Session 4

NEW RULES FOR EMU?

GORDIAN KNOT OR ARIADNE'S BALL OF THREAD? SEARCHING FOR A WAY OUT OF THE EUROPEAN FISCAL LABYRINTH

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A proper fiscal framework should ensure long-term sustainability while avoiding pro-cyclicality of fiscal policy. As a prerequisite, fiscal rules should be based on numerical indicators that are conducive to both of these basic objectives and rest on best practices. In this paper, we discuss problems that the existing European fiscal architecture fails to address, even as it becomes increasingly more complex and rule-based. In our view, a decentralised framework would be better suited to fight against the deficit bias in Europe. Accordingly, we propose that the first line of defence against irresponsible fiscal policy be provided by national, country-specific rules, with active monitoring of local fiscal councils using more robust fiscal indicators. This solution can help to design much better long-term fiscal anchors and by greater involvement of independent institutions it can also ensure the much needed medium-term flexibility. In this model, the community level would be responsible for checking compliance with minimum standards defined for local fiscal frameworks, enforcing strict programs for countries over pre-agreed limits and ensuring counter-cyclicality of EU budgets. No yearly fine-tuning of national budgets would be necessary.

1 Introduction

Fiscal policy remains an area where there continue to be substantial gaps between theory and practice. Although significant progress has been made since the crisis, the European fiscal framework itself has become overly complicated, non-transparent and almost unenforceable over the years. As Ódor (2014a) points out, comparing the end result with a well-known set of criteria (Kopits and Symansky, 1998) the European fiscal architecture scores relatively low on simplicity, consistency, definition and enforceability. The latter weakness has been demonstrated also by the current application of the new fiscal legislation: granting arbitrary number of years for correction of excessive deficits (instead of "one year as a rule"), introducing the "investment clause" and defining more space for flexibility in the application of the Stability and Growth Pact (SGP). Especially worrisome is the treatment of structural reform *plans*. *Ex ante* proposals can qualify for extension of deadlines (European Commission, 2015).

We argue that the theoretical sub-optimality and low practical enforceability can easily create another crisis of the SGP in the future. Fine-tuning the already complex system is not a viable alternative; one has to design a fundamentally new institutional set-up. Burocratic processes under political influence should be eliminated and international best practices implemented as far as fiscal indicators are concerned.

This article proposes a framework that is not only better aligned with theory, but also benefits more from synergies between fiscal rules and independent fiscal institutions (both at the European and national level). In addition, it offers a more efficient division of labour between the community and the national level with regards to fiscal responsibility. The new structure will achieve its objectives only if it takes into account country-specific conditions and is based on better

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fiscal indicators. This article therefore focuses on issues of methodology, theory and institutional set-up that must be resolved in order to design an efficiently functioning fiscal architecture in Europe.

Depending on the time horizon available for reform, strength of resolution mechanisms and potential legal obstacles, we see two possible strategies to pursue. The first is a "quick-and-dirty" approach, when radical action is necessary to cut the complex Gordian knot. In that solution, clearly defined and very limited bail-out options would be implemented at the level of the sovereign.[1] In exchange for it, big part of the current list of European fiscal rules would be simply eliminated and/or replaced by minimum standards for local fiscal frameworks. In this scenario also the definition of minimum standards would be relatively loose. The second approach is a more gradual one. Instead of cutting the problem right away,[2] lengthy discussions would be necessary to define detailed requirements for local fiscal frameworks based on best international practices. Moreover, the sovereignty principle should be substantially curbed down. It is like using Ariadne´s thread to find the way out of the labyrinth. However it should be noted that whichever strategy we choose, a fundamental redefinition of accountability between the centre and national authorities would be necessary in any case.

Our motivation is threefold. First, in our view it is necessary to better align theory and actual design of fiscal rules and institutions. The fundamental conflict between using one-size-fits-all approaches and at the same taking into account country specificities has often led to reliance on escape clauses, special regimes and "other factors". As a result, Europe ended up with a complex web of sometimes contradicting rules and procedures (Ódor, 2014a). Paradoxically the system is relying on so many rules that the final verdict is in fact a discretionary decision of the European Commission/Council in many cases. Second, the division of labour between the community and national level is blurred. There is no clear separation of accountability and responsibility. The European framework mixes together a non-credible no bail-out principle, sovereignty of Member States in budgetary issues, the SGP and resolution mechanism like the ESM or EFSF. It is necessary in our view to define when and under what conditions the intervention from the centre is warranted. Moreover, current discussions about a stronger fiscal union will add another layer of challenges, namely, the question of a proper design of fiscal rules and institutions at the community level. It is also important to limit political influence in applying rules and procedures as much as possible. Third, fiscal indicators allow fiscal gimmickry, and real time evaluation of structural budget balances is too important part of the system given the huge uncertainty surrounding the estimates. More appropriate methodological tools are available, but their application is hampered by the current institutional set-up (Ódor, L. and G.P. Kiss, 2014).

The solution to these three fundamental problems we propose in this paper is the following. The first line of defence against irresponsible fiscal policy behaviour should be at the local level, using home-grown fiscal rules and independent fiscal institutions. Their design however should fulfil commonly agreed minimum standards. If a Member State operates with no significant fiscal risks and if spill-over effects are unlikely, no yearly intervention from the community level would be needed. These institutions should in our view focus more on avoiding pro-cyclicality at level of the whole union and managing countries breaching European limits. As far as the choice of appropriate indicators is concerned, the definition of minimum standards for local fiscal rules should prescribe a wider use of stock indicators covering the whole public sector, not just the level of general government. It should be noted that the definition of minimum standards will heavily depend on the strength of resolution mechanisms.

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[1] Introduction of several facilities by the ECB (*i.e.*, OMT) can make the original idea of limited or no bail-out more credible, since spill-over effects can be mitigated.

[2] For example if far-reaching changes to Treaty are not realistic in a short time horizon.

Table 1

Deficit Decomposition

	Permanent	Temporary
Exogenous	part of structural deficit (P1)	medium-term cyclical component (T1) revenue windfall/shortfall (T2) surprise inflation/disinflation (T3) volatility of yields + lagged effects on interest expenditure (T4) long-term volatility (T5)
Endogenous (discretionary)	part of structural deficit (P2)	creative accounting and one-offs (T6) deviations from necessary investment level (T7)

The paper is organised as follows. The second section looks at possible improvements of fiscal indicators based on international best practices. The third part contains our proposed solution for a more transparent and efficient European fiscal framework. The last section concludes and discusses possible avenues for further research.

2 Better fiscal indicators

For fiscal policy to operate properly, it needs to rely on a fiscal framework that keeps debt on an optimal path and at the same time avoids fiscal policy that is pro-cyclical (*i.e.*, intensifies economic volatility). A fiscal framework is comprised of numerical fiscal rules, fiscal councils, and the planning, procedural and accounting rules of the budget. In this section we look at fiscal indicators, basic building blocks of efficient local fiscal frameworks.

We argue that improvements in 3 areas are necessary to place fiscal architectures on a more solid ground. First, a numerical fiscal rule will function properly and be enforceable only if it covers the full scope of discretionary fiscal policy. Second, a numerical rule should exclude impacts of all exogenous factors. As we will see, there is potential for significant methodological progress in this respect as well, although the uncertainty surrounding the potential GDP level and growth rate will nevertheless persist. Third, countries should put more emphasis also on optimal composition of public debt, cash flow and other medium-run solvency indicators. Independent fiscal institutions might play a very important role in all three areas.

In international practice a large number of fiscal indicators are used for setting targets, monitor compliance and analyse developments. They are created for different purposes and their definitions reflect the differences in questions they are intended to answer. It is important to make distinction between permanent and temporary components of the deficit. Similarly, the impacts of discretionary fiscal policy and exogenous factors should be separated. This is demonstrated in Table 1.

The table appears relatively simple, yet it raises difficult questions. First, what time horizon is consistent with the definition of the "permanent" component? For instance, cyclical adjustment considers the economic cycle to be temporary, and thus it does not eliminate the "volatility" experienced on longer time horizons (T_5). As a result, convergence periods, absorption cycles, financial cycles and demographic volatility are partly included in the permanent component. In practice, cyclical adjustment captures only part (T_1) of medium-term volatility, since revenue windfall/shortfall unexplained by the cycle (T_2), effects of the surprise inflation (or disinflation) on

the primary deficit (T_3) and volatility of interest expenditure (T_4) are not included in the cyclical component.

The second question is how are temporary measures defined? It is possible to find here a deliberate confusion of one-off and individual items, the alternative to which would be addressing this issue at the most aggregated level (level of the budget balance). Practically, only self-reversing measures may be considered temporary (*i.e.*, the average of the actual balances and the (structural) balances, excluding temporary impacts, will be equal). The time horizon of self-reversal may be very long (a typical example is the outsourcing of government investments under PPP arrangements, the impact of which is reversed through repayments over decades). Self-reversing measures are often referred to as creative accounting (T_6), since they temporarily improve statistical indicators at the costs of the future deterioration. Deficit can be temporarily adjusted by delaying investment spending and reducing the fixed capital stock, even if maintaining its level is necessary (T_7). This measure is not automatically reversed; lower fixed capital stock can be maintained over a longer horizon.

Now we turn to a more detailed discussion of stock and flow indicators. We argue that one needs a comprehensive analysis of stock, flow and cash-flow data in order to achieve complete understanding of fiscal trends.

2.1 Stock indicators

The most used (by far) stock indicator is the level of gross public debt. A conceptual problem however is that it represents only one component of the balance sheet of the government. Net debt is a key indicator for assessing medium-term solvency, but longer term debt trajectories cannot be determined independently of the desirable level of other items in the balance sheet of the sovereign (*i.e.*, capital stock). Therefore changes to the inter-temporal net worth of the public sector might play an important role in aligning theory and practice in fiscal policy.

A practical problem is, however, that non-debt components of the balance sheet cannot be easily measured. Valuation difficulties are well known in this respect, since most of the assets and liabilities are, with the exception of quoted shares, not marketable:

- The value of a public company will be properly measured only when it is sold, generating privatisation revenue; this is not irrespective of how the government regulates the prices of services provided by these companies.
- It is also difficult to measure the value of loans and guarantees granted by the government; the simple cash-flow accounting employed the practical solution of considering both to be zero (Wattleworth, 1993). Consequently, lending for policy purpose is an item that increases debt and deficit, whereas guarantees are recognised only when called.
- The stock of government arrears is easier to measure, but was nevertheless omitted from the debt statistics, making it possible to rely on arrears to manipulate both the debt and the corresponding cash-flow financing requirement (Diamond and Schiller, 1993).
- Valuing the stock of public real assets is more difficult, since they are not marketable: have no secondary market or market value.[3] In the absence of such information, their stock can be calculated through estimates of their service life and by using various methodologies to calculate depreciation (e.g. linear or geometric depreciation assumptions) (Boskin et al., 1987). The stock of the fixed capital is not comparable across countries and their desirable level is also difficult to measure.

[3] There may, of course, exist country-specific differences; a common example, however, is a road network that is not marketable, due to which which the government will be the only potential buyer in the event of bankruptcy of a road built in a PPP contract.

- Augmenting the statistical indicator of the net worth, the net present value of future taxes and expenditure can be also measured in order to capture the impact of aging (Buiter, 1993). In spite of its theoretical advantages, this has a number of methodological issues that hinder its practical application. For example, the horizon for projecting revenues and expenditures may be subject to debate. Another question concerns realistic ways of considering parameters that limit expenditure growth (e.g. pension indexation, caps on entitlements). These may contribute to deficit and debt improvements, while the real value of certain expenditures may gradually diverge from economic performance and the distribution of this divergence at the level of individuals may be considerable.

As we have seen, the projection of net worth raises a large number of measurement and methodological questions. First initiatives have appeared in this area (Ódor, 2011 and 2014c), but introduction across all the EU Member States is not possible for the time being. Nevertheless, many of these criteria can be considered when setting the medium-term balance objectives (MTOs). As an additional country-specific criterion, the outstanding stock and the projection of financial and non-financial assets may be used. Admittedly, this would represent a deviation from the current weight of one third for the different factors; this question also requires further deliberation. FCs[4] could be relied on extensively in this respect, particularly as their independence and country-specific knowledge may be coupled with an interest in designing meaningful indicators, since they are in charge of checking that the objectives are set and delivered.

The market may of course consider that the desired level of debt would not be financeable. There are significant differences between countries in terms of the extent to which the markets are ready to finance them. Experience shows that sudden financing problems may lead to serious liquidity crises. One method of prevention is fiscal discipline, and another is transparency. Maturing debts and planned issuance should be continuously monitored to avoid surprises (more in 2.2.1), and it is also very important to constantly analyse contingent liabilities (including government bailouts in the financial system). For example, European Commission (2014) estimates potential bank bail-out costs to be covered by tax-payers of individual countries.

Our last point is that when legislating optimal debt trajectories, one has to consider also the political economy aspects of the problem. It is much better strategy to work together with all relevant political players than to impose fiscal rules from the centre. Intensive public discussions are also necessary to design long-lasting and strong domestic fiscal rules.

2.2 Flow indicators

2.2.1 Cash-flow financing requirement

Like in the case of private companies, basic stock and flow indicators are not sufficient to gain a complete picture of financial health. Cash-flow financing requirement and financing conditions can be used as starting point for identifying and managing fiscal risks. Basic cash data, debt redemption profiles or interest expenditure sensitivities can reveal information not available through gross debt figures or structural budget balances. Ódor (2014d) includes regular analysis of these variables in the risk assessment framework of the Council for Budget Responsibility. The new European fiscal framework goes in this direction when asking Member States to provide detailed debt issuance calendars.

Recent research at the intersection of macroeconomics and finance has brought a lot of dynamism into the analysis of the term structure of interest rates. Following Diebold and Li (2006)

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[4] In this paper we use the expressions "independent fiscal institutions" (IFIs) and "fiscal councils" (FCs) somewhat interchangeably.

it is relatively straightforward to link small scale yield factors model with parsimonious macroeconomic models. These approaches might be also helpful in analysing permanent and temporary components of interest expenditures consistent with equilibrium path of macroeconomic variables. For example independent fiscal institutions could develop these relatively simple tools. It is especially important in periods of "abnormally" low market interest rates or in situations, when creditors has agreed to grant grace periods or accepted terms and conditions much below the market level.

2.2.2 Statistical deficit

The System of National Accounts (SNA93, ESA95, SNA2008, and ESA2010) records stocks and flows within a consistent framework. Consequently, it defines a deficit (b_{ESA}) as equal to the change in the stock of financial assets and liabilities, excluding effects from revaluation. Thus, the proceeds of privatisation and the government's acquisitions of financial assets are financing items, excluded from the calculation of the deficit. On the other hand it includes all the temporary components shown in Table 1.

$$b_{ESA} - P_1 + P_2 + T_1 + T_2 + T_3 + T_4 + T_5 + T_6 + T_7$$

The first important step in designing better measures of the deficit would be to filter out creative accounting (T_6) in order to eliminate bad incentives in the conduct of fiscal policy.

2.2.3 Adjusted headline deficit

There are two possible solutions to replace the statistical approach, which is ineffective against creative accounting. One would be adoption of international public sector accounting standards (IPSAS Board).[5] The other would be the use of practical analytical indicators, such as those generated in the past by the Congressional Budget Office (CBO) in the United States.

A potential direction would be for the flow indicators calculated by independent institutions to eliminate creative accounting by identifying them from the stock side. The CBO's methodology defines creative accounting as "operations without significant economic impact" (Congressional Budget Office, 2002). The practical approach to this is a "standardisation" of the budget deficit. A Hungarian body of experts (KESZT, 2010) has proposed a similar solution. In essence, the proposal is to generate with - simple adjustments - a "normalised" cash-flow indicator that excludes any creative accounting.[6] This involves expanding the coverage of public finances to include public companies[7] (T_{6a}) and investments to include PPP projects as if the private partners in those projects were involved merely as the financing partner (T_{6b}), and spreading over time the capital revenues from sources other than the disposal of fixed assets, e.g., over the whole concession period (T_{6c}). It should be noted here that Magyar Nemzeti Bank has regularly published such an analytical

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[5] The advantages of the accounting approach include the fact that it is a harmonised methodology, it is compiled by an independent institution, and the principle of substance over legal form may be an efficient tool against creative accounting, which seeks to take advantage of regulatory loopholes (partly successfully in the case of statistics). This raises the problem, however, that a focus on substance may not be altogether simple in practice, as it can take forms that might appear arbitrary. It has a further advantage in that it would be possible to turn to the international accounting standards to adopt their solutions to the creative accounting methods imported from the corporate sector, to which the standards react relatively quickly.

[6] Cash-based accounting will provide sufficient information on the budgetary situation if: 1) the spending on public functions is included in the budget (there is no quasi-fiscal section); 2) the capital expenditures and revenues are related solely to fixed assets (there are no early lump-sum receipts of concession income); 3) expenditure and tax-reimbursement scheduling is adjusted to the customary deadlines (no delays); and 4) the real cost of state loans and guarantees is booked (as provisions raised) when they are granted.

[7] Quasi-fiscal activities are not recorded in deficit and debt figures; but they settled as capital transfers subsequently (much later, when the government assume the debt of the public company) (Stella, 1993).

indicator since 1998 (P. Kiss, 2011). This approach requires significantly fewer data and imposes fewer methodological requirements than the previous solution and therefore it would be more practical and more transparent for some of the countries.[8]

While it may not be optimal in terms of accuracy of the indicator, the approach has an advantage in its balance between robustness/stability and simplicity. There are clear trade-offs between accuracy and subsequent revisions (revealing skeletons in the closet.) This approach can be successful only if it employs "quick and dirty" solutions. If all PPP-investment appears in the deficit in real time and the deficit covers the financing need of the total public sector (PSBR), including state-owned companies, the room for creative accounting is limited. However, this simple measure cannot indicate and exclude the temporary savings related to insufficiently low levels of public investment, which should be done at the level of the underlying deficit (T_7).

$$b_{ADJ1} = P_1+P_2+T_1+T_2+T_3+T_4+T_5+T_7$$

An alternative approach coincides with the OECD definition of creative accounting, which states that these operations have no effect on the net worth of the government (Koen & Van den Noord, 2005). As seen above, the projection of net worth has appeared among the proposals (Ódor, 2011) and in the practice of the Council for Budget Responsibility. It has the advantage of being comprehensive: besides eliminating distortions that result from creative accounting, it is also able to identify the effects of changes in parameters affecting long-term expenditures (T_5), such as increasing retirement age. However, it may also have disadvantages, specifically the aforementioned valuation problem and the absence of the definition of a desired level of financial and non-financial assets. For this reason, it is unclear how capital spending should relate to the depreciation of the stock of fixed assets (T_7).[9] It may be useful to redefine boundaries of sectors, since some of the financial assets consist of assets of corporations providing public services, underlying which there may be public fixed assets or, just as likely, quasi-fiscal debt.

$$b_{ADJ2} - P_1+P_2+T_1+T_2+T_3+T_4+T_7$$

It should be noted that while b_{ADJ1} is a cash-based concept, b_{ADJ2} rests on accrual data.

2.2.4 Structural deficit – EU definition

Structural budget balances are designed to filter out cyclical fluctuations and one-off and temporary measures.

In the EU approach, the impact of each temporary measure is eliminated one-by-one from the structural deficit on the basis of consensus between the particular Member State and the Commission, although there are practical guidelines (Larch and Turrini, 2009). One criterion is that of size: only measures impacting over 0.1 per cent of GDP may be filtered out. Another criterion concerns the time horizon: measures may apply to one year or a few years at most. A third one requires that the focus should be placed on current items rather than capital expenditures. Finally, for reasons of prudence, items that increase the deficit should be omitted from the filtering exercise, or else they will be classified as "temporary" by the Member States. Clearly, these practical considerations are not suitable for filtering out the self-reversing measures and do not fulfil the requirements of theoretically sound principles, and as a consequence confusion of individual (I) and one-off measures could not have been avoided. In principle, distortive effects of

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[8] This method, however, does not filter out capital spending that falls short of the depreciation of fixed assets; that would be possible only at the structural deficit level.

[9] If the stock of fixed assets is at the desired level, then investments must be equal to depreciation. The latter estimate should be reliable, however.

creative accounting could have been corrected, but the criteria applied were only partly successful, if at all; the methodology does not treat quasi-fiscal activities properly, even though experience suggests that their impacts can be "outsourced" only temporarily. Some capital revenue, for example concession payments were filtered out from the deficit, but it was not spread over the whole concession period (T_{6c}).

$$s_{COM} = P_1 + P_2 + T_2 + T_3 + T_4 + T_5 + T_{6a} + T_{6b} + T_7 + I$$

An even more serious problem is that the cyclical component (T_1) is estimated with a weak and unstable methodology. The methodology to calculate structural budget balances - officially adopted on 12 July 2002 - remained unchanged as a production function-based output-gap approach (Denis, Mc Morrow and Roeger, 2002). Its components are:

- Cobb-Douglas production function,[10]
- NAIRU estimates based upon multivariate Kalman filter,
- total factor productivity estimated with a HP filter in the past and with Kalman filter currently.

The first step in the commonly agreed methodology is to estimate the output gap. A tendency observed here is that potential GDP estimates subsequently proved to be overly optimistic (Larch and Turrini, 2009). Most Member States experienced a high rate of growth in the late 1990s that was not sustainable, since it was partly linked to the dot-com bubble. The key problem is to separate the trend from the cycle in real time. As a result of the erroneous estimates, several countries followed fiscal policies between 1994 and 2006 that were intended to be counter-cyclical, but often proved to be pro-cyclical subsequently – after downward revisions of growth (Forni and Momigliano, 2004; Cimadomo, 2008). The 2007–2012 crisis, in part correlated with the housing market bubble, also led to a significant downward revision of GDP and potential output. The methodology for estimating the output gap has remained unchanged; therefore, the same scenario could easily happen in the future. As Ódor (2014a) show in many cases the uncertainty around the estimates of the change in structural balance in Europe is higher than 0.5 per cent of GDP, which is the benchmark against to which it should be evaluated. Moreover as we mentioned earlier, financial cycles, absorption cycles or for example commodity price cycles can all have important effects on budget balances over and above the impact of traditional business cycles.

The other pillar of the methodology – or, in Larch and Turrini's words, its other Achilles' heel – is the constant overall budgetary sensitivity. As early as 2000, the Commission identified that the elasticity between GDP and the tax bases was fundamentally determined by the nature of the shock in the economy, and it even prepared an estimate for this (European Commission, 2000). This was against a background of tax-rich economic growth in many countries in the late 1990s, with booming private consumption as an underlying factor.

Another problem is the inability of the commonly agreed methodology to filter out all exogenous effects. This even exists with the ECB method (Bouthevillain et al, 2001), which takes composition effects into account. If tax changes are adjusted to changes in discretionary measures as well as to the cyclical component estimated with the ECB method, there remains an unexplained (*windfall/shortfall*) component (T_2) (Morris et al., 2009). In Germany, Spain, France, Italy and the Netherlands, profit taxes proved volatile; this was attributable partly to the changes in revaluation profits and write-offs.[11] In Ireland and Spain, the housing market bubble resulted in fluctuations in indirect taxes, which were more volatile than the household consumption taken into account by the ECB for cyclical adjustments. Two proposals were put forward to resolve this, but neither was used in practice. One would have eliminated the "dividend" effect of inflation, which may have

[10] Methodological problems and consequences on fiscal policy are discussed in Godin and Kinsella, 2013.

[11] All this generated tax windfalls in 1999-2000 and 2004-2007, as well as tax shortfalls in 2004-2007.

contributed to the fact that tax revenues differed from the forecasts (Buti and Van den Noord, 2003). This was computed as the difference between the officially projected rate of inflation and the rate of inflation that is consistent with normal capacity utilisation. This, however, would not have eliminated the effects of the housing market bubble nor would it have estimated the short-term impacts of surprise inflation (T_3). By contrast, the other proposal suggested adjusting the absorption cycle itself (T_5) (Lendvai et al., 2011). It used a somewhat arbitrary definition of absorption gap, although in theory it interpreted potential absorption as an indicator that is in line with potential output and the external position consistent with the fundamentals (the balance of payments). The disadvantage of this approach is that it determined the absorption gap as a deviation with respect to norms rather than deviations from trends, as a result of which the correction lacked a zero mean. Moreover, the norms are period- and country-specific (Langenus, 2013).

In spite of cyclical adjustment being considered one of the Achilles' heels of the framework, as seen above, the methodology was not modified. Instead of improvements to the indicators, the rules were changed. The "Six-pack", in effect since 2012, requires that the analysis of expenditure net of discretionary revenue measures be included in the assessments carried out by the preventive arm. Until the MTO is reached, the growth rate of primary expenditures must not exceed the medium-term reference rate of potential GDP growth.[12] The extent to which the growth rate of government expenditures must remain below the medium-term reference rate of potential GDP growth should be defined so that it can ensure sufficient progress towards the medium-term objective. Expenditure growth in excess of the rate thus defined must be offset by the discretionary increase in revenues, whereas discretionary revenue cuts must be compensated for with cuts in expenditures. Since the tax revenue changes are calculated "bottom up", this can be a complementary solution for cyclical adjustment shortcomings regarding the composition effect of tax bases and the volatility of taxes (windfall/shortfall). Nevertheless, the estimation of potential GDP remains an unsolvable problem in this framework as well.

2.2.5 Structural deficit – medium term orientation

We have seen above, how adjusted headline indicators are able to eliminate the effects of creative accounting. However, adjustments to other factors may be needed as well. Factors exogenous to fiscal policy include natural disasters and the budgetary effects of court rulings. A backward-looking moving average may be proposed here; it will filter out only genuinely significant impacts and will not deviate the structural deficit from the actual deficits across the period as a whole (Hoffmann and P. Kiss, 2010). However, a deliberate confusion of individual and one-off measures should be avoided. Below a certain level of aggregation, every item may be deemed arbitrarily as "individual", whereas in the more aggregated approach they may be mutually offsetting (Hoffmann and P. Kiss, 2010).

Cyclical adjustment has an inherent problem in that potential GDP is an unobservable variable, and its estimate may be revised at any time, in light of new GDP figures, due to endpoint uncertainty. The IMF methodology represents one kind of solution: it takes into consideration the historical correlation between short-term GDP revisions and long-term revisions in potential output to reduce the estimation error in potential GDP (Tereanu et al., 2014). Another possible solution is to find a method that minimises the joint uncertainty coming from the choice of model and from parameter updates with new data. Cheremukhin's (2013) method in the United States is an

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[12] Eligible for deduction from the primary balance are expenditures on EU programmes that are fully offset by revenues from EU funds; furthermore, unemployment benefit expenditures exclude the non-discretionary changes (which are taken into account in cyclical adjustment). The assessment must consider the potentially very high variability of investments, especially in the case of small Member States.

example. Nevertheless, since the possibility of significant revisions cannot be fully excluded, this could be managed with an escape clause to the fiscal rule.

P. Kiss and Vadas (2006) proposed solutions for other problems of cyclical adjustment.

- Similar to the Commission's methodology, the starting point is the Cobb–Douglas production function. Since the aggregate output gap equals the weighted sum of income gaps from labour and capital, it can be disaggregated into tax bases related to capital and labour. A standard consumption function may then be used to connect wages and potential consumption values on a theoretical basis. The authors have proposed a multivariate HP filter to link the above equations, with an aggregation limit added. Besides the theoretical foundations, this is more advantageous than the ECB's HP-filtering because it does not rely on extending the time series to close the gaps. Instead it uses the information included in the output gap as regards the cyclical situation.
- However, the composition effect of different tax bases will have an automatic distortion effect as different deflators are used to generate the corresponding real variables. This composition effect is easy to adjust for with the price gap between the consumer price index (CPI) and the GDP deflator, which is applied to adjust labour and consumption-related revenues. The price gap can also partly removes fluctuations in taxes caused by surprise inflation or disinflation (T_3).
- The private and the government part of labour and consumption tax bases and revenues must be disaggregated. As in the ECB method, it is assumed that the indirect taxes and contributions paid by the government and the direct taxes and contributions paid by public employees have zero elasticity (just as these government expenditures consistently have); in other words, they are not dependent on the cycle. This considerably reduces the budgetary impact of the cycle.
- A number of biases in elasticity between taxes and tax bases are highlighted. Note, for example, the effect of the nominal parameters of the tax regime (minimum values, tier boundaries, caps) and regulations causing asymmetry (e.g. carry-forward losses). All this necessitates updating the calculation/estimation of the elasticities each year. It may also partly reduce the volatility of taxes (windfall/shortfall) still remaining after cyclical adjustment.[13]

$$s_{ALT} = P_1 + P_2 + T_5 + T_7$$

The Council for Budget Responsibility currently uses the methodology developed by Kiss and Vadas (2006) to cyclically adjust budgetary figures. The aggregate output gap used is a result of an "estimate combination" (Ódor, 2014d) utilising various methods and information sets. Robustness is very important when the final estimate can have substantial welfare implications (by triggering correction mechanisms).

Finally, some part of interest expenditures can also be regarded as temporary (T4). Especially after large shocks or regime changes. In order to estimate the transitory component, one can use the methodology mentioned in 2.2.1.

2.2.6 Underlying deficit – longer term approaches

The long-term orientation of the fiscal policy can use b_{ADJ2} indicator as a starting point, since it adjust the deficit with the future costs of ageing (T_5). However, long-term volatility cannot be properly filtered out by using any cyclical adjustment methods. Convergence periods, absorption and financial cycles should also be taken into account.

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[13] Since EU Member States have to calculate the tax revenue changes in a "bottom up" approach, this can be a complementary solution for reducing unexplained windfall or shortfall.

Table 2

Better Flow Indicators

	Current Methodology	Alternative 1	Alternative 2
Headline deficit	$b_{ESA}= P_1+P_2+T_1+T_2+T_3+T_4+T_5+T_6+T_7$	$b_{ADJ1}=b_{CASH}-T_6$	$b_{ADJ1}= b_{ESA}-T_6-T_5$
Structural deficit	$s_{COM}= P_1+P_2+T_2+T_3+T_4+T_5+T_{6a}+T_{6b}+T_7+I$	$s_{ALT}= P_1+P_2+T_3+T_7$	
Underlying deficit			$u_{ALT}= P_1+P_2$

$$u_{ALT} = P_1 \mid P_2$$

The last temporary item unfiltered so far is the difference between actual and "desirable" optimal level of investment (T_7).[14] It is a difficult exercise, but international comparisons, analysis of amortisation or calculation of marginal products of capital might shed some light on this issue. A less ambitious approach would be to take into account only changes to the "usual" level of maintenance costs in the budget.

After proposing better fiscal indicators and methodologies, now we turn to the description of a more de-centralized system of fiscal responsibility in the euro area.

3 Proposal for a new fiscal framework

The current benchmark methodology to identify structural budget balances in the European Union have the following main shortcomings (Marčanová and Ódor, 2014):

- no role for financial or absorption cycles,
- output composition does not matter,
- no clear and consistent definition of one-offs; actually it is not possible to get detailed information about one-offs based on the methodology of the EC ,
- no time-varying budgetary elasticities (important if there are legislative changes),
- high sensitivity to data revisions, since are based on GDP data,
- no adjustments to interest expenditures (as indicated in 2.2.1),
- end-point problems of the HP filter.

Instead of introducing more and more new rules, suitable fiscal indicators should once again be defined; this can result in much simpler and more consistent rules. The following section offers an overview of a comprehensive set of indicators suitable for introduction and the role that the independent FCs could play at this juncture. After all, not even a decade and a half has been sufficient to find the right solutions for certain fundamental problems at the community level.

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[14] Currently there are discussions at the EU level to exclude part of co-financing to European investments from the application of the SGP.

Table 3

Weaknesses of Currently Used Indicators

Main Problems	Possible Remedies
Partial coverage of discretionary action	- use of public sector balance sheets - international accounting standards (substance over form) - analytical indicators covering quasi-fiscal activities
Over-reliance on (extremely uncertain) real-time estimates of the output gap	- robust estimates: battery of methods - *ex ante* evaluation mainly or longer *ex post* horizons - disaggregated methodology for CAB - bottom-up crosschecks
Not consistent and transparent identification of one-off and temporary measures	- full disclosure of one-off items - consistent methodology (only self-reversing measures are considered)
No adequate focus on cash-flow figures	- more emphasis on medium-term solvency - sensitivity analysis of interest expenditures

3.1 Pillars of the new framework

This section presents a framework that is based on theoretical considerations, covers the whole scope of fiscal policy, and takes advantage of the synergies between fiscal rules and independent fiscal institutions both at the national and European level. Before presenting the main building blocks of the proposal, it is important to stress that country-specific rules are superior to one-size-fits-all approaches.

As far as the optimal theoretical level of public debt is concerned, the literature does not offer clear-cut recommendations for policy makers. It is however clear from theory that optimal sovereign debt trajectories are country-specific and depend on a complex array of variables. Higher public debt, on the one hand, can bring the economy to the optimal capital level and increase welfare. Further, it allows consumption smoothing by lifting liquidity constraints on some households, which are subject to idiosyncratic shocks. Another benefit from higher debt is the deepening of domestic capital markets by facilitating precautionary savings. Both short-run and long-run welfare effects of debt depends on the income inequality (Röhrs and Winter, 2014). On the other hand, increasing levels of government debt are obviously not without costs. Higher market interest rates can crowd out private investments, distortionary taxation used to finance debt is lowering welfare and lower wages in equilibrium can be also mentioned as a cost. As Vogel (2014) illustrates, wealth inequality can also be an important factor affecting optimal debt levels. It is thus not surprising, that optimal values of debt in strictly theoretical models vary between a substantial negative amount (accumulation of assets) and a large positive value, for instance, 60 per cent of GDP in Aiyagari and McGrattan (1998).

Another very important theoretical lesson is that after a shock to the debt level, it is not optimal to make immediate and complete adjustment. Instead, efforts should be made to achieve tax smoothing (Barro, 1979). Kirsanova et al. (2007) show that in many models, optimal fiscal policy would involve steady-state debt following a random walk in response to shocks. A

prerequisite for this, however, is a benevolent policy maker and a pre-shock debt level that is not excessively high and market expectations that are well anchored even after the shock. Otherwise, a sudden increase in risk premia may easily lead to a loss of confidence in the government debt markets. In other words, designing optimal consolidation paths is also a difficult exercise, where strict fiscal rules are unlikely to help.

The International Monetary Fund has collected some evidence concerning "excessive" debt levels over the years. A debt-to-GDP ratio of 60 per cent is quite often noted as a prudential limit for developed countries. For developing and emerging economies, 40 per cent is the suggested debt-to-GDP ratio that should not be breached on a long-term basis. A strand of the literature also focuses more on debt sustainability and government defaults rather than on optimal debt levels. For example Bi and Leeper (2013) calculate "fiscal limits" as probabilistic distributions (instead of fixed debt-to-GDP ratios) dependent on Laffer curves and economic shocks.

From a purely practical point of view, we know that countries often have persistent deficits and rapidly increasing debt levels even in normal times. The literature calls this phenomenon as "deficit bias". There can be many reasons for such a behaviour (Calmfors and Wren-Lewis, 2011): myopia, informational asymmetries, impatience, electoral competition or for example common-pool theory. The important point here is that the most important reasons for "fiscal alcoholism" are often country specific or even time-varying. For example, different degree of credibility, forms of governance and political set-ups all require tailor-made solutions.

To sum up, both theoretical (optimal debt trajectories and speed of debt adjustments) and practical (source of deficit bias) considerations point toward a need for country-specific fiscal rules. One-size-fits-all solutions can easily be sub-optimal at individual country level. The discussion above illustrates that there can be significant synergies between fiscal rules more aligned with theory and independent fiscal institutions. Optimal debt trajectories, consolidation paths or elimination of information asymmetries are all areas, where fiscal councils can have high value added.

Believed to guarantee a better division of labour between the national and the community levels, our proposed framework has the following main components:

- country-specific "optimal" stock indicators as long-term targets,
- analytical flow indicators, consistent with the above, as medium-term objectives,
- expenditure rules as instruments to achieve those targets,
- independent national fiscal institutions as the first-line supervisors of these indicators and rules,
- second-line supervision at the community level,
- simple EU fiscal rules,
- independent European fiscal watchdog.

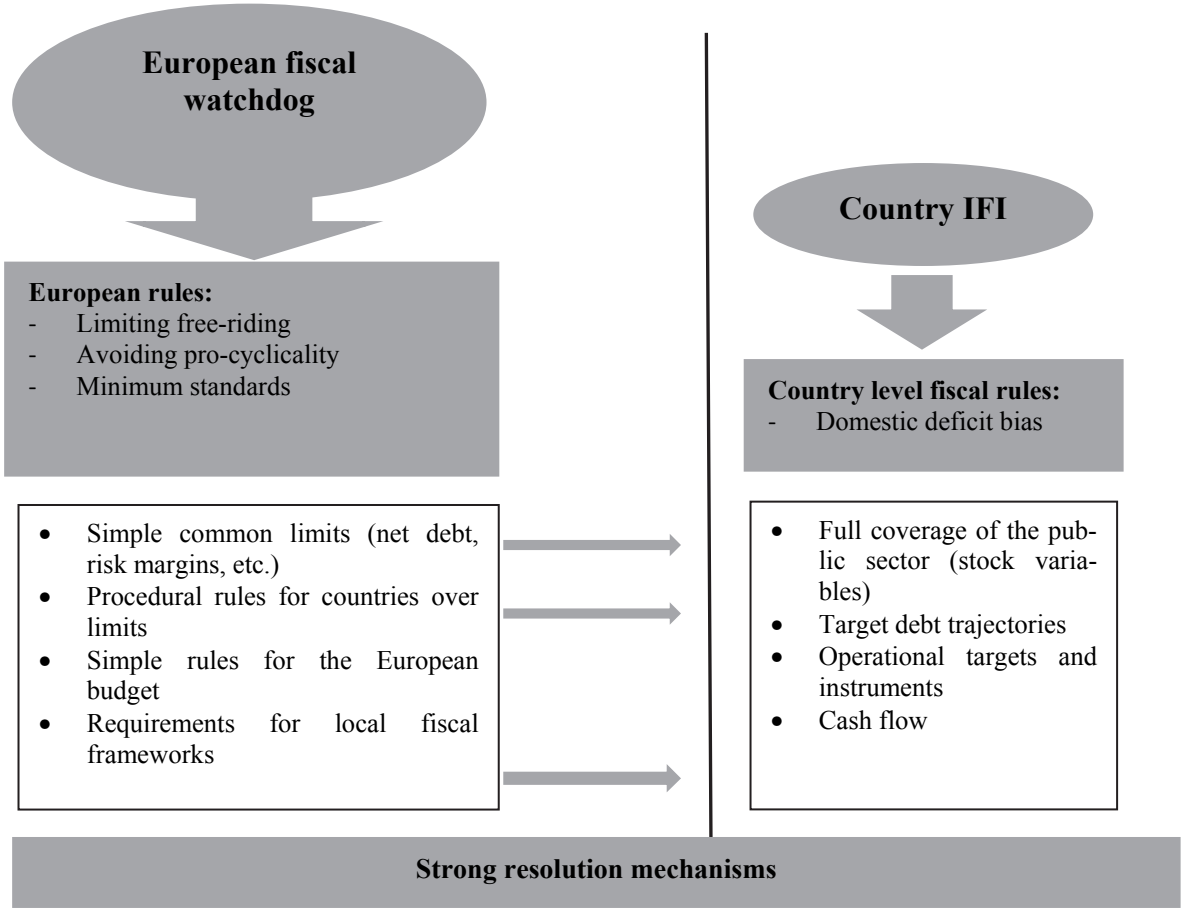
This framework avoids the community-level dilemma between international comparability and an economic policy tailored to a particular country, which frequently led to the unenforceability of the rules.

3.2 Country-specific targets and instruments

While the design of local fiscal frameworks depend very much on country-specific circumstances, including basic institutional characteristics and pre-defined politically-decided objectives, it might be useful to characterize the potential main building blocks. Here we describe three important elements in more details: long-term debt trajectories, medium-term objectives and yearly expenditure limits as instruments.

Figure 1

Alternative Fiscal Framework for the Euro Area



3.2.1 Debt trajectories

"Optimal" debt trajectories should be based on analytical work (with an active participation of FCs), but also have to take into account political economy considerations. It is far from easy to combine long-term stability (anchor) with medium-term flexibility to avoid sub-optimal fiscal policy.

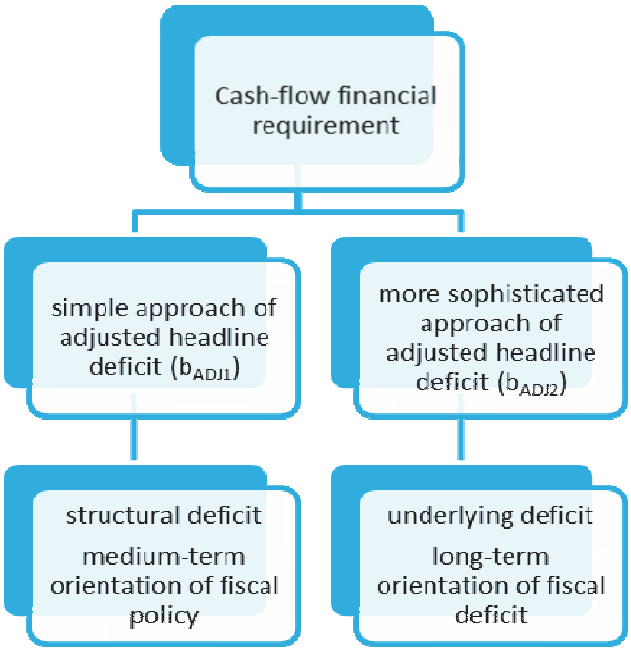
When designing fiscal rules with debt trajectories, the following seems to be necessary:

- analysis of the whole inter-temporal balance sheet of the public sector (including contingent liabilities),
- calculation of country-specific fiscal limits, sound debt levels,
- investment needs of the country,
- definition of escape clauses, automatic correction mechanisms, monitored by FCs,
- high legal power of the law.

The basic function of debt trajectories is to have a clear and commonly agreed long-term anchor for fiscal policy, written preferably in a constitutional law. To avoid medium-term pro-cyclicality, well-defined escape clauses are necessary, but with an active participation of independent fiscal institutions to ensure counter-cyclicality also in good times.

Figure 2

Selection of Country-level Fiscal Indicators



3.2.2 Medium-term objectives

The debt trajectories should *not* be used as medium-term operational targets for fiscal policy. They should be "translated" into the level of the structural/underlying deficit. Fiscal councils have to check to what extent are these objectives in line with debt trajectories embedded in higher level legislation.

However, while structural or underlying deficits are easy to construct *ex ante*, the *ex post* evaluation is problematic. It can be done only on a longer time horizon (at least a full business cycle), drawing conclusions in real-time is almost impossible. That is the reason, why we recommend using expenditure limits as operational instruments. In good times they limit over-spending, while in bad times allow deficit to increase. It is important to stress at the outset that expenditure ceilings should take into account discretionary revenue measures to avoid politicization of the concept. Of course, appropriate escape clause should be defined, again with a monitoring role of fiscal councils. To avoid unpleasant surprises, the best practice would be to include also non-allocated buffers in expenditure limits with a size of tenths of percent of GDP.

3.2.3 Expenditure rules

Expenditure rules should cover multiple years by regulating the annual rate of growth in primary expenditures (excluding interest expenditure) or setting a spending cap for every year (Ódor and P. Kiss, 2011).

If applied in a credible framework, the expenditure rule (Ódor and P. Kiss, 2011) may also eliminate the distortions originating from tax volatility, as it adjusts the expenditure growth rate, not with the change of cyclically adjusted revenue but the estimated effects of discretionary tax measures. The FCs may play an especially important role here, as they have appropriate

information at their disposal to perform this task. As mentioned before, estimating potential GDP will also remain an unresolvable problem in this framework, even though it is the benchmark for expenditure growth. Its minor revisions may be solved with a spending reserve[15] and major revisions with an escape clause. Further investigations will be necessary to decide whether the rule should apply to the total primary expenditure or should handle intra-governmental transfers to municipalities and investments separately (Ódor and P. Kiss, 2011).

As has been seen, investments represent a special category, since they are closely related to a specific stock indicator and can be directly compared to the rate of depreciation. Savings in investments may be feasible on the short term, but this will not be acceptable for the purposes of either the structural deficit as a medium-term target indicator or the expenditure rule as instrument. If the objective is, for instance, to prevent the stock of fixed assets from decreasing, then a shortfall of investment spending compared to the level necessitated by depreciation may be interpreted as temporary, and cannot be used for increasing current expenditure.

The treatment of inflation may nevertheless pose a problem in the case of the expenditure rule. In principle, inflation volatility may affect the primary balance as well. An example is the so-called inflation dividend, which is the budget revenue impact of the "inflation gap", defined as the difference between the actual and the ECB target for the Eurozone countries (Buti and Van den Noord, 2003). An expected rise in inflation would, in fact, have an impact on the primary balance only if the government were to decide that it would not compensate for the loss in real value of expenditures from its extra revenues (P. Kiss, 2007). This, however, is not permitted under the expenditure rule, since it automatically increases the expenditure budget with the expected rate of inflation. The case of surprise inflation is different. The question here is whether the expenditure reserves are sufficient to offset the effect of the higher inflation and whether its compensation is obligatory. Another question is whether expenditures should be reduced in the event of, and consistently with, lower inflation, and thus the reserves increased.

3.3 The role of fiscal councils

Today it is recognised almost universally that independent central banks, simple rules and a high degree of transparency play an essential role in monetary policy. In spite of the fact that the crisis has engendered new problems in monetary policy as well, Ódor (2014b) considers it important that synergies between independent institutions and simple rules should have a stronger role also within fiscal policy. However, as fiscal policy has greater distribution effects than monetary policy, the scope of the role assigned to the independent FCs should be carefully considered. For example, it is not recommended to authorise an FC to legislate.

The following presents areas where independent fiscal institutions might help to reduce the deficit bias to a significant degree. One of the most important lessons from the recent years has been the recognition that the FCs are able to mitigate several of the trade-offs created when fiscal rules are defined. Three such trade-offs should be mentioned here. The first is the tension between flexibility and enforceability. If the rules are too flexible, they will never be enforced. If they are too inflexible, however, they may trigger a number of situations in which compliance with them would require pro-cyclical fiscal policy. Independent institutions acting as referees may provide a solution to this problem. The second trade-off lies between simplicity and electoral support. While simple rules are easy to circumvent, voters are unlikely to understand the complex ones. Fiscal council may have a role here as well: if adequate fiscal indicators are defined, no loopholes will be found, even if the rules are simple rather than complicated. Portes and Wren-Lewis (2014)

[15] Its size may be determined in a country-specific way, similarly to the estimated safety margin for the MTO.

emphasise a third trade-off, one between optimality and efficiency. As in the above, an independent institution will be able to mitigate this problem as well.

The FC's theoretical role is normally subdivided into three specific areas (Ódor, 2014b):

1) the interpretation and communication of fiscal policy,
2) the evaluation and monitoring of the fiscal rules,
3) an analytical (expert) role.

The model proposed in this article covers each of those three areas. The FC fills the first function by estimating public sector net worth and evaluating the escape clauses. It performs the second role as it carries out *ex ante* and *ex post* assessments of compliance with the proposed fiscal rules. And it fulfils the third function when it calculates the structural or underlying balance, estimates the effects of discretionary measures, or, as the case may be, defines the optimal debt path.

This issue become more complicated when we consider reforming the community level instead of the national level. Ódor (2014a) criticises the fiscal framework operated at the community level. One considerable problem is that the loss of credibility due to disregard of the "no bail-out" clause cannot be restored by creating an overly complex system with an increasing number of rules. Although independent fiscal institutions have been given a more important role, there remain a large number of country-specific issues where the focus is (more or less successfully) on comparability among countries rather than the provision of the best possible estimates.

3.4 Local vs community level

The problem of a deficit bias in currency unions can pop up both at the local level and the level of the whole area ("common-pool problem squared"). In our view the obvious approach would be to build a hierarchical system of responsibilities. When there is no sign of free-riding behaviour with a potential contagion effects, the national level should be responsible for fighting against the local deficit bias. In that case country-specific, tailor-made solution should be designed (also more in line with theory).

Area level rules and institutions should primarily focus on problems concerning common interest. High on this list is possible contagion, free-riding behaviour or for example counter-cyclical aggregate fiscal policy. In order to have an efficient division of accountability, one has to have a clear view on three important ingredients: i) resolution mechanisms, ii) area-wide fiscal rules and iii) fiscal institutions. In turn we discuss all three of them, including possible inter-linkages and synergic effects.

Resolution mechanisms, limiting moral hazard, are one of the most important cornerstones of a well-functioning currency union. The degree of central control varies considerably within existing federations. One extreme possibility is a reliance purely on market discipline, *i.e.*, having a credible no bail-out policy (like in the US). The other extreme is full solidarity between Member States, when bail-out is widely expected. It should be noted that the design of area-wide fiscal rules is heavily dependent on the approach chosen. In the former case almost no monitoring from the centre is necessary, while if one chooses the latter approach, very detailed rules and coordinated fiscal policy are necessary to avoid moral hazard. The current situation in the euro area is somewhere between these two extremes. Europe is balancing between the low credibility of the no bail-out clause in the Treaty and the need to avoid free-riding. As Ódor (2014a) argues, since the sovereignty principle is still in place, it would be a better strategy to move closer to a more de-centralised system through instituting bail-ins, clear resolution mechanisms and *ex ante* rules for

sovereign debt restructuring. One should however note that strengthening the no bail-out clause is not possible without sound macro-prudential policies and an effective banking union. Even if it is unlikely to achieve full credibility of the no bail-out principle like in the US (at least in the medium-run), the more losses are absorbed by creditors, the easier is the design of fiscal rules at the community level.

In the case of a fully credible no bail-out clause, centrally imposed fiscal rules on Member States are not even necessary. If the euro area is successful in putting in place clear rules for burden sharing, banking union, debt restructuring with a strong backstop mechanism, the current trend of legislating more and more complex fiscal rules can be reversed. In our view, in that case it would be sufficient to operate with one or two simple rules. These rules should *not* target yearly balances in national budgets. Instead, they should fight against deficit bias occurring at the area level. One can imagine various possibilities suitable for this purpose: debt levels, sustainability indicators or, for example, sovereign risk indicators. It is important, however, to design rules not with a target level, but rather as a maximum value tolerated by the community. Countries operating below these thresholds would be free to conduct their fiscal policy if respecting minimum benchmarks (the universal 3 per cent deficit limit can be abolished). However, after breaching the limits, oversight from the centre should step in. The sovereignty principle should be significantly reduced above the agreed limits. This is a price Members States should pay for possible bail-outs.

In case of the institutional set-up, important changes are necessary to make the framework more credible. As it was indicated above, the failure of the one-size-fits-all approach in a currency union calls for a more de-centralised system of fiscal responsibility.

Under such potential division of labour, the community level would serve three important functions. One would be the supervision of national frameworks. Rather than analysing national budgets every year, this would involve the defining of minimum standards applicable to national fiscal frameworks. An EU-level process would be triggered only in the case of gross policy errors at the national level. Minimum standards should include:[16]

- rules for transparency,
- requirements to present indicators covering the whole public sector,
- basic remit of local IFIs, including long-term sustainability reports,
- professional requirements for IFI council members,
- independent financing of IFIs.

Second, the community level should have the power and the capacity to start a program for those countries breaching maximum limits set by the EU, *i.e.*, operating with gross policy errors. Here the sovereignty principle should be relaxed substantially.

Third, the community level would have an additional role if and when fiscal rules were to be extended to the EU budget in the course of further integration.

Last but not least, such a change would raise the question of who should exercise oversight over the supervisory institution. As mentioned before, one option is to involve the community level. Of course, there are other solutions as well: for instance, national parliaments or international networks (an organisation of FCs), or perhaps one of the EU institutions. The best solution would most likely entail an independent fiscal institution at the community level, one that is not subject to the sort of political pressure that the Commission is. This institution would monitor the national FCs and would itself report to a committee appointed by the European Parliament.

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[16] The OECD Principles for Independent Fiscal Institutions (2014) can serve as an excellent starting point.

3.5 European fiscal rules

Depending on the strength of the resolution mechanisms and the future design of a fiscal union, the euro area needs two types of fiscal rules. The first set should tackle potential free-riding behaviour in a monetary union. The second set should ensure counter-cyclical policy of the common European budget.

The last changes to the European fiscal architecture have brought unnecessary complexity to the landscape of fiscal rules. Instead of focusing on gross policy errors (the initial objective of the SGP), the community level is now involved in fine-tuning national budgets. This is in our view not a sustainable solution. Rather, our proposal is to have a clear division of responsibilities between the centre and national authorities. The European level should focus on deficit-bias arising at the community level (free-riding), while the primary role of national fiscal frameworks should be fight against deficit-bias at local level.

The stronger and more efficient are the resolution mechanisms, the less need is to interfere with national budgets. The prime example is the US, where the strong and credible no bail-out rule eliminates free-riding, so there are no fiscal rules imposed at individual states from the federal level. However, it seems to us that this solution is not feasible in the medium-run in Europe, so we see some role for SGP-type of agreements with an aim to correct gross policy errors. On the other hand, the current overregulation with fiscal rules is clearly sub-optimal.

What kind of indicators can signal free-riding? We see three possible avenues. The first option is to use some kind of stock variable. The current limit on nominal gross debt is a good starting point. One can imagine various improvements by adding more assets and liabilities, however only if clear valuation principles and independent reporting are available. Various forms of net debt can serve this purpose relatively well. The main problem however is in the definition of "dangerous" limits. As we argued earlier, one-size-fits-all rules in a diverse monetary union are sub-optimal. On the other hand, the status quo with a 60 per cent ceiling for gross debt shows that from a political point of view, equal treatment is very important.

The second possibility we see is using sustainability gaps as limits. Since these are expressed in relative terms, the problem of different optimal thresholds for different countries is mitigated. On the other hand, calculating infinite horizon fiscal gaps is a tricky exercise. Fortunately there is an agreed methodology at the European level and countries are routinely evaluated based on this indicator. Its level is used with a 1/3 weight in the calculation of the medium-term objective (MTO).

The third possibility is a reliance on market valuation of debt instruments. It should be expressed as a margin over safe bonds, preferably European bonds issued by the central authority. It of course requires stronger integration – some form of fiscal union.

To sum up, with strong resolution schemes in place, European fiscal rules targeting free-riding behaviour can be radically simplified. All what is needed is a limit over which community level authorities step in to interfere with the national budgetary process. Below these thresholds, national parliaments are free to choose their fiscal targets; however above those limits national sovereignty should be substantially curbed. The European-wide limit should be set on some form of net debt, fiscal gap or risk margin on debt instruments.

Sustainability is just one goal of fiscal policy in a monetary union. One also needs counter-cyclical fiscal policy and risk sharing mechanisms. Currently there is an ongoing debate about delegating more fiscal power to the centre. The size of the European budget is small (1 per cent of GDP) and focuses mainly on structural issues and the common agricultural policy (CAP). The budget is always balanced. In order to allow for more risk-sharing between countries, one can imagine a stronger role for central redistribution of funds and use of European level automatic

stabilizers or discretionary fiscal policy. According to Allard et al. (2013), a central budget with few percentage points of EU GDP would be capable of much better risk-sharing. The obvious candidates for central expenditures are: defence spending, R&D, infrastructure investment or for example common unemployment insurance or pension system. It would be financed by EU taxes.

If a stronger fiscal union is created, there will be room for counter-cyclical fiscal policy. Either via automatic stabilizers or discretionary policy action. The central authority would be able to issue debt against its revenues in bad times and pay it back in good times. One positive side-effect would be the creation of safe assets for the financial sector. One or two simple fiscal rules and an independent EU fiscal watchdog would be in our view enough to ensure sustainability and counter-cyclicality. Balanced budgets over the cycle or a low debt limit are the most obvious options to consider.

4 Conclusions

This paper offers three main conclusions. Firstly, a well-functioning currency area needs a clear separation of accountability. The complex set of hardly-enforceable rules and procedures and overlapping responsibilities of various institutions in Europe is far from optimal. One needs to eliminate path-dependency with a radical cut. It will be necessary to build – alongside with discussions about resolution mechanisms and a stronger fiscal union – a fiscal architecture, which is not only more in line with theory, but also maximizes synergies between fiscal rules and fiscal institutions. We argue for a decentralized fiscal framework with different objectives and instruments for the national and the community level.

Secondly, the importance of the one-size-fits-all approach should be significantly scaled down. Optimal debt trajectories, sources of local deficit bias are all country-specific and also time-varying. No single methodology can do justice in a diverse currency union.

The third point is that, in order to design more effective fiscal frameworks, we need to go back to the basic question of measuring fiscal performance. No fiscal rule can operate well without measuring the true fiscal position. The appropriately corrected headline indicators are expected to eliminate the effects of creative accounting, while more precise structural or underlying balances are necessary to filter out all exogenous factors. In both cases, independent fiscal institutions might play an important role. However, the estimation of potential output will still remain inherently uncertain, so the focus should be on employing methods which require fewer revisions or creating budgetary reserves to deal with the uncertainty.

This paper should be viewed only as a conceptual starting point for a more de-centralized fiscal framework in Europe. More work needs to be done to design a fully-fledged proposal. Obviously the solution will depend on a final agreement about resolution mechanism or risk sharing mechanisms through the European budget. Deeper analysis of the following elements will be also crucial in our view: i) designing a realistic transition phase from one regime to the other (including an analysis of potential legal obstacles), ii) empirical research on optimal debt levels and fiscal limits, iii) improvements in accounting standards and their actual implementation and iv) relaxation of the sovereignty principle in case of gross policy errors.

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REFORMING FISCAL GOVERNANCE IN THE EUROPEAN UNION

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The global financial crisis and its aftermath have tested the European Union's (EU) fiscal governance framework. The framework in place before the crisis had been useful to improve fiscal policymaking and coordination, but it ultimately did not prevent the buildup of fiscal imbalances. Public debt soared following the crisis in 2008 to an average of 95 per cent in 2014 – almost 30 percentage points above average precrisis levels. The experiences during the first decade of the European Economic and Monetary Union (EMU) and the euro area crisis led to major changes to the framework, including the 2005 reforms, the 2011 Six Pack, the 2012 Fiscal Compact, and the 2013 Two Pack. The successive reforms have helped to strengthen fiscal policy guidance, but they have also made the framework significantly more complex and difficult to operate, and concerns about compliance remain.

The purpose of this paper is to present options for simplifying the EU fiscal governance framework while enhancing its overall effectiveness. The current framework involves an intricate set of fiscal constraints. For example, both the preventive and corrective arms of the Stability and Growth Pact (SGP) constrain fiscal policies of EU member states through various targets, upper limits, and benchmarks. Fiscal policies are further constrained by the Fiscal Compact, which required countries to put in place national rules to ensure convergence toward medium-term objectives (MTOs). Overall, the framework has helped to strengthen policymaking and coordination, but compliance has remained weak, and the SGP's complexities have hampered effective monitoring and public communication.

The options presented in this paper would address these issues. In particular, they would:

- ***Simplify the overall fiscal governance framework design**. An ambitious approach would involve merging the preventive and corrective arms of the SGP, and replacing it with a simple two-step procedure based on a common set of rules; this may potentially require substantial legal changes, including treaty changes. A less ambitious approach would seek to enhance the consistency between the two arms across different targets, upper limits, and benchmarks.*
- ***Introduce a single fiscal anchor with a single operational rule**. The paper argues for moving to a two-pillar approach with a single fiscal anchor (the public debt-to-GDP ratio) and a single operational target (an expenditure growth rule, possibly with an explicit, that is, formal and deterministic, debt-correction mechanism) linked to the anchor. This approach would help to safeguard fiscal sustainability and macroeconomic stability, while also facilitating monitoring and public communication.*

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- ***Further bolster enforcement****. Several additional steps would improve implementation of the simpler fiscal framework and support compliance. These include: (1) greater automaticity in enforcement with a gradual step-up of monitoring and constraints; (2) a more credible set of sanctions that better reflect prevailing economic circumstances; and (3) a better coordination of fiscal policy monitoring between national fiscal councils and the Commission.*

Context

1 Fiscal governance framework: The centerpiece of the European Union (EU) fiscal governance framework is the 1997 Stability and Growth Pact (SGP). While it has evolved significantly over time, its origin dates back to the 1992 Maastricht Treaty and the inception of the European Economic and Monetary Union (EMU). The distinct structure of ongoing euro area integration – involving a common monetary policy and decentralized fiscal policies – called for mechanisms and rules to prevent national fiscal policies from imparting adverse spillovers to other countries and distorting the conduct of monetary policy (EC 2013).[1]

2 Framework under pressure: The global financial crisis has tested the EU fiscal governance framework and raised concerns about its effectiveness.

- Before the crisis, the existing fiscal governance provisions had not prevented the buildup of fiscal imbalances. For example, the public debt-to-GDP ratio increased steadily from an average level of below 60 per cent of GDP in 1991 to more than 70 per cent of GDP in the late 1990s, substantially above the level required by the 1992 Maastricht Treaty. Subsequently, a shallow reduction in the debt-to-GDP ratio during the 2000s reflected difficulties in building fiscal sufficient buffers in good times, as unsustainable domestic demand booms generated higher revenues that were mistakenly assumed to be permanent (Allard *et al*., 2013). The buildup of imbalances also reflected the framework's inherent asymmetries, where ceilings are set on deficits in bad times without requiring surpluses in good times.
- When the crisis hit in 2008, EU member countries were ill-prepared. A severe economic downturn and large private-sector imbalances, which in part turned into public-sector liabilities, led to dramatic surges in debt ratios: public debt soared to an average of 95 per cent in 2014 – almost 30 percentage points above average precrisis levels (Figure 1). This further strained fiscal rules, especially those that were set in nominal terms and did not foresee exceptional circumstances (IMF 2013). Failure to build sufficient buffers in good times led to the need to tighten fiscal policies in bad times (Figure 2).

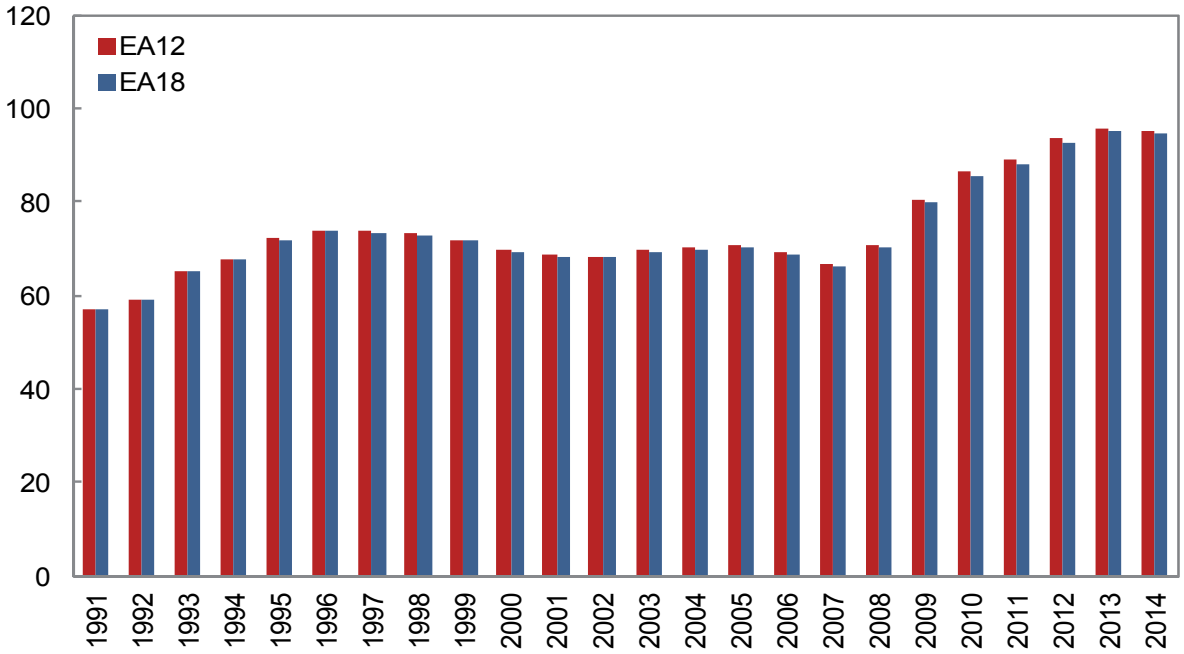
3 Past reforms: The experience during the first decade of the EMU and the euro area crisis has led to important changes to the fiscal governance framework—including the 2005 reforms, the 2011 Six Pack, the 2012 Fiscal Compact, and the 2013 Two Pack. The successive revisions pursued several objectives, such as providing stronger economic underpinnings of the rules-based system; better aligning fiscal targets with the final debt objective; providing more flexibility while also strengthening enforcement mechanisms; and bringing more specificity to the definition of the rules. As such, these reforms have enhanced fiscal governance.

4 Views: While successive reforms have brought many positive elements to the framework and support the conduct of fiscal policy, they have also increased its complexity. The current fiscal governance system involves an intricate set of constraints, which complicates effective monitoring and public communication, and creates risks of inconsistency and overlap between the different parts of the system. Also, compliance remains weak. This reflects the complexity of the framework, which has resulted in both unintended violations and the exploitation of loopholes, and has gone

[1] Throughout the note, we consider the terms targets, rules, constraints, ceilings, and upper limits as synonyms.

Figure 1

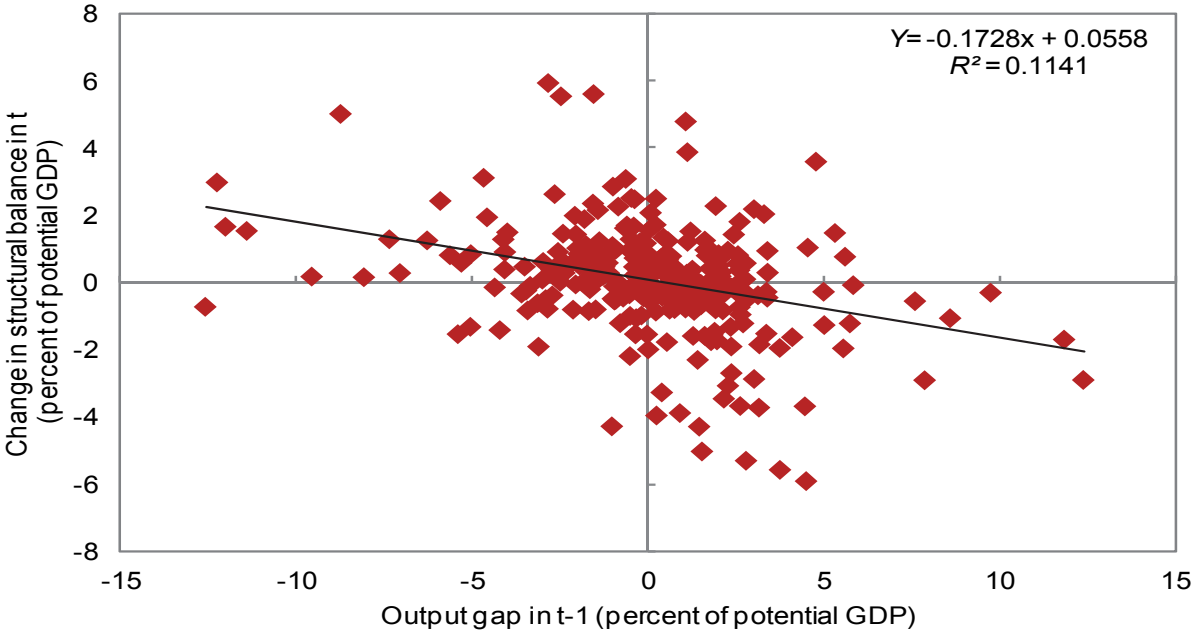
Average Public Debt Ratios of EU Member Countries
(percent of GDP)



Source: European Commission Annual Macroeconomic (AMECO) database.

Figure 2

Fiscal Consolidation and the Output Gap in the Euro Area*



Source: AMECO database.
* Sample is the EA-18 from 1999-2013 (May 2014 database vintage) and 2014 (May 2015 database vintage).

hand-in-hand with weak enforcement. It would seem appropriate to discuss how the fiscal governance framework can be simplified and enforcement strengthened.

5 Scope: This paper presents options, which could be pursued over the medium term, to make the fiscal governance framework simpler, more transparent, and more robust. Section II discusses the characteristics and potential shortcomings in the EU's current framework. Section III examines reform options for simplification and stronger compliance. Section IV concludes the paper. The annex provides details on model simulations for different types of fiscal rules. The paper focuses on reform options that can be pursued over the medium term, and refrains from commenting on near-term issues, such as the flexibility in the existing fiscal framework or the appropriate aggregate fiscal stance in the euro area.

The SGP: Past reforms and current issues[2]

6 Overarching objectives: The 1997 SGP provides a framework for governing national fiscal policies within the EU, aimed at safeguarding fiscal sustainability while also encouraging economic growth.[3] The SGP contains a preventive and a corrective arm, where the former seeks to monitor and prescribe actions to avoid the buildup of fiscal imbalances, and the latter seeks to monitor and prescribe actions to redress excessive fiscal imbalances in EU member states.

7 Successive reforms: The current framework reflects successive layers of reform to the original 1997 framework, including the 2005 reforms, the 2011 Six Pack (five regulations and one directive), and the 2013 Two Pack (two regulations), as well as the Treaty on Stability, Coordination, and Governance of 2012 (TCSG, with the relevant articles referred to as the Fiscal Compact).[4]

- The 1997 SGP included three EU-wide rules: ceilings of 3 per cent of GDP for the overall fiscal deficit and 60 per cent of GDP for public debt (corrective arm), and a requirement for medium-term budget positions to be "close to balance or in surplus" (preventive arm).
- The 2005 reform of the SGP aimed at enhancing the economic rationale underlying the rules and improving their flexibility by introducing country-specific medium-term objectives (MTOs) set in structural terms.
- The Six Pack reform in 2011 was designed to improve enforcement by adding an expenditure benchmark to the preventive arm and making the debt criterion in the corrective arm operational.
- The Fiscal Compact and Two Pack reforms of 2012 and 2013 reinforced monitoring and surveillance in the euro area and called for anchoring EU rules at the national level.
- In 2015, revised guidance on the implementation of the SGP increased its flexibility to encourage investment and structural reforms, and to account for the economic cycle.

8 Complex system: The current complexity of the framework (Figure 3) is rooted in this history of successive adjustments. Both the preventive and corrective arms of the SGP constrain fiscal policies of EU member states, including requiring them to converge towards the 60 per cent of GDP debt target at a sufficient pace (the debt benchmark criterion); prohibiting them from breaching the 3 per cent of GDP nominal deficit threshold; and mandating them to improve their

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2 This paper draws extensively on the work done for the 2014 Euro Area Article IV Consultation; see Eyraud and Wu (2014, 2015).

3 The SGP refers to the set of secondary legislation passed to establish a fiscal rule-based framework to monitor and coordinate national fiscal policies in the EU, and, in some circumstances, the euro area. The underlying legal basis for the SGP is in Articles 121 and 126 of the Treaty on the Functioning of the EU, one of the EU's founding treaties.

4 The 2013 Two-Pack reforms apply only to euro area members.

structural balance-to-GDP ratio to a benchmark rate (see below) until they reach their country-specific MTOs, defined in structural terms. While increasing flexibility, the 2015 revised guidance on implementation of the SGP added another layer of complexity. The appropriate fiscal adjustment for member states in the preventive arm of the Pact will be defined using a matrix with five categories of economic conditions.[5] Furthermore, government spending (net of new revenue measures) is constrained to grow in line with trend GDP (the expenditure benchmark). When countries are under the corrective arm (excessive deficit procedure or EDP), they are also subject to specific nominal and structural balance targets. Beyond these EU-wide constraints, the Fiscal Compact required signatories to put in place national rules, which may differ across countries, to ensure convergence toward their MTOs.

9 Related risks: The elaborate set of fiscal constraints that make up the overall framework complicates effective monitoring, public communication, as well as national ownership and implementation. Implementation in particular is hampered by various overlaps, that may lead to inconsistencies or redundancies in the actions implied by the rules:

- First, the sheer number of rules poses an implementation burden on EU member states, hindering transparency. The EU imposes a larger set of constraints on member governments than most federations do; while the EU is not a federation, these are the closest comparators. For example, in a sample of 13 federations, Eyraud and Gomez (2014) find that the central government imposes, on average, two constraints on sub-central governments (states and sub-state entities), compared to five in the euro area.[6]
- Second, changes in underlying economic fundamentals have led to inconsistencies in the current configuration of numeric targets. For example, a 3 per cent deficit target is consistent with a 60 per cent debt level over the medium term only if nominal growth is slightly more than 5 per cent.[7] However, potential growth has been revised down since the crisis, with medium-term nominal growth now thought to be about 3 per cent in many euro area economies. This implies a 100 per cent of GDP debt level over the medium-term, resulting in an inconsistency between the existing debt and deficit targets; in other words, the action path implied by the deficit target diverges from that required by the debt target.
- Third, the existing structural rules, like the MTOs, tend to be more binding in theory than the nominal targets, weakening the relevance of the latter (abstracting from measurement issues and the distinction between the corrective and preventive arms). For example, a back-of-the-envelope calculation indicates that the output gap would need to fall below –5 per cent to make the nominal deficit target more relevant than the structural balance target for determining policy.[8] Moreover, in general the structural balance rule (if followed) pushes the medium-term debt level below 60 per cent of GDP at a pace at least as fast as that required by the debt-reduction criterion currently in place (see Eyraud and Wu 2015).[9]

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[5] As highlighted in EC communications, the five categories are (1) good times (output gap above 1.5%); (2) normal times (output gap between –1.5% and +1.5%); (3) bad times (output gap between –3% and –1.5%); (4) very bad times (output gap between –4% and –3%); and (5) exceptionally bad times (negative real growth or output gap below –4%). Member states are required to make a smaller fiscal effort during difficult economic conditions and a larger fiscal effort during better times.

[6] Given the complexity of the European framework, the numbering of rules is a matter of judgment. In our view, the framework has four main EU-wide rules—the 3 per cent deficit rule, the 60 per cent debt rule, an expenditure benchmark, and MTOs defined in structural terms. It also requires EU member countries to anchor a structural balance rule in national legislation.

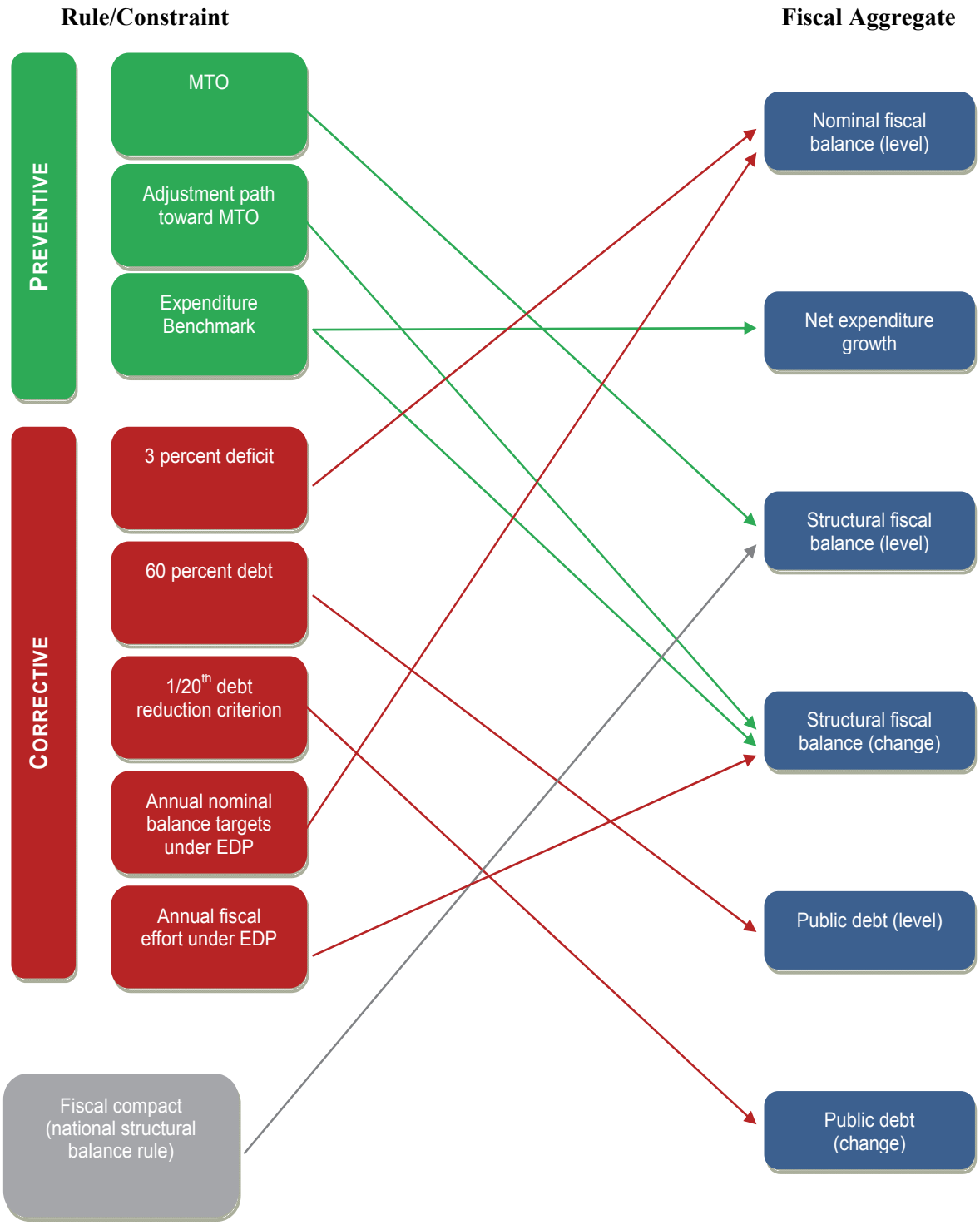
[7] The nominal deficit-to-GDP associated with a stable debt-level (debt-stabilizing overall balance) is computed as $\left(\frac{Def}{GDP}\right)^{*} = \left(\frac{Debt}{GDP}\right)^{*}\left(\frac{g^{*}}{1+g^{*}}\right)$, in which the asterisk denotes steady-state values of the variables (Escolano 2010).

[8] Assuming that a 1 percentage point drop in the output gap leads to a 0.5 percentage point deterioration of the nominal balance, a 3 per cent of GDP nominal deficit appears with a structural deficit of 0.5 per cent of potential GDP only if the output gap falls to –5 per cent: $(StructBal) + \epsilon_{NomBal,OUT}(OUTGAP) = (NomBal) \rightarrow -0.5 + 0.5(-5) = -3.$

[9] This result would not hold if the initial debt level is significantly above target.

Figure 3

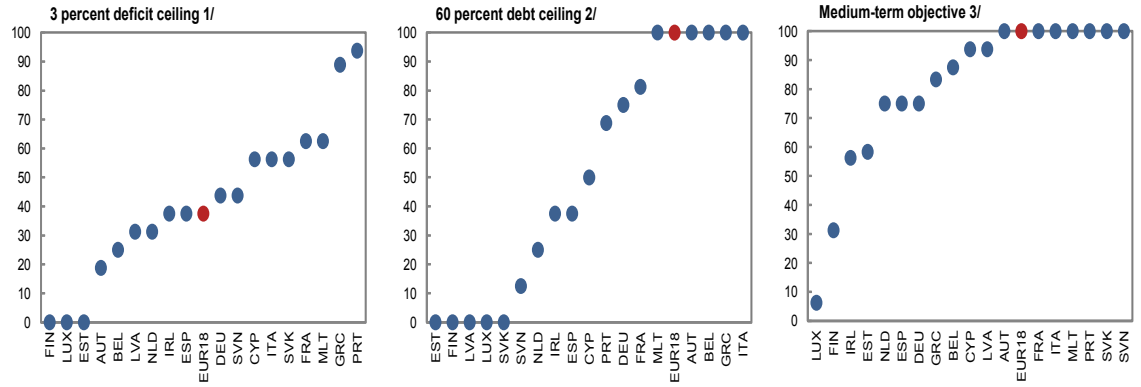
The EU Fiscal Framework
Multiple Rules and Various Aggregates
(as of mid-2014)



Note: EDP= excessive deficit procedure; MTO = medium-term objectives. The figure highlights key features; see EC 2013 for a fuller description.
Source: IMF staff.

Figure 4

Non-compliance with European Fiscal Rules



Source: AMECO database.
Note: The charts are not a formal evaluation of compliance because (1) they are based on ex post data; (2) targets are assumed to be similar across countries and time; and (3) they include all EA-18 countries, including those that joined EMU after 1999. Data labels in the figures use IOS country codes.
1/ Number of years with fiscal deficit above 3 per cent divided by total number of years.
2/ Number of years with debt above 60 per cent divided by total number of years.
3/ Number of years with structural deficit higher than 0.5 per cent divided by total number of years.

- Fourth, the national rules required by the Fiscal Compact are not required to be identical to the EU-wide rules. For example, Germany has put in place national structural rules that are stricter than the EU-wide rules, with ceilings on the structural deficits set at 0.35 per cent of GDP for the federal government from 2016 and at 0 per cent (balance) for its constituent states from 2020 onward.

10 Weak compliance: The complex SGP framework has faced compliance issues, also reflecting weak pressures for enforcement (Figure 4).

- Since 1999, about half of the countries have missed the 60 per cent target more than half of the time. Smaller countries have tended to be more compliant than larger countries. Moreover, the euro area as a whole has missed the target every year since 1999.
- Compliance has been better with the 3 per cent nominal deficit ceiling. Most countries complied with it during the precrisis period (1999–2007), while both Greece and Portugal have failed to keep their deficit below 3 per cent of GDP in most years since they joined the euro area.

Reform proposals

Simplifying the framework

11 Premise: The underlying premise of this paper is that simplifying the current SGP framework and improving its enforcement mechanisms will help achieve a higher degree of fiscal and macroeconomic sustainability.

12 Legal obstacles: Implementing some of the proposals described next may require legal changes, going beyond changes in interpretations of existing laws. The issue of legal obstacles is raised briefly in the conclusion, but is not the focus of this paper.

Consolidating the preventive and corrective arms

13 Rationale: To reduce complexities, the preventive and corrective arms of the SGP could be consolidated. Past revisions have already blurred the distinction between them. The preventive arm now includes many features of what would traditionally have been viewed as a corrective arm, including a structural balance target of no less than –0.5 per cent (or –1 per cent for countries below the 60 per cent of GDP public debt ceiling), a convergence path toward the target if there is a deviation, escape clauses, and even sanctions. In addition, there is little economic rationale to putting a country into the tighter constraints of the corrective arm triggered by having breached the 3 per cent nominal deficit limit, which only captures an annual flow.

14 Ambitious versus less ambitious: An ambitious approach, potentially requiring more substantial legal changes, would be to merge the two arms into a two-step procedure based on a common set of rules (Eyraud and Wu 2015). Minor slippages would trigger mild corrective actions, while cases of marked non-compliance could lead to enforcement of strong corrective actions and possibly sanctions. Along these lines, Debrun (2010) proposed to tie a country's exit from the corrective arm to meeting its MTO. A less ambitious reform would be to enhance consistency of the two arms across targets and benchmarks, similar to what was recently done to harmonize benchmarks for annual fiscal effort across the two arms.

Shifting to a single fiscal anchor with a single operational rule

15 Two-pillar approach: The dual objectives of safeguarding fiscal sustainability and maintaining simplicity suggest a two-pillar approach to the design of the fiscal framework, with *a single fiscal anchor* and *a single operational rule* that acts as the lever that moves the anchor. A feedback mechanism between the anchor and the operational rule can either be formal (explicit), for example, in the form of an automatic debt correction mechanism, or less formal (implicit), for example, based on periodic ad hoc adjustments to correct deviations from the anchor.

16 Fiscal anchor: The ultimate objective of the fiscal governance framework should be to ensure fiscal sustainability in the form of public debt sustainability. As a stock variable, the public debt-to-GDP ratio is considered a natural anchor for capturing repeated (cumulative) fiscal slippages that flow variables, like the budget deficit, would not capture. Yet, public debt is affected by many factors, including public-sector financing operations that are unrelated to budget deficits (for example, fiscal contingent liabilities that are realized or valuation effects). Also, it has proven difficult to pinpoint a clear sustainability threshold beyond which fiscal sustainability can no longer be taken for granted (a discussion that is beyond the scope of this paper). However, as public debt sustainability is largely synonymous with fiscal sustainability, there is no good alternative to using the public debt-to-GDP ratio as the fiscal anchor.

17 Operational rule: The framework should also include an operational rule. A good operational rule should support countercyclical fiscal policy (*economic stabilization*) and provide a strong link to the fiscal anchor. Moreover, the rule should provide *operational guidance* (by being under the control of policymakers and having a direct link to discretionary measures) and be *transparent* (that is, easy to communicate to the public).[10] There are three main types of operational

[10] The operational rule could be measured using either a "bottom-up" or "top-down" approach, or some average of the two. Bottom-up approaches assess the direct budgetary implications of discretionary policy measures, while top-down approaches take the headline overall balance and attempt to correct for the effects of the cycle, to recover the discretionary policy component of observed budgetary changes. The bottom-up approach is easier to communicate but harder to assess, while the top-down approach is easier to

(continues)

BOX 1
CANDIDATES FOR OPERATIONAL RULES

The main types of operational rules can be distinguished based on the type of budgetary aggregate that they seek to constrain; they have different advantages and disadvantages. The possible operational rules are the following:

Nominal budget balance rules. Budget balance rules constrain the variable that primarily influences the public debt ratio and can help ensure public debt sustainability. They are relatively easy to communicate to the public and largely under the control of policymakers. However, since they are specified in nominal terms, nominal budget balance rules do not have economic stabilization features and may lead to procyclical fiscal policies.

Structural balance rules. These are similar to nominal budget balance rules but explicitly take into account economic shocks and allow automatic stabilizers to operate. However, determining the required adjustment under a structural balance rule, typically also requires estimating an output gap, which makes it difficult to operate, communicate, and monitor the system. Structural balance rules can be supplemented with a debt correction mechanism ("debt brake") to correct for past deviations from the target, which adds further complexities.

Expenditure rules. Expenditure rules usually imply permanent limits on total, primary, or current spending in absolute terms, real growth rates (or real potential growth), or in percent of GDP.[1] These rules are generally transparent (directly constraining the budget). They inherit many of the macroeconomic stabilization properties of a structural balance rule, by allowing for automatic stabilizers on the revenue side to operate fully. In addition, adequate specification of these rules (for instance, in real growth terms rather than in percent of GDP) tend to further support macroeconomic stabilization. While they are not linked directly to the debt-sustainability objective (since they do not constrain the revenue side), they can trigger a required fiscal consolidation consistent with fiscal sustainability when they are accompanied by a debt brake. Yet the debt brake makes the system somewhat more complex to operate and more difficult to communicate to the public.

[1] For an in-depth discussion of design options for expenditure targets, see Ljungman (2008).

rules: revenue rules; expenditure rules, and budget balance rules (expressed either in nominal or structural terms, where the latter can be defined in levels or first differences or a combination of them). See Box 1 and IMF (2009).

18 Evaluating operational rules: We assess the ability of three operational rules—the overall (nominal) balance, the structural balance, and real expenditure growth—to deliver macroeconomic stabilization in the form of debt sustainability. This is done on the basis of stochastic simulations that are applied to a stylized model of a euro area economy, and allow us to evaluate how different operational rules perform over the course of the business cycle.[11] The simulations are based on the

assess but harder to communicate. There are pros and cons to each method; we do not address the exact measurement choice in this note.

[11] There are some differences between the expenditure benchmark in the SGP and the expenditure growth rule used in the simulations. While the simulations use a simple expenditure growth rule based on total expenditure, the SGP expenditure benchmark makes a number of adjustments to total expenditure. The expenditure benchmark in the SGP is based on real expenditures net of interest

(continues)

historical distribution of demand shocks over the past three decades, and show the counterfactual historical performance of these rules in terms of achieving debt sustainability for the stylized euro area economy.[12] In some cases, a debt correction mechanism is included to link the rule to the anchor explicitly and avoid permanent deviations from the anchor. A debt correction mechanism maps the current deviation of the debt from its target level to the policy action prescribed by a rule; for example, having debt above its target may imply an additional tightening over and above what the simplest rule might prescribe (see the annex for further details). In all cases, government spending is assumed to be the fiscal instrument that is adjusted to meet the rule (again, see the annex for some discussion regarding the results for fiscal adjustment via alternative fiscal instruments).

19 Model simulation results: Two main robust findings emerge from the simulations (Figure 5 and Table 1):

- *Economic stabilization*: The lowest variability of output is achieved by the expenditure growth rule, which ties down real expenditure growth to the economy's potential or trend growth rate, combined with a debt correction mechanism (to ensure convergence toward the fiscal anchor). Structural balance rules combined with a debt correction mechanism are a very close second (nearly identical). Nominal balance rules, which do not allow for a buildup of debt and deficits during the cycle, perform worst in terms of output variability.
- *Debt stabilization*: The lower volatility of output under the expenditure growth and structural balance rules comes at the cost of a more volatile debt-to-GDP ratio. This reflects the fact that both rules allow for the operation of automatic stabilizers (partially in the case of expenditure growth and fully in the case of the structural balance). By contrast, the nominal budget balance rule does well in terms of the volatility of the public debt-ratio. The debt correction mechanism is an important component for most fiscal governance frameworks, since it does not increase volatility of output by much and may significantly reduce the volatility of the debt ratio in the long-term. While our simulated debt correction mechanism is endogenous to the fiscal rule and automatically corrects deviations from the debt objective ("debt brake"), other debt correction mechanisms can also be considered. For instance, the expenditure rule could set spending growth below potential output growth (by a fixed margin) over a pre-defined period. This would also ensure convergence of debt toward a lower debt objective. An exogenous, pre-defined path of debt adjustment might however fail to be stabilizing if the economy is subject to larger than expected shocks.

20 Additional considerations: The simulations suggest that expenditure rules and structural balance rules perform similarly well and clearly outperform nominal budget balance rules in stabilizing the economy. To decide between the two leading contenders, other considerations have to be taken into account.

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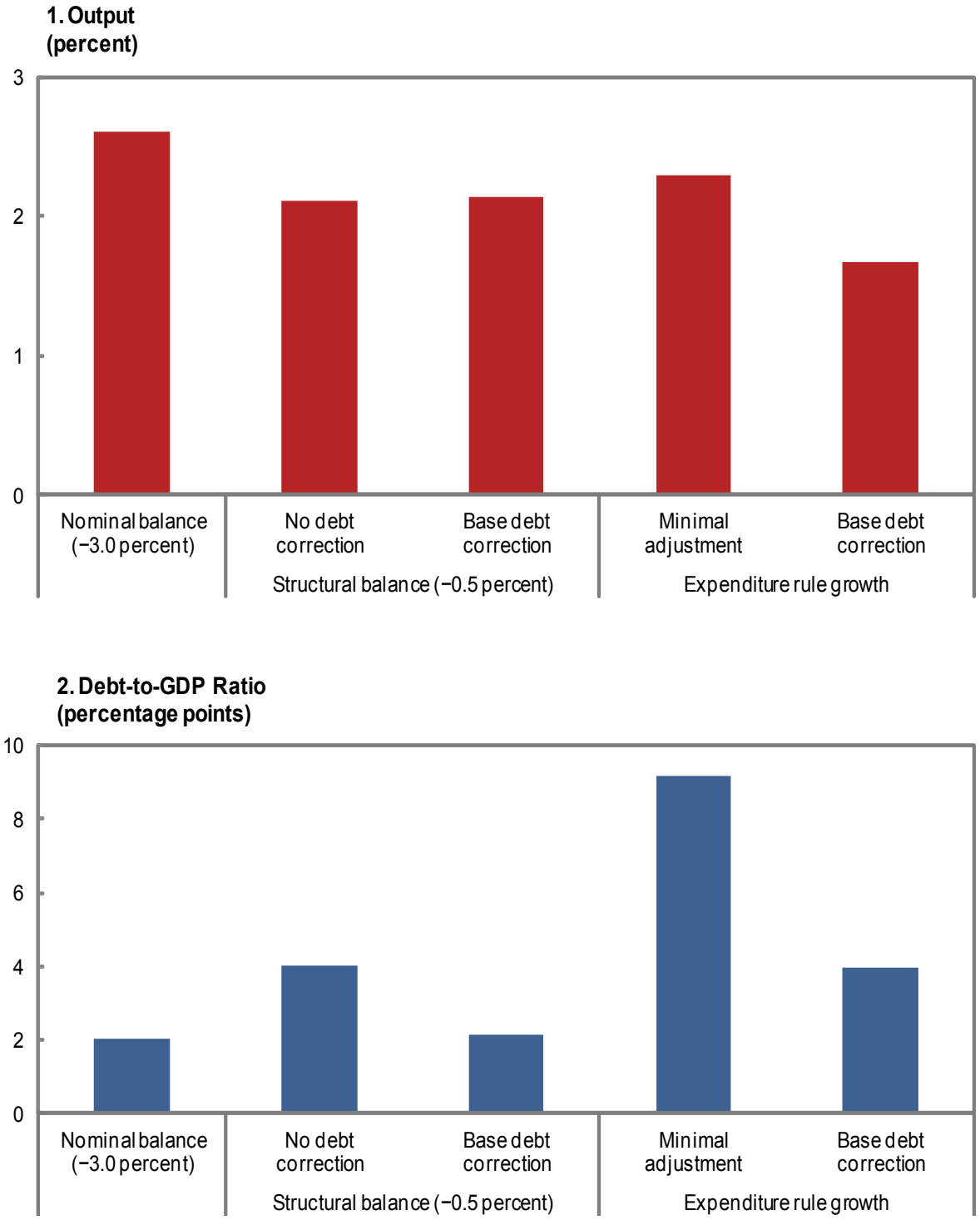
payments, cyclical unemployment benefits, and discretionary revenue measures. Those adjustments allow for a greater degree of counter-cyclicality to the associated target than what we consider in the simulations. Moreover, to allow for countercyclical changes in public investment, the SGP expenditure benchmark uses smoothed capital expenditures instead of actual or expected capital expenditures.

[12] It is a global, three-region, general-equilibrium model (a variant of the IMF's Global Integrated Monetary and Fiscal (GIMF) model), with a euro area country (calibrated to Italy), an "other euro area country" aggregate, and the Rest of the World. The stochastic simulations are carried out around the steady-state, implying lower debt levels than those currently observed in many euro area economies. As the model does not feature strong nonlinearities, the results and ordering of various rules would not materially differ if carried out around the consolidation path, where the representative euro area economy would be converging from a higher debt level to its desired, steady-state debt level. The aggregate demand shocks are drawn from their estimated, historical distribution and used to build a history, which is then combined with the particular rules that are being simulated. The outturns from this exercise are then collected, and, building over multiple histories of shocks, provide a picture of the average behavior of economic variables of interest (like GDP growth and inflation) under each fiscal-rule option. Following general consensus (see, for example, Christiano, Motto, and Rostagno 2014), demand shocks are considered the primary drivers of business cycles. See the annex for further details.

Figure 5

Comparative Performance of Alternative Fiscal Rules
(variability around the steady-state; standard deviations)



Sources: IMF staff calculations.
Note: The "base debt correction" parametrization ensures convergence to the debt target within 15 years. The "minimal adjustment" parametrization corresponds to the smallest adjustment required by the model.

Table 1

Variability Around the Steady-State
(standard deviations)

Type of fiscal rule	Output (percent)	Output Growth (pp)	Debt-to-GDP (pp)
Nominal balance (-3 percent)	2.6	1.8	2.0
Nominal balance (0 percent)	2.4	1.6	0.0
Structural balance (-0.5 percent)	2.1	1.1	4.0
Structural balance (-3 percent)	2.3	1.2	5.6
Structural balance (-0.5 percent) w/ debt correction (base)	2.1	1.2	2.1
Structural balance (-0.5 percent) w/ debt correction (weak)	2.1	1.1	2.8
Expenditure growth rule w/ minimal adjustment	2.3	0.8	9.2
Expenditure growth rule w/ debt correction (base)	1.7	0.6	4.0

Source: IMF staff calculations.
Note: Simulations with three-region IMF GIMF model for aggregate demand shocks. See the main text and annex for additional details. pp= percentage points.

21 Operational guidance and transparency: Different considerations suggest that expenditure rules would better meet the dual objectives of providing operational guidance and achieving transparency than structural balance rules. First, expenditure rules are more directly related to the formulation of the annual budget, which sets legally binding spending appropriations, thereby providing clear operational guidance to policymakers. Second, expenditure rules are less complex and therefore easier to communicate and monitor.

22 Recent literature: The recent literature also gives strong support to using expenditure rules. For example, using a different simulation model and a simpler expenditure rule, Debrun, Epstein, and Symansky (2008) and Kinda (2015) show that an expenditure growth rule with a feedback mechanism from debt ensures a convergence toward the debt objective, while allowing greater flexibility in response to shocks. Petrova (2012) also demonstrates that an expenditure growth ceiling performs well against several criteria (stabilization, transparency, and fiscal discipline), when it is supplemented with a debt correction mechanism. More recently, Carnot (2014) shows that a rule targeting primary expenditure growth (adjusted for discretionary revenue measures) relative to trend output growth can strike a good balance between the objectives of long-term sustainability and short-term macroeconomic stabilization, while being tractable. Cordes and others (2015) also provide an in-depth discussion of expenditure rules and illustrate that compliance with them is generally better than with other fiscal rules because they are transparent and generally easy to monitor.

23 Measurement uncertainty: While our findings are in line with recent literature, a key shortcoming of the above model-based stochastic simulations is that they assume perfect measurement of the output gap. In practice, the levels of potential GDP and the output gap are difficult to measure, particularly in real-time, leading to large ex-post adjustments. This is true for both structural balance rules that rely on output gap measurements, as well as expenditure rules that are linked to potential growth. However, the use of potential growth – rather than the level of potential GDP or the output gap – makes expenditure rules more robust, as revisions to potential growth tend to be smaller (see below). To illustrate this, we use simple deterministic simulations and compare the performances of the expenditure and structural balance rules if they had been applied for Italy and France. In contrast to the model simulations above, these deterministic

simulations are backward looking and do not incorporate stochastic shocks.

24 Assumptions: To do so, real-time data are constructed such that the one-year ahead forecast of the October *World Economic Outlook* in year *t*–1 constitutes the information set available to policymakers when setting up budget plans for year *t*. The simulations assume that between 2001 and 2014 countries had followed either an expenditure or structural balance rule. The expenditure rule limits expenditure growth to a 10-year moving average of real GDP growth.[13] The structural fiscal balance (SFB) rule requires countries to be at their MTO (set at –1 and –0.5 per cent for France and Italy, respectively). We use a fiscal multiplier of 0.5 before 2008 and 0.75 after 2008 (both declining to zero in five years) to estimate the output effect of the implicit fiscal shock corresponding to the difference between spending in the baseline and in the fiscal rule scenarios.[14]

25 Illustration: The results show that the difference between real time and ex-post outcomes under the expenditure rule would have been significantly smaller than for the structural balance rule (Figure 6). For the expenditure rule, the difference in public debt between real-time and *ex post* data in 2014 is about 3 per cent for France and 4 per cent for Italy. For the structural balance rule, it is 14 per cent for France and 16 per cent for Italy. This is because measurement errors are much smaller for potential GDP growth (the expenditure rule) than for the output gap (the structural balance rule).

26 Specific parameters: The discussion here abstracts from the important issue of the exact parameterization of the rules, which can be calibrated to be more or less strict. There is a trade-off between the strictness of the rules and the need for discretionary flexibility through well-defined escape clauses. When the rules are very strict and hard to abide by when economic circumstances deteriorate, it may be helpful to have some flexibility in the framework. This will enable a better response to shocks and avoid pressures to abandon (or modify) the rules in an ad hoc manner.

27 Escape clauses*:* The current SGP already contains an area-wide escape clause for "exceptional circumstances," such as natural disasters, periods of severe economic downturns, or large accumulated losses in output relative to potential. To further strengthen the flexibility of the proposed fiscal framework against stagnation risks, conditions to activate the symmetric escape clause could include a large accumulated loss of *nominal* output that may arise with a prolonged period of low inflation or deflation in the euro area (symmetric refers to the clause being equally applicable across all euro area economies when activated).[15]

28 Bottom line: We conclude that there is a good case for using public debt-to-GDP as the single fiscal anchor and an expenditure growth rule (possibly including an explicit debt correction mechanism) as the single operational target. Other indicators (such as the structural balance and its change) could provide supplementary evidence on the appropriateness of fiscal actions, while keeping the expenditure growth rule as the sole binding rule. That said, there are several assumptions and judgments used in the evaluation here that argue for approaching the conclusions with some degree of caution. For instance, different weights on the relative importance of the fiscal objectives may lead to a different selection.

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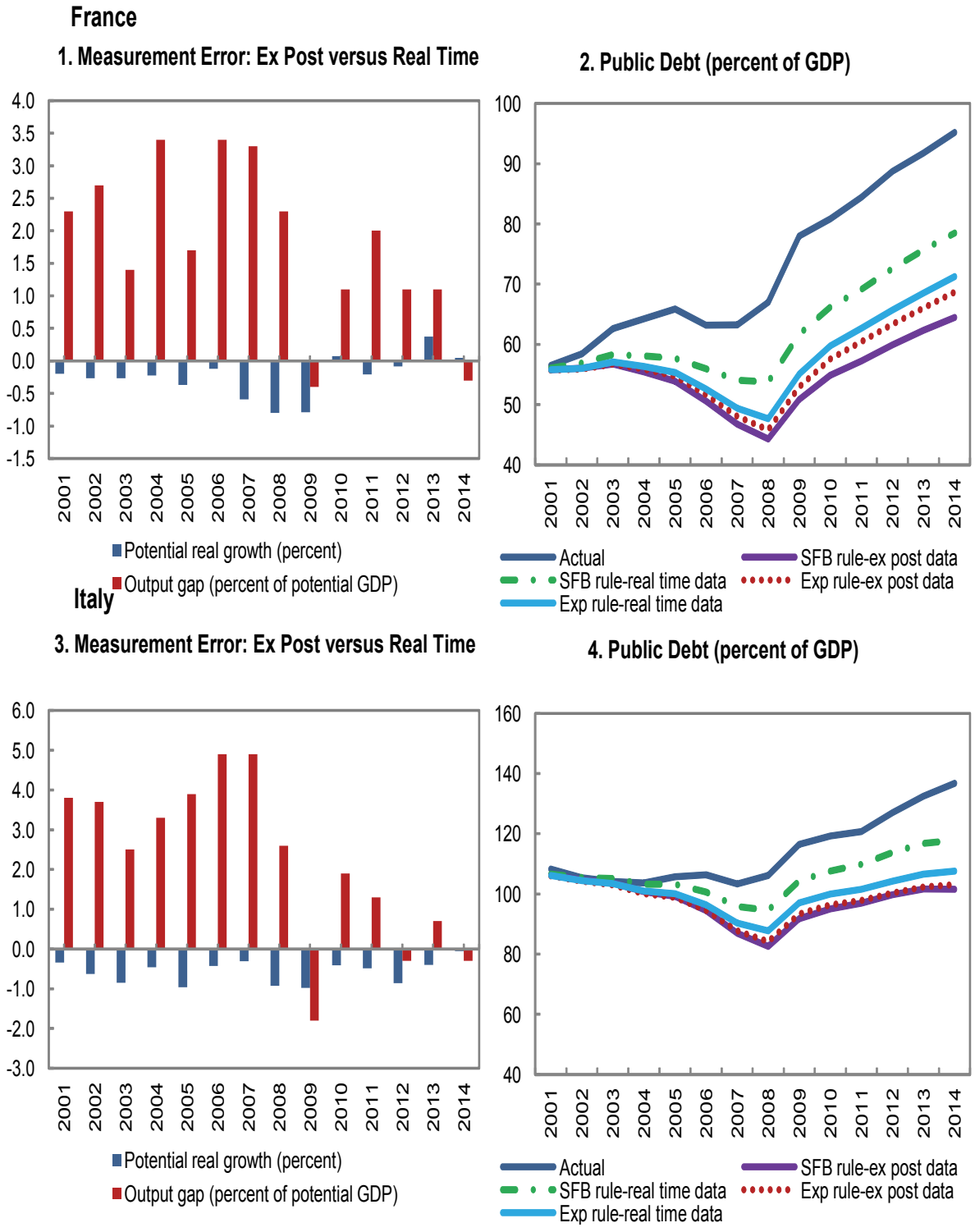
[13] The 10-year moving average in period *t* is constructed as the average of real GDP growth between *t*–5 and *t*+4 as a proxy for potential growth. The construction is analogous to that used in the EU expenditure benchmark. We do not exclude any items from expenditure.

[14] Empirical evidence shows that multipliers were higher during the crisis than in normal times (for a literature summary, see Batini, Eyraud and Weber, 2014). The simulations assume that under both the structural balance and expenditure rules, the adjustment to meet the target is made through spending. We compute the difference between historical expenditure (the baseline) and what spending would have been under the rules (both in real time and ex post). This measure of discretionary fiscal policy, together with the fiscal multiplier, is then used to adjust the baseline (historical) output level.

[15] IMF staff estimates suggest that the impact on public finances of low inflation can be quite pronounced. Simulations for five euro area economies (France, Ireland, Italy, Portugal, and Spain) suggest that a 1 per cent downward surprise in inflation would raise the public debt-to-GDP ratio by 1.4–1.7 per cent in the first year and 2.9–3.8 per cent in the second year (Tapsoba and Weber, 2014).

Figure 6

Measurement Errors and Public Debt Evolution with Real-time Data



Source: WEO and IMF staff calculations.
Note: Ex post data are from the October 2014 WEO, while the real-time data for year *t* are the projected values given in the year *t-1* October WEO. Measurement errors are taken to be the difference between the two.

Improving compliance

29 Beyond design problems: The reforms discussed above will address some of the shortcomings of the current framework by reducing its complexity and addressing underlying design and measurement issues. In particular, the reforms will reduce the number of numerical rules, address the problem of weak incentives to build sufficient buffers in good times, and do away with the need to estimate the level of potential output. However, simplification by itself will not resolve problems of weak compliance: even a simple framework can be circumvented. The unique surveillance and coordination procedures within the EMU pose challenges to enforcement mechanisms, which are not as strong as in federations. Although the relative "weakness" of the supranational level in the EU would call for stronger enforcement tools, sanctions and corrective actions are relatively mild in Europe (Eyraud and Gomez 2014). Beyond the technical dimensions, effective enforcement importantly requires a clear buy-in to the mechanisms by participating member states.

30 Reform options: To enhance enforcement and further improve compliance, a number of options could be considered:

- *Greater automaticity in enforcement*: More automaticity could be introduced in the gradual step-up of monitoring and constraints after a country is found to be in breach of the rules. However, the imposition of sanctions should remain a discretionary decision based on a sound economic judgment of their appropriateness, guided by the Commission.[16]
- *More credible sanctions*: The set of sanctions considered may also need to reflect economic circumstances; financial sanctions lack credibility in bad times, as they exacerbate the troubles of already distressed governments. Such sanctions might be more effective in good times, while non-pecuniary sanctions could be used in bad times. For example, administrative sanctions (such as constraints on new hiring by governments) might be considered.
- *Better coordination of fiscal policy monitoring:* Formal cooperation between national fiscal councils and the Commission could reduce the risk of conflicting assessments. Such cooperation can take place through regular meetings between fiscal councils and the EC in a multilateral setting—for instance in the context of the EU Network of Independent Fiscal Institutions (EUNIFI).

31 Market discipline: Complementary to formal enforcement mechanisms, market discipline could also improve compliance. However, market discipline was relatively ineffective before the crisis, reflecting the lack of credibility of the "no-bailout" provisions of the Treaties for a set of highly integrated economies in the face of a systemic crisis (Allard and others 2013). While important in bolstering fiscal moderation, enhancing market discipline is a long-term endeavor.

32 A "center-based" approach: In the absence of effective market discipline, better guidance to national fiscal decisions could take various forms. These include legal challenges at the national level, leverage to sanction with a larger central budget, and a veto power from the center. Many of these options would entail a permanent loss of fiscal sovereignty for euro area members (for instance, if a veto power of the center on national budgets was introduced). Of course, a larger role for the center raises difficult questions about political and democratic accountability for European and euro area decision bodies. See Allard and others (2013) for a fuller discussion and analysis of options for greater fiscal integration in the euro area.

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[16] Although explicit sanctions are allowed in cases of non-compliance, they have not yet been used. The latest reforms, in particular the introduction of reverse qualified majority voting at the Council to overturn a decision by the Commission to impose sanctions, should help make enforcement more automatic and less subject to political interference by increasing the hurdle for objection.

Conclusions

33 Lessons: The global financial crisis and its aftermath have pointed to the need for strengthening the design and enforcement of the EU fiscal governance framework. Notwithstanding recent revisions, the EU fiscal governance framework remains complex, and compliance and enforcement fairly weak. With public debt at record highs, it would seem desirable to redesign the fiscal governance framework to prevent a further buildup of fiscal imbalances and better support fiscal and macroeconomic sustainability.

34 Main Proposals: A simplified fiscal framework centering on two main pillars: a single fiscal anchor (public debt-to-GDP) and a single operational rule (an expenditure growth rule, possibly with an explicit debt correction mechanism) linked to the anchor. Greater automaticity in enforcement, a more credible set of sanctions, and better coordination of fiscal policy monitoring could further support the implementation of the simplified framework.

35 Reform hurdles: The transition toward a new steady-state fiscal framework will take time. Some reforms may face legal obstacles, and wholesale treaty changes may be needed. However, working for a simpler and more robust fiscal framework may be the best response to recent skepticism about the European project.

ANNEX
SIMULATIONS DESIGN AND MODEL STRUCTURE

1 The model used for the stochastic simulations is a three-region version of the IMF's Global Integrated Monetary and Fiscal (GIMF) model; see Kumhof and others (2010) and Anderson and others (2013) for in-depth descriptions. It features a representative euro area country (in this case Italy), an aggregate of the rest of the euro area, and an aggregate of the rest of the world. There are two types of consuming households in the model: (1) Blanchard–Yaari type overlapping generations, intertemporally optimizing households, and (2) liquidity constrained, hand-to-mouth households. Both types of households supply their labor to firms in traded and non-traded goods sectors. Final and intermediate goods are produced using labor and capital goods, with varying capacity utilizations. The capital investment decision of firms is subject to financial frictions with an external financing premium that increases with the leverage of entrepreneurs (like the Bernanke-Gertler-Gilchrist vein of financial accelerator mechanisms).

2 Countries internationally trade both final and intermediate goods, as well in international euro-denominated nominal bonds. Monetary policy authorities in the euro area as a whole and in the aggregate of the rest of the world operate under inflation targeting regimes following a Taylor rule for nominal policy rate. The exchange rate between the euro area and rest of the world freely floats.

3 Household and firms pay labor and corporate taxes, and consumption is subject to value-added tax. Governments use their revenues to finance transfers to households, public consumption, and productive government investment, which has positive productivity spillovers to private producers. The government in the representative euro area country follows an explicitly specified fiscal rule that ensures the long-term sustainability of public debt. In each and every period the rule must assure that households and firms believe the government is intertemporally solvent.

4 The nominal and structural balance fiscal rules considered are nested in the following specification:

$$Def_t = Def^* - \alpha(OutputGap_t) - \beta(Debt_{t-1} - Debt^*),$$

in which the deficits and debt are relative to GDP, in percent, and the output gap is relative to the level of potential output, in percent as well. In the case of the structural balance rule $\alpha = 0.45$, while it is zero for the nominal balance rule. Further, β is the coefficient on the debt correction mechanism. The expenditure growth rule takes the form:

$$100 * \log(EXP_t) = 100 * \log(aY_t^*) - \delta(Debt_{t-1} - Debt^*),$$

in which δ drives the strength of a debt-brake. Expenditures growth follows the potential output growth, adjusted for debt stabilization.

5 The debt correction coefficient, β and δ are calibrated for each rule to achieve a debt-to-GDP ratio convergence within a specified number of years, with a given half-life. Structural balance rule with no debt correction implies debt convergence in more than 40 years after the initial shock, with a half-life of 15 years. In the case of weak debt correction, it takes up to 40 years for debt to reach its target after the shock, with the half-life of 13 years. With stronger debt correction it takes up to 15 years to converge, with the half-life of 7 years. In the case of the expenditure rule the "base" debt correction is parameterized to converge within 15 years, with the half-life of 6 years. The calibration of all fiscal rules is detailed in Table 2. The expenditure rule with "minimal" debt adjustment is a rule with the smallest value of the debt correction term that is feasible within the model.

Table 2

Fiscal Rule Parameterization

Fiscal Rule	Parameterization	
Nominal balance rule	α 0.00	β 0.00
Structural balance rule	α 0.45	β 0.00
Structural balance rule + debt corr. (base)	α 0.45	β 0.125
Structural balance rule + debt corr. (weak)	α 0.45	β 0.05
Expenditure rule: (minimal)	γ 0.00	δ 0.50
Expenditure rule: w/ debt corr.	γ 0.00	δ 0.95

Source: IMF staff calculations.

6 The rest of the model is calibrated for the three regions so that the steady-state matches their average stylized facts (such as the shares of consumption and investment in GDP), while the model's dynamic properties reflect those observed in the data (drawing upon the IMF's experience with this and other macro models) over the course of the business cycle. The representative euro area country amounts to about 16 per cent of the euro area. The euro area represents roughly 20 per cent of the world model economy. The calibration of the representative country broadly follows calibration of Italy, with the exception of the steady-state level of debt and deficit ratio to GDP. Further, it is assumed that there exists a debt-elastic sovereign premium in the euro area, which adds about 7 basis points for each increase of debt-to-GDP by 100 basis points.[17] See Table 3 for some essential calibration ratios and parameters and Anderson and others (2013) for more on GIMF model properties. Note that government transfers include, for example, pensions and social welfare payments, while government consumption includes, for example, the government wage bill.

7 As mentioned in the main text, the stochastic simulations focus on aggregate demand shocks drawn from their historical, estimated distribution, based on the variability of the annual output gaps in the last couple of decades.[18] To obtain those we have used an estimated output gap for Italy and rest of the euro zone and backed out the distribution of the shock needed to match the output gap dynamics. The shock distribution is then used to generate the stochastic simulations. An identical path of simulated shocks is used to evaluate all fiscal rules, hence there is no randomness involved in the comparison.

8 Table 4 then shows the long-run variability, unconditional, around the steady-state of each variable for the representative country, conditional on histories of aggregate demand shocks drawn from the estimated distribution. We believe this statistics captures well the idea that the goal is to evaluate the feasibility of fiscal rules over the course of multiple business cycles. As in the case of every model simulation exercise, it is rather a stylized one. It offers, however, a stock-flow consistent general-equilibrium environment to test various forms of fiscal rules, as compared to the often used partial equilibrium framework.

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[17] The calibration of the debt-elastic sovereign premium is within the range of estimates seen in the literature and used by the OECD (for example, Haugh, Ollivaud, and Turner, 2009).

[18] Other shocks such as supply shocks, financial shocks, and monetary policy shocks can also be simulated. The analysis focuses on demand shocks as they dominate business cycle fluctuations and are fairly simple to simulate.

9 Some elementary robustness analysis was carried out. The main body of the text presents the fiscal rules that share a common instrument—government spending (consumption and investment). Other instruments were simulated, namely lump-sum transfers and labor and consumption tax rates. A robust finding is that all rules perform best when non-distortionary lump-sum transfers are used as an instrument, as one would expect based on economic theory. Also, no combinations of fiscal instruments for a given rule were presented in the main text. But one of the best-performing rules is when government spending responds to the output gap in a countercyclical way, while lump-sum transfers are the balancing instrument for long-term debt sustainability. The implied variance of all rules also changes in relation to the steady-state deficit-to-GDP ratio, be it 0 per cent, 0.5 per cent, or 3 per cent, respectively. When increasing the steady-state deficit the variance of the economy rises as more adjustment of fiscal instruments is needed to stabilize public finances.[19] The relative ordering, however, does not change. Table 4 illustrates a version of nominal and structural balance rules with lump-sum transfers as instruments and with differences in the steady-state deficit-to-GDP ratio.

10 The simulation focuses on a representative euro area country and the rest of the euro area. The calibration of the representative euro area country already implies a rather limited effect of the country on the area-wide inflation and interest rate. Larger countries would, however, affect the euro area total in a more substantive way. Relative variances do vary with the relative size of the country but the robust findings about the importance of the debt correction and instrument preference (transfers versus spending) are left unchanged. For idiosyncratic shocks the smaller is the country, the more important is the effect of the debt-elastic risk premium as it further diminishes the effects of area-wide monetary policy.

[19] Note that even with a 3 per cent deficit-to-GDP ratio the primary balance must be in surplus in the steady state, since the economy is efficient (real rates are higher than real growth).

Table 3

GIMF Calibration Essentials

Steady-State Shares	Units	EA Country	Rest of EA	RoW
GDP	% world GDP	3.2	16.6	80.2
Labor share	% GDP	60.0	60.0	60.0
Consumption	% GDP	60.3	59.3	60.0
Private investment	% GDP	17.4	16.6	20.0
Government spending	% GDP	22.3	24.1	20.0
Consumption	% GDP	20.4	21.7	17.0
Investment	% GDP	1.9	2.4	3.0
Exports	% GDP	22.8	26.2	5.6
Imports	% GDP	29.6	26.2	5.6
NFA/GDP	% GDP	0.0	0.0	0.0
Government Finances				
Government Deficit/GDP	% GDP	3.0	3.0	2.2
Government Spending				
Consumption	% GDP	20.4	21.7	17.0
Investment	% GDP	1.9	2.4	3.0
Transfers	% GDP	20.0	15.8	8.3
Government Revenue				
Labor tax	% GDP	24.9	23.0	22.5
Corporate	% GDP	2.2	2.4	16.0
Consumption	% GDP	12.3	10.1	15.0
Key Parameters				
Intertemporal EoS(1)		0.5	0.5	0.5
Habit persistence		0.4	0.4	0.4
EoS Home/Foreign goods		1.5	1.5	1.5
Home bias in consumption		0.8	0.8	0.8
Monetary policy rule				
Interest rate smoothing			0.3	0.3
Inflation gap			1.5	1.5
Output gap			0	0
Govt' debt-elastic premium	bp per100bp	7	7	7

Source: IMF staff calculations.

Note: EA = euro area; bp= basis point; EoS = elasticity of substitution;

NFA = net foreign assets; RoW = rest of the world.

Table 4

Variance Around Steady-State, Detailed View

Type of fiscal rule	Instrument	Output (percent)	Output Growth (pp)	Debt-to-GDP (pp)	Surplus-to-GDP (pp)	Premium (pp)	Real Rate (pp)
Structural balance (-0.5 percent)	transfers	1.4	0.8	2.7	0.4	0.2	0.3
Structural balance (-3 percent)	transfers	1.5	0.8	3.8	0.5	0.2	0.3
Nominal balance (-3 percent)	transfers	1.3	0.8	1.2	0.0	0.1	0.3
Nominal balance (-3 percent)	spending	2.6	1.8	2.0	0.0	0.1	0.3
Nominal balance (0 percent)	spending	2.4	1.6	0.0	0.0	0.0	0.4
Structural balance (-0.5 percent)	spending	2.1	1.1	4.0	0.7	0.3	0.3
Structural balance (-3 percent)	spending	2.3	1.2	5.6	0.7	0.4	0.3
Structural balance (-0.5 percent) w/ debt corr. (base)	spending	2.1	1.2	2.1	0.6	0.1	0.3
Structural balance (-0.5 percent) w/ debt corr. (weak)	spending	2.1	1.1	2.8	0.6	0.2	0.3
Expenditure growth rule w/ minimal adjustment	spending	2.3	0.8	9.2	0.8	0.6	0.5
Expenditure growth rule w/ debt corr. (base)	spending	1.7	0.6	4.0	0.8	0.3	0.2

Source: IMF staff calculations.
Note: Simulations with three-region IMF GIMF model for aggregate demand shocks. See the main text and annex for additional details. pp= percentage points.

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