50.3	48.9	43.4	42.4	41.5	34.2	30.5	29.6	27.9	35.6	41.0	43.6	52.7	55.4
Slovenia	24.1	26.3	26.5	27.8	27.2	27.3	26.7	26.4	23.1	22.0	35.2	38.7	47.1	54.4	71.7
Spain	62.4	59.4	55.6	52.6	48.8	46.3	43.2	39.7	36.3	40.2	54.0	61.7	70.5	86.0	93.9

Source: AMECO database (based on ESA95).

Note: Red cells: public debt above 60 percent of GDP.

Table A.5. Euro Area: General Government Structural Balance, 1999-2013
(Percent of potential GDP)

	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Euro Area (18)	-1.8	-1.1	-3.0	-3.2	-3.4	-3.1	-2.8	-2.3	-2.2	-3.0	-4.5	-4.4	-3.5	-2.1	-1.3
Austria	-2.7	-2.5	-0.3	-0.7	-0.9	-0.7	-1.3	-1.8	-1.9	-1.9	-2.7	-3.2	-2.2	-1.6	-1.1
Belgium	-1.1	-1.0	-0.1	-0.2	-1.1	-1.4	-0.9	-1.4	-1.4	-2.2	-3.9	-3.4	-3.5	-3.0	-2.3
Cyprus	-4.4	-2.8	-3.0	-4.6	-7.9	-5.1	-3.4	-1.7	2.2	-0.7	-6.3	-5.6	-6.4	-6.5	-3.5
Estonia	-2.1	-0.2	-0.4	-0.3	0.5	1.4	-0.1	-1.3	-1.6	-4.5	-1.0	-0.8	-0.5	0.0	-0.4
Finland	1.2	6.0	4.7	4.4	3.4	2.6	2.9	3.2	2.7	2.4	0.5	-1.1	-0.6	-1.0	-0.6
France	-2.3	-2.7	-3.1	-4.4	-4.7	-4.8	-4.7	-4.2	-4.7	-4.4	-6.2	-5.9	-4.8	-3.8	-3.0
Germany	-1.7	0.4	-3.9	-3.9	-3.3	-2.9	-2.2	-1.7	-0.8	-0.8	-0.7	-2.2	-1.0	0.3	0.6
Greece	-3.6	-4.2	-4.9	-4.5	-5.7	-7.7	-5.2	-7.4	-7.8	-9.7	-14.7	-9.1	-6.0	-1.0	2.0
Ireland	1.7	3.5	-0.2	-1.0	0.5	1.7	1.3	1.6	-2.1	-8.0	-9.6	-9.3	-8.4	-7.9	-6.2
Italy	-2.2	-1.8	-4.5	-4.0	-5.6	-5.3	-5.6	-4.4	-3.6	-3.9	-4.2	-3.8	-3.7	-1.5	-0.9
Latvia	-3.7	-2.4	-1.8	-2.2	-1.9	-1.8	-2.0	-3.3	-4.3	-6.0	-4.6	-2.9	-1.4	-0.2	-1.0
Luxembourg	2.4	3.9	4.6	0.9	0.6	-0.9	-0.2	0.6	1.5	2.6	1.7	0.4	1.0	1.7	1.4
Malta	-7.0	-6.5	-6.1	-6.2	-6.1	-6.1	-4.2	-3.3	-3.5	-5.8	-3.6	-4.5	-3.3	-3.9	-2.9
Netherlands	-0.3	0.9	-1.0	-1.6	-1.7	-0.8	0.6	0.5	-1.0	-0.7	-4.2	-4.2	-3.8	-2.7	-1.3
Portugal	-4.2	-4.7	-6.3	-4.3	-5.7	-5.9	-6.1	-4.5	-3.8	-4.6	-8.5	-8.4	-6.1	-3.5	-2.6
Slovak Republic	-7.1	-11.4	-5.5	-7.4	-1.9	-2.1	-2.2	-4.0	-4.3	-4.9	-7.8	-7.2	-4.8	-3.9	-2.0
Slovenia	-3.3	-4.1	-4.2	-2.8	-2.7	-2.5	-1.9	-2.5	-2.6	-4.6	-4.7	-4.9	-5.0	-2.7	-2.5
Spain	-1.8	-1.9	-1.9	-1.3	-1.1	-0.1	0.3	1.0	0.6	-4.7	-8.6	-7.1	-6.5	-4.1	-2.8

Source: AMECO database (based on ESA95).

Note: Figures refer to cyclically adjusted balance for data prior to 2003.

Note: Red cells: structural deficit above 0.5 percent of potential GDP.

Appendix 1. Debt Decomposition Methodology

The main recursive equation governing the dynamics of debt ratio is:

$$d_t = (1 + \lambda_t)d_{t-1} - pb_t \quad (\text{A.1})$$

where d_t denotes debt level at the end of period t , pb_t the primary balance (both as a ratio to GDP at t), and

$$\lambda_t = \frac{i_t - G_t}{1 + G_t} \quad (\text{A.2})$$

where i_t and G_t represent nominal interest rates and growth rates in period t , respectively.

Thus the observed change in debt-GDP ratio from period $t-1$ to t can be expressed as

$$d_t - d_{t-1} = \underbrace{\frac{i_t}{1+G_t} d_{t-1}}_{\substack{\text{contribution} \\ \text{of interest rate}}} - \underbrace{\frac{G_t}{1+G_t} d_{t-1}}_{\substack{\text{contribution} \\ \text{of growth}}} - \underbrace{pb_t}_{\substack{\text{primary} \\ \text{balance}}} + \underbrace{residual}_{\substack{\text{stock-flow} \\ \text{adjustment}}}$$

“interest-growth differential”

(A.3)

i.e., the sum of an “interest rate-growth differential” term, the primary balance pb_t , and a residual term representing stock-flow adjustments. The “interest rate-growth differential” term can be further decomposed into the effect of the interest rate (i_t) and that of growth rate (G_t), and the primary balance can also be decomposed into its cyclical component and the cyclically adjusted primary balance (CAPB), which can be further decomposed into the structural balance and one-off terms.

It is straightforward to expand the above one-period dynamic equation to decompose multi-period changes in the debt level. For instance, debt changes between 2007 and 2013 can be decomposed as follows:

$$d_{2013} - d_{2007} = \sum_{t=2008}^{2013} (d_t - d_{t-1})$$

$$= \underbrace{\sum_{t=2008}^{2013} \frac{i_t}{1+G_t} d_{t-1} - \sum_{t=2008}^{2013} \frac{G_t}{1+G_t} d_{t-1}}_{\text{“interest-growth differential”}} - \underbrace{\sum_{t=2008}^{2013} pb_t}_{\substack{\text{primary} \\ \text{balance}}} + \underbrace{residual}_{\substack{\text{stock-flow} \\ \text{adjustment}}}$$
(A.4)

This forms the basis of the debt decomposition exercise reported in Table 1.

Appendix 2. Procyclicality of Fiscal Policy in the Euro Area

The nominal fiscal deficit rule may have fostered a pro-cyclicality bias of fiscal policy in euro area countries. During economic upturns, the 3 percent deficit ceiling is unlikely to be a binding constraint, and thus does not constrain countries to tighten their fiscal stance when they would be expected to build up fiscal buffers. During economic downturns, however, the rule may force countries to consolidate when fiscal stimulus is needed.

Tables A6-A8 present results from a panel analysis of the cyclically adjusted primary balance (CAPB) in 18 euro area countries over the past three decades. The analysis separates two sub-periods: pre-EMU period (1981-1998) and EMU period (1999-2013). Results are reported in terms of the CAPB sensitivity to cyclical fluctuations, i.e. the response of the CAPB (in level and first difference) to a percentage point increase in the output gap. Fiscal policy is counter-cyclical when the output gap coefficient is positive (i.e., depending on the specification, this means that a rising output gap is associated with higher CAPB or a larger fiscal consolidation effort—in both cases, reflecting fiscal tightening). On the other hand, a negative output gap coefficient is interpreted as evidence of procyclical policy.

Prior to 1999, the fiscal stance tended to be slightly counter-cyclical in euro area countries. As shown in Tables A6-A8, the fiscal policy of the EMU countries has presented a mild counter-cyclical stance over 1981-98, as both the level and the first difference of the CAPB responded positively to the output gap (although the coefficients are small and statistically insignificant). In addition, there is no substantial difference in the cyclicity of the fiscal stance during economic upturns and downturns, as the point estimates of the interaction terms are statistically insignificant. Finally, the response of the CAPB to a rise in the debt-to-GDP ratio is positive, indicating fiscal tightening when the public debt rises.

Since 1999, the fiscal stance has shown a pro-cyclicality bias. Under the EMU, fiscal policy has been, on average, procyclical, but this result conceals a very different pattern during upturns and downturns. To assess this asymmetric response, we report the results of specifications with interaction terms. In upturns (identified by positive output gaps), countries tended to reduce the CAPB, both in level and first difference, following an improvement in cyclical conditions—a sign of procyclicality. However, during downturns (negative output gaps), countries loosened their fiscal stance when the output gap declined, suggesting that policy was countercyclical.

Further econometric analysis confirms these empirical findings. In addition to experimenting with different model specifications, we also conduct an instrumental variable estimation in a specification including the *current* value of the output gap (which is likely to be endogenous with respect to the CAPB). We instrument the current year output gap with the previous year output gaps in individual countries as well as in the euro area, similar to Gali and Perotti (2003). The estimation results, as displayed in Table A3, are in line with those reported above: fiscal policy shows a strong procyclical bias during upturns under the EMU.

These results are broadly consistent with the empirical findings from previous studies. While Fatás and Mihov (2002) do not find strong evidence of discretionary fiscal actions in the

1990s, Gali and Perotti (2003) show that the fiscal stance was countercyclical in euro area countries during the 1980s and 1990s.¹ Cimadomo (2005) finds a pro-cyclical bias in the EA since 1999, in particular during economic upturns. Deroose and others (2008) conduct a country-by-country analysis and present evidence suggesting that discretionary fiscal policy in the EA member states, in particular in several large economies, tends to be more procyclical than in the United States.

Table A.6. Cyclical Sensitivity of the Structural Fiscal Effort
(Dependent variable: Δ CAPB; Panel fixed effect estimator)

	1981–2013		1981–1998		1999–2013	
Debt/GDP (t-1)	0.029*** (0.008)	0.032*** (0.008)	0.027 (0.019)	0.027 (0.019)	0.055*** (0.014)	0.062*** (0.014)
Output gap (t-1)	-0.040 (0.044)		0.020 (0.107)		-0.021 (0.058)	
Output gap(t-1)*ind(gap>0)		-0.169** (0.077)		0.094 (0.170)		-0.186** (0.091)
Output gap(t-1)*ind(gap<0)		0.088 (0.077)		-0.066 (0.188)		0.165* (0.098)

Note: *, **, and *** indicate a statistical significance at 10%, 5% , and 1% level, respectively.

1/ Interaction terms for upturns (OG>0) and downturns (OG<0).

¹ Their conclusion that the cyclicality has not changed since 1999 may be due to the short (1999-2002) sub-sample used in the paper. In addition, the authors do not distinguish between upturns and downturns.

Table A.7. Cyclical Sensitivity of the Structural Fiscal Balance
(Dependent variable: CAPB; Kiviet dynamic estimator)

	1981–2013		1981–1998		1999–2013	
CAPB (t-1)	0.731*** (0.056)	0.718*** (0.054)	0.540*** (0.108)	0.540*** (0.108)	0.753*** (0.075)	0.752*** (0.074)
Debt/GDP (t-1)	0.021** (0.011)	0.025** (0.010)	0.061*** (0.024)	0.061*** (0.023)	0.024 (0.017)	0.033** (0.017)
Output gap (t-1)	-0.017 (0.059)		0.028 (0.107)		-0.023 (0.072)	
Output gap(t-1)*ind(gap>0)		-0.193** (0.085)		-0.004 (0.169)		-0.217** (0.103)
Output gap(t-1)*ind(gap<0)		0.162* (0.100)		0.066 (0.184)		0.192** (0.115)

Note: *, **, and *** indicate a statistical significance at 10%, 5% , and 1% level, respectively.
1/ Interaction terms for upturns (OG>0) and downturns (OG<0).

Table A.8. Cyclical Sensitivity of the Structural Fiscal Effort, IV Estimation
(Dependent variable: Δ CAPB; Instrumental variable estimator)

	1981–2013		1981–1998		1999–2013	
Debt/GDP (t-1)	0.031*** (0.008)	0.033*** (0.009)	0.026 (0.018)	0.026 (0.019)	0.058*** (0.014)	0.066*** (0.014)
Exp. output gap (t)	-0.035 (0.062)		0.009 (0.148)		-0.001 (0.082)	
Exp. gap (t)*ind(Exp. gap>0)		-0.226** (0.122)		0.056 (0.284)		-0.294** (0.144)
Exp. gap (t)*ind(Exp. gap<0)		0.133 (0.105)		-0.032 (0.257)		0.251** (0.130)

Note: *, **, and *** indicate a statistical significance at 10%, 5% , and 1% level, respectively.
1/Expected value of the current output gap based on instruments.
2/ Interaction terms for upturns (OG>0) and downturns (OG<0).

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