Back to basics – good indicators for good fiscal institutions!*

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A proper fiscal framework should ensure fiscal sustainability while avoiding procyclicality of fiscal policy. As a prerequisite, fiscal rules should be based on numerical indicators that are conducive to both of these basic objectives. 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. We argue that a lack of robust, simple indicators makes the enforcement of rules and/or the prevention of procyclicality of fiscal policy very challenging. 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. In this model, the community level would be responsible for checking compliance with minimum standards defined for local fiscal frameworks and for EU-wide coordination of policies instead of yearly fine-tuning of national budgets.

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Introduction

In contrast to monetary policy, 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 (especially in the European Union), the fiscal framework itself has become overly complicated, non-transparent and almost unenforceable over the years. 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. In addition, it offers a more efficient division of labour between the community level and the national level with regards to fiscal responsibility. Minor adjustments to the existing system will not suffice; we must go back to the basics. The new framework will achieve its objectives

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only if it takes into account country-specific conditions and is based on much better fiscal indicators. This article therefore focuses on issues of methodology and theory that must be resolved in order to design an efficiently functioning fiscal architecture.

According to some theoretical approaches, there exists an optimal trajectory for public debt that is specific to each country. Another important theoretical lesson is that immediate adjustment after a shock to debt is not optimal: efforts should be made to achieve tax smoothing instead (Barro, 1979). A prerequisite for this, however, is 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 theory, the deficit can be divided into two components, a permanent one and a temporary one. The permanent deficit component has a role in determining national savings when the economy is in equilibrium, whereas the temporary component has the function of stabilisation at around equilibrium. The optimal value applies to the permanent component, which is not only country-specific but also time-varying. For instance, emerging economies may justifiably operate at higher levels of deficit and debt, which will be reduced later, once they have completed their convergence process. The matter of stabilisation at around equilibrium is further complicated by the fact that discretionary decisions can also be adopted beyond the operation of automatic stabilisers. However, whereas fiscal stimulus is frequently used to offset the impacts of an economic downturn, contractionary fiscal policy to curb excessive demand in a booming economy is rare.

This asymmetry is only one of the explanations for the deficit bias observed in many countries; it may have a number of explanations, differing from country to country (Calmfors and Wren-Lewis, 2011). Some explanations highlight bad incentives, while others emphasise the absence of hard budgetary constraints. Bad incentives may include the common-pool nature of public goods, frequently leading to overuse. Furthermore, heterogeneity in the electoral base means that there are groups of voters that are mostly taxpayers and others that are mostly beneficiaries (receiving public services and transfers). In many cases, it is hard to determine who will ultimately bear the burden for a tax cut or a transfer raise, which might lead to myopia when designing discretionary actions. Transparency could, to a certain extent, prevent all this or at least reduce the information asymmetry among different participants; after all, it is often too easy to hide the reality behind optimistic budget plans and methodological gimmicks. The real barrier would be an electoral majority that does not tolerate a high deficit. In such a case, transparency would be helpful.

For fiscal policy to operate properly, it needs to rely on a fiscal framework that keeps debt on an optimal trajectory and at the same time avoids fiscal policy that is procyclical (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.

A numerical fiscal rule will function properly and be enforceable only if it covers the full scope of discretionary fiscal policy. We argue that this is feasible through the selection of appropriate accounting rules. Furthermore, a numerical rule should exclude the 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.

A fiscal framework can also be seen as a commitment device similar to the one created online (stickk.com) by some professors at Yale University. They assert that a proper commitment device can increase the likelihood of achieving personal goals (e.g. losing weight, giving up smoking) by as much as 30 per cent. Such commitment is comprised of four components: the target, the stakes, the referee and the support. The first three components are also present in a fiscal framework. In an ideal case, the electoral majority will also provide support. Other solutions than a fiscal framework exist to exercise control over fiscal policy; all four components may be significantly different in such instances.

- In principle, the electoral system may ensure fiscal discipline. The parliamentary majority may participate, but support from the electoral base for fiscal prudence is doubtful. There are voters who are taxpayers and savers, financing the public debt, and also groups that receive more in public services than they pay in taxes. In some countries, however, voters are highly sensitive to irresponsible fiscal policies (examples include Switzerland, New Zealand and Germany).

- Investors financing the public debt may also exert market discipline; the process differs, depending on whether the investors are domestic or international. The latter are often too late in responding and may then do so with dramatic impact (*sudden stop*), jeopardising the state's ability to maintain its solvency.

- When solvency is threatened, the lending arrangements of the International Monetary Fund (IMF) may temporarily replace the investors. When maintenance of the lending arrangements is at stake, the IMF acts as referee. Voters, however, do not necessary support fiscal measures stipulated as a precondition for the arrangements; on the contrary, they often blame the IMF for the unpopular measures (*blame-shifting*).

- In the European Union, fiscal discipline is required at the community level. At stake in this case is a legal procedure (*excessive deficit procedure*) and potential fines, with the European Commission (EC) and the European Council acting as referees. Electoral support is not automatic in this case either, and the EU may be placed in a role similar to that of the IMF (*blame-shifting*).

- Frameworks at the national level are a new factor. The stakes may take a variety of forms, from automatic correction mechanisms to the right of the Fiscal Council (FC) to veto the annual budget act. In addition to its control role as referee, the FC is responsible for ensuring transparency and gaining electoral support for sound policies.

The rest of the paper mainly addresses two issues. First, we analysed the question of an appropriate indicator for setting the fiscal target, including all fiscal policy actions but excluding impacts from exogenous factors. This question may be approached from different perspectives. One approach identifies a list of problems and seeks solutions to them. An alternative way is to concentrate on different solutions and approaches employed to find appropriate indicators. We focus on the latter approach, since it can clearly illustrate that the non-satisfactory track record reflects institutional problems rather than methodological ones. This will also lead us to the second issue, regarding what role the independent FCs can play in setting, monitoring and evaluating compliance with the target, as well as what division of labour is feasible between the community level and the national level. (In the following, the acronym FC is used to indicate independent fiscal institutions as defined by the EU.[1])

1 Introduction to fiscal indicators

A large number of fiscal indicators are used in international practice (some of these are presented in the following sections). They are created for different purposes and their definitions reflect the differences in the questions they are intended to answer. As mentioned in the introduction, it is important to differentiate 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 the following table.

Table 1
Deficit decomposition

	Permanent	**Temporary**
Endogenous (discretionary)	part of structural deficit	creative accounting
Exogenous	part of structural deficit	cyclical adjustment, surprise inflation impacts, revenue windfall/ shortfall

Table 1 appears simple, yet it raises a number of questions.

First, what time horizon is consistent with the definition of "permanent"? For instance, cyclical adjustment considers the economic cycle to be temporary, and thus it does not eliminate the "volatility" experienced on a longer time horizon. As a result, convergence periods, absorption cycles, financial cycles and demographic volatility are found in the

1 Independent fiscal institutions are defined as the institutions (other than the central bank, government and parliament) that prepare fiscal forecasts and analyses and/or provide advice. Within this role, they monitor compliance with the fiscal rules, but do not participate in the creation of norms. (http://ec.europa.eu/economy_finance/db_indicators/fiscal_governance/independent_institutions/index_en.htm).

permanent component. The approach depends on the length of the horizon for forecasting and determining the equilibrium path of the economy. Over the selected horizon, however, the average of actual balances and (structural) balances, excluding temporary impacts, are equal.

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). This type of measure is often referred to as creative accounting.

Stock indicators (for instance, public debt) represent one type of basic indicator. Another basic type is the flow indicator, such as the budget balance. The third main type includes changes in the budget balance, often called the fiscal impulse. Most of the stock and flow indicators are defined on the basis of statistical or accounting principles and are, in principle, mutually consistent and comparable over time and across countries. Analytical indicators (such as change-in-balance indicators, for instance) are less standardised and contain more *ad hoc* elements. Experience indicates that this flexibility may contribute to their ability to give a more accurate representation of the fiscal situation than purely statistical indicators. In the following, an overview is provided of the typical methodological problems related to fiscal indicators on the basis of the experience of the IMF and the EU, and then specific fiscal indicators are proposed which may be suitable as targets as well as operational instruments.

2 Fiscal indicators in IMF practice

The IMF provides regular analyses of a wide range of countries, collecting fiscal statistics and calculating indicators using its own methodology and optionally also relying on the methodological innovations of the OECD and the European Central Bank (ECB). The IMF monitors fiscal indicators more closely, taking country-specific factors into account when it sets and controls targets for countries participating in lending arrangements. The wide range of the countries involved and the detailed information concerning the individual countries makes it useful to review the main fiscal indicators used by the IMF.

2.1 Solvency indicators – the stock approach to flow indicators

Public debt is a key indicator for the IMF, just as it is for the bond markets. Its earlier statistical methodology (GFS86) focused on net public debt (less deposits) and its changes, excluding revaluation, the GFS deficit. This simple, but consistent system considered a transaction as financing only if it concerned solely the public debt and deposits (borrowing, issuance of government security and repayment), with all other items placed in the category of financing requirement (deficit). Thus, for instance, government lending was classified as expenditure and privatisation as revenue. Each item was recorded in a cash approach, making the changes in net public debt (excluding revaluation) fully consistent with the changes in the GFS deficit.[2] This is an obvious approach, because fiscal problems occur precisely when the market stops financing the debt. Another strong connection between debt and deficit lies in the automatic impact that the changes in debt have on interest expenditure. In 2001, the IMF switched to national accounts statistics (GFS2001), which will be discussed in greater detail in the next section.

Practice has revealed a number of distortions in statistical indicators that were impossible to resolve, due to issues with data availability or methodological problems. These were eventually resolved by the standardised methodology of international comparisons (e.g. eliminating cyclical impacts) and partly by *ad hoc* analytical indicators set for the countries participating in IMF lending arrangements, depending on the type of distortion identified in a particular case. Removing short-term distortions was what really mattered for lending arrangements, and longer-term problems were not addressed.

Firstly, deficit and debt statistics were available only for part of the public sector, determined in a narrow legal coverage, as public companies were excluded. Experience shows, however, that the Public Sector Borrowing Requirement (PSBR) is the indicator that covers the overall financing requirement. Unavailable data allowed for temporary cosmetics of the indicators (creative accounting), as quasi-fiscal activities have remained hidden from GFS86 and GFS2001 deficit and debt figures; subsequently (much later, when the government is to assume the debt of the public company), these will appear as capital transfers (Stella, 1993). The OECD defines creative accounting specifically in relation to stocks: according to its definition, creative accounting is an operation that improves the statistical deficit without affecting the net worth of the government (Koen and Van den Noord, 2005). The Slovak FC, for instance, follows this definition in its analyses.

Secondly, statistics will also be distorted due to the fact that debt burdens denominated in domestic currency versus foreign currencies are reported differently, in ways that are not comparable. The debt-interest burden denominated in domestic currency incorporates the real rate of interest plus inflation compensation, but changes in exchange rate do not

2 There was no need for what is referred to as stock-flow adjustment, which originates from the difference in the definitions of stock and flow indicators existing elsewhere.

affect the debt. By contrast, debt denominated in a foreign currency does not incorporate inflation compensation, but the debt is subject to revaluation. To achieve comparability, the alternative indicator of operational deficit was defined to filter out the inflation compensation incorporated in interest on debt denominated in domestic currency (Tanzi et al., 1993).[3] However, experience in Latin America highlights that inflation, revaluation and changes in the terms of trade may also have an impact on real budget solvency (Blejer and Cheasty, 1993).

A further problem is that debt statistics also present an incomplete picture, because they disregard the stock of non-debt financial assets and liablities. Yet the "optimal" debt level cannot be determined without knowing the whole balance sheet. Valuation difficulties are well known in this respect, since these items 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 the services provided by these companies. It is also difficult to measure the value of loans and guarantees granted by the government; the GFS86 employed the practical solution of considering both to be zero (Wattleworth, 1993). Consequently, lending was an item that increased debt and deficit, whereas guarantees were 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 cash-based deficit figures (Diamond and Schiller, 1993).

A longer-term problem lies in the fact that neither debt statistics nor cash-based or accrual-based deficits manage the issue of real assets and their depreciation. Valuing the stock of public real assets is very difficult, since they are not marketable: these specific assets have no secondary market or market value.[4] 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). It is unclear which method provides the most accurate approximation of actual economic depreciation and true service life. The problem is not negligible, as the optimal debt stock cannot be independent of the optimal or desirable level of the public capital stock. Standard deficit indicators are distorted, since investment spending (GFS86, cash-based) or the accumulation of fixed assets (GFS2001, accrual-based) are recorded in the financing requirement, whereas depreciation of the fixed assets is recorded in the full accrual basis. Admittedly, this does not necessarily have to be replenished through investment spending, as the existing capital stock may be above the desired level, but

3 World Bank experts (Rocha and Saldanha, 1992) took a further step when they calculated the operational deficit from the public sector and central bank consolidated balance sheet. This is an important adjustment, since it takes into consideration the claims denominated in foreign currencies (foreign exchange reserves).

4 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.

differences between these two amounts are never considered as an issue. As a result, the budget may cut the deficit and the debt by delaying investment spending and reducing the capital stock, even if maintaining or even increasing its level is necessary (Stella, 1993).

Besides these problems, it may be necessary to project tax revenues and expenditures on a longer-term horizon, especially if the population structure is changing due to demographic trends. The impact of aging, for instance, may be recognised in an estimate of the net present value of taxes and expenditures (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.

2.2 Solvency indicators – eliminating the impacts of the cycle and one-off measures

The previous section looked at how the underlying deficit component can be derived from the actual observed deficit by taking changes in stocks into account. This section deals with a methodology that eliminates the impact of the economic cycle on the budget balance. To calculate what is called the structural deficit, the cyclically-adjusted balance is adjusted further for the impacts of one-off and temporary measures. This indicator captures the medium-term orientation of fiscal policy, which is also relevant for government solvency. It should be noted that there is no consistent adjustment of stocks under structural indicators, which is why the stock approach is discussed separately.

The new IMF method of cyclical adjustment employs a variety of options specific to each country (Bornhorst et al., 2011). Estimating the output gap serves as the starting point. Usually, one of two kinds of methods are chosen, the aggregated or the disaggregated approach. The former multiplies aggregated revenue by the output gap and an estimated elasticity, and does the same with aggregated expenditure. The cyclical revenue and expenditure components calculated in this way are then added together. This measurement, called sensitivity, serves as a good approximation only if the ratio of the main items within aggregated revenues and expenditures is stable and the elasticity of budgetary items to output gap does not change over time.

By contrast, the disaggregated (OECD) approach starts off from the main cyclically adjusted revenues and expenditures. The elasticity of each revenue category can be decomposed into two factors: the output elasticity of tax revenue, which is the product

of the elasticity of tax revenues, with respect to the relevant tax base, and the elasticity of the tax base relative to the output gap. (The same decomposition is done with unemployment expenditures on the expenditure side.) The elasticities are determined based on estimates or assumptions, or derived from tax codes. The manual provides the opportunity to incorporate, if necessary, the impact of the output gap composition (for the ECB's disaggregated methodology, see Bouthevillain et al., 2001), since the changes in the "gaps" of the various tax bases may significantly deviate from the changes in the output gap.

Cyclical adjustment may be supplemented with factors beyond the economic cycle for specific countries, but this process is less formalised and requires a greater degree of expert judgement (Bornhorst et al., 2011). Importantly, however, the adjustments should be well motivated and documented. The aggregated and the disaggregated approach may be applied to the impacts of asset and commodity prices, as well as terms of trade. In the latter approach, the disaggregated method of cyclical adjustment may be supplemented with the asset price gap. In the case of the consumption and absorption cycle (*absorption gap*), economic models are recommended in addition to statistical time series filtering (e.g. HP filter), with sensitivity analyses also added.

A further inherent problem originates from endpoint uncertainty, which means that the estimates of potential GDP, an unobservable variable, may be revised in view of new GDP figures (Orphanides and Van Norden, 2002). The latest IMF paper proposes a solution of reducing potential GDP estimation error by taking into account the observed historic correlation between short-term GDP data and long-term potential output (Tereanu et al., 2014).

All of these adjustments may lead to a more accurate representation of temporary impacts of exogenous factors, but constant uncertainty stemming from the estimation of the potential level of the primary tax bases and the price trends remains, and this may lead to frequent revisions. A further problem is that filtering for interest-rate volatility has been omitted from the range of exogenous factors.[5]

The IMF offers criteria rather than a definition when it comes to filtering temporary and one-off fiscal measures (Bornhorst et al., 2011). They note that these tend to be large, non-recurrent items, often capital expenditures or capital revenues. They frequently involve case-by-case judgements; therefore, adjusted as well as unadjusted figures must be presented in a transparent manner. Following the principle of prudence, borderline items should preferably be excluded from the adjustment. Tax cuts and spending increases

5 Nevertheless, there have been attempts to quantify the effect of exogenous shocks on fiscal vulnerability, including revenue and expenditure volatility (distribution) as well as rate of inflation. Vulnerability closely correlates with interest rates, the government's asset/liability balance and the average term of outstanding debt. Also included here, in a wider sense, are central bank foreign-exchange reserves and access to international financial markets (Ize, 1993).

may be repeated; what matters here is not the communicated intention. Fiscal operations impacting a single year should, however, be considered as one-off operations.

3 Fiscal indicators in EU practice

In the Economic and Monetary Union (EMU), fiscal policy remains the responsibility of the Member States. Successful operation of such an arrangement presupposes the application of a preventive/disciplinary framework of rules to ensure that member-state fiscal policies are sustainable and avoid intensifying economic volatility (procyclicality). The Stability and Growth Pact (SGP) enacted to this end on 1 January 1999 has a scope that mostly covers the EU Member States outside the euro area as well. In addition to the deficit and debt statistics accumulated by Eurostat, the Commission uses its own methodology concerning structural deficits. There are legal consequences to these indicators, however; experience suggests that creative accounting practices have persisted in spite of all efforts to abolish them.

Achieving comparability across countries was key for this rules framework, but the problems were aggravated by the fact that comparability remained a formal intention in spite of the attempts, since the methodology was far from perfect. Creative accounting was not the sole reason for the inability to ensure fiscal policy responsibility, as issues with eliminating exogenous impacts (e.g. the economic cycle) also played a role. The uncertainty surrounding the estimation of potential GDP level and growth rate also remained a serious problem.

Creative accounting and the unexpected negative effects of exogenous factors exacerbated the operating problems of the fiscal framework. As a result, major amendments were implemented, first in 2005 and then in 2010. The changes were less concerned with the fiscal indicators underlying the framework and focused more on attempting to find solutions by adding new rules. In other words, they tried to save the fiscal architecture by supporting the walls instead of rebuilding the foundations. The following section concentrates on the fiscal indicators serving as the foundation.

3.1 Basic statistics – the Maastricht debt and deficit indicator

The System of National Accounts (SNA93, ESA95, SNA2008, ESA2010) records stocks of assets and liabilities. Consequently, it defines a deficit 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.

The statistical deficit indicator was adopted in the EU framework, but it was gross public debt that became the Maastricht debt criterion. These two indicators are inconsistent in terms of methodology. The gross debt indicator is not netted, even against deposits that are simple to include in the financing, in contrast to the approach followed in earlier IMF statistics (GFS86). This method was chosen in spite of the fact that consistency would have been achieved by taking into account the changes in the stock of financial assets and non-debt financial liabilities. Practically, however, these stocks will never trigger a liquidity crisis and are not even closely correlated with the deficit (resulting, at best, in uncertain dividend income); moreover, many of them do not have a market (and thus lack market valuation). Accordingly, their levels and changes (revaluations) are highly uncertain and cannot be measured adequately. Since the deficit and changes in gross debt less revaluation are inconsistent, a so-called stock-flow adjustment or deficit-debt adjustment (DDA) is introduced. It incorporates the effects of a broad range of factors, ranging from the use of government deposits to the difference between the cash-based and accrual-based recording of tax revenues and EU transfers.

Another characteristic of the deficit indicator is that it applies accrual time of recording, but in contrast to full-accrual recording it includes the gross accumulation of fixed assets rather than the depreciation of the fixed assets. This makes sense; after all, depreciation is connected to capital spending in the past (and accumulated debt) rather than investments in the present, which affect issuance of debt via its financing requirement. This, as we have seen, is a key indicator from a market perspective. Moreover, the stock of real assets would need to be taken into account in addition to financial assets and in a manner that is consistent with the recording of depreciation. A similar valuation problem occurs here, as most public real assets do not have a market or market price, nor is it possible to estimate their actual economic depreciation in an accurate way.

The statistical methodology is updated regularly. In early 2000, the government deficit and debt manual had 141 pages, while the seventh edition in 2014 numbered as many as 431 pages. Member States frequently "import" innovations in creative accounting from the private sector to circumvent the rules, and changes in methodology are often slow and controversial due to lengthy bureaucratic procedures. There have been examples of the Member States themselves revealing fiscal gimmickry, since their impact becomes reversed at a certain point and they appear in the deficit and the debt ("skeletons in the closet"). In such instances, it is in the governments' interest to make revisions to the past data in order to improve current data, but such statistical revisions are not always permitted. While this may work against creative accounting, it jeopardises comparability over time and across countries. Certain controversial decisions have also been made: for example, some capital revenues (e.g. from concessions) may not be spread over time (in spite of the recommendations of certain experts in accounting and statistics), but

must be accounted for in a lump sum. Neither has there been significant progress in defining the statistical coverage of the government sector, as public corporations classified outside the government sector are involved in quasi-fiscal activities. It is an innovation in creative accounting that private companies also have quasi-fiscal activities; this is allowed by the excessively permissive statistical classification of public-private partnership (PPP) investments.

1.2 Setting the medium-term objective and eliminating the effects of the cycle and one-off measures

In addition to the 3% Maastricht balance criterion and the 60% debt criterion, the structural balance and the medium-term objective (MTO) were introduced in 1999. Structural deficit could serve as a second line of defence for filtering out distortions caused by creative accounting (Koen and Van den Noord, 2005); in actual fact, however, this is often incomplete in implementation: while the debt assumptions of public companies is removed from the structural deficit, the impact of the corresponding quasi-fiscal activities remains hidden, even though they are self-reversing measures.

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 concerns the time horizon: measures may apply to one year or a few years at most. A third requires that the focus should be placed on capital items rather than current items. 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. Rather, intended to discipline the Member States, these criteria 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.

Contrary to the filtering of temporary measures, which may be deemed an ambiguous solution, there has been no progress in terms of the cyclical adjustment methodology in spite of the practical problems identified. The Stability and Growth Pact methodology 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 and Douglas production function,[6]

6 Methodological problems and consequences on fiscal policy are discussed in Godin and Kinsella, 2013.

– NAIRU estimates based upon multivariate Kalman filter,

– total factor productivity estimated with a HP filter in the past and with Kalman filter currently.

The methodology prescribes aggregating the elasticities of individual budget items to obtain overall budgetary sensitivity. These individual elasticities are estimated with a methodology developed by the OECD and adopted by the Output Gap Working Group (OGWG).

Since this structural deficit may have legal consequences, the methodological stability of cyclical adjustment is very important. The following presents the problems identified by the Commission and the solutions proposed for these.

As seen above, the first methodological pillar is to estimate the output gap. A tendency observed here is that potential GDP estimates subsequently proved to be overly optimistic (Larch and Salto, 2005). 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 procyclical 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.

The other pillar of the methodology – or, in Larch and Salto'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.

– In 2008, the Commission presented (European Commission, 2008) the ECB's disaggregated method as an alternative (Bouthevillain et al., 2001), which takes into consideration the aforementioned composition effect. In order to capture composition effects, taxes were broken down into four categories and linked to their corresponding macroeconomic tax bases: to wages, consumption and operating surplus. The cyclical component is obtained by multiplication of the fixed elasticities of tax categories with their deviation from the HP filter-estimated trend of tax bases. The Commission has criticised this for its absence of a theoretical basis for a consumption and wage-ratio consistent with the production function approach of output gap. The HP filter, like all moving-average-based methods, suffers from an endpoint-bias problem. The DG ECFIN

has attempted to solve this by means of projection of actual growth figures with a variety of methods, selecting the best-fit time series method. Nevertheless, the fundamental methodology has remained unchanged, although it is currently supplemented, for the sake of information, with the results of a HP filter-based method that, in contrast to the ECB's method, disaggregates only GDP into trend and cycle.

- Another problem is the inability to filter out all exogenous effects. This even exists with the ECB method, 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 (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.[7] 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 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. By contrast, the other proposal suggested adjusting the absorption cycle itself (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:

- At the time of the 2005 amendment of the SGP, the escape clause concerning compliance with the rules was relaxed. Until then, a severe economic downturn had been defined as a fall in GDP by at least 2%, or judged as such in view of the abruptness of the downturn or the accumulated loss of output relative to past trends. First, the new rules considered even a marginal fall in GDP as an escape clause condition and, second, they gave the Commission and the Council greater room for judgement in the case of accumulated losses in output during a protracted period of low growth compared to potential growth. A new waiver was proposed by the Commission in spring 2014.

7 All this generated tax windfalls in 1999–2000 and 2004–2007, as well as tax shortfalls in 2004–2007.

– In 1997, the SGP defined the medium-term objective (MTO) as a position close to balance or surplus. The amendment to the SGP in 2005 made this country-specific. The aim here was to 1) provide a sufficiently wide safety margin for the 3% deficit limit, 2) facilitate a faster achievement of sustainability, and 3) give greater room for manoeuvre, especially in terms of government investments. For this purpose, they took into consideration the differences among Member States in terms of potential growth and indebtedness, as well as the longer-term fiscal impacts of demography. Inclusion of the short-term fiscal costs of structural reforms was permitted only in the event of transition to a fully funded private pension system, and it had to be evaluated at rates decreasing over five years in an excessive-deficit procedure. The *Fiscal Compact*, an intergovernmental treaty instead of Community legislation, tightened these terms. Accordingly, the medium-term objective may permit a deficit reaching maximum 1 per cent of GDP, but only for those Member States with public debt significantly below 60%, and only if long-term fiscal sustainability is not put at risk.

In order to deliver the MTO, the structural balance must be improved by at least 0.5% of GDP per annum. As discussed, its calculation is often deemed ex-post as having been distorted due to the above *methodological* problems; moreover, debt is not set on a decreasing trajectory (the *methodological* problems concerning debt have already been discussed[8]). Therefore, an alternative definition for the path leading to debt reduction and the MTO was also given. This has been stipulated in the so-called Minimum Linear Structural Adjustment (MLSA) requirement since 2012, whereby the annual structural adjustment must not deviate more than 1/4% of GDP in comparison to the linear structural adjustment, which ensures compliance with the least demanding of three different criteria. (See details in European Commission*, 2013.)*

The "Sixpack", 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.[9] 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 will serve as a solution for cyclical

8 Furthermore, changes in debt rarely represent additional information to the fiscal balance. It tends instead to be noise, since it is more sensitive by an order of magnitude to the effects of exogenous factors (economic growth, deflators, revaluation) than the balance.

9 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.

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.

It should be noted here that we have not attempted to give a comprehensive overview of the EU fiscal framework (see Ódor, 2014a for a critical assessment). It would be worthwhile to run simulations of how all this would work, with special attention to the changes in exogenous factors. In such a case, however, all this would need to be supplemented with the national fiscal rules as well; the Sixpack gave new impetus to their introduction after 2012. As far as a simulation is concerned, it would be a serious challenge to decide which of the potentially conflicting rules should be preferred, along with the question of how the escape clauses and automatic correction mechanisms would work in real life. In all likelihood, this complex system would not provide an optimal result; it would not, for instance, guarantee that a procyclical fiscal policy could be avoided. 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 some 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.

4 Adequate fiscal indicators require adequate fiscal institutions

This section presents a framework that is based on theoretical considerations, covers the whole scope of fiscal policy, and takes advantage of the synergies existing between fiscal rules and the independent fiscal institutions. Believed to guarantee a better division of labour between the national and the community levels, the framework has the following main components:

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

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.

4.1 Stock indicators

As seen above, the "optimal" level of the debt stock cannot be determined without taking into account the desirable level of financial and non-financial (e.g. fixed assets) stocks, as well as the projection of tax revenues and expenditures (the demographic impact). This is because it matters whether the accumulated debt has been spent on investment and asset acquisitions, and so does the question of what effects the aging population will have on future assets and liabilities. Overemphasising existing debt instead of projecting net worth when gauging sustainability is a mistake akin to using waist circumference rather than body mass index (BMI) when estimating how overweight a person is.

However, as mentioned above, the projection of net worth raises a large number of measurement and methodological questions. The 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 may already be considered when setting the medium-term balance objective (MTO). As in the current solution, the outstanding debt and the long-term projection of tax revenues and expenditures can be taken into account. 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. The FCs 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, and it is also very important to constantly analyse contingent liabilities (including government bailouts in the financial system).

4.2 The headline indicator for fiscal balance

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). The other would be the use of practical analytical indicators, such as those generated by the Congressional Budget Office (CBO) in the United States.

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. Nevertheless, there are no clear answers in accounting to the valuation difficulties concerning unmarketable government assets (with no market prices) or the resulting problems in calculating depreciation; it is similar to statistics in this respect, which is also unable to provide appropriate solutions.

A potential direction would be for the flow indicators calculated by the independent institutions to eliminate creative accounting by identifying them from the stock side. This 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 Slovak FC. 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 (e.g. 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, for instance, it is unclear how capital spending should relate to the depreciation of the stock of fixed assets.[10] 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.

The CBO's methodology represents a different approach in the flow indicators of independent institutions. Here creative accounting is defined as operations without significant economic impact (Congressional Budget Office, 2002). The practical approach

10 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.

to this is a "standardisation" of the 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-based level that excludes any creative accounting.[11] This involves expanding the coverage of public finances to include public companies and investments to include PPP projects (as if the private partners in those projects were involved merely as the financing partner), and spreading over time the capital revenues from sources other than the disposal of fixed assets (e.g. over the whole concession period.) It should be noted here that Magyar Nemzeti Bank has regularly published such an analytical indicator since 1998. 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.[12] While it may not be optimal in terms of accuracy of the indicator, the approach has an advantage in its balance of robustness/stability and simplicity. (In practice this prudential approach would mean that the method would opt for the more stringent solution in case of doubt, for instance, it would define the coverage of the government in the broadest possible sense.)

4.3 The structural deficit as intermediate objective and the expenditure rule as instrument

The target defined at the level of the structural deficit will, by definition, relate to specific years, but there is also a need to set them in a medium-term framework. These frameworks allow achievement of the medium-term objective (MTO). The instrument for achieving the medium-term targets may include expenditure rules covering 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). The following discussion addresses the definition of structural deficit, the elimination of temporary and cyclical impacts, and, in conclusion, the expenditure rule.

We have seen above how a suitable basic indicator is able to eliminate the effects of creative accounting. Adjustments to other factors may be needed as well, however. 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

11 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.

12 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.

confusion of individual and one-off measures should be avoided at all costs. 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). Nevertheless, investment spending may represent an exception to this; as seen above, it may need to be compared with depreciation. 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.

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 on 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 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 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, tax brackets, 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 still remaining after cyclical adjustment.

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[13] 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.

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.

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

4.4 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. Alan Blinder (2004) has called this a "quiet revolution" in the practice of economic policy. In spite of the fact that the crisis has engendered new problems in monetary policy as well, Ódor (2014b) considers it important that 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 binding, however, they may trigger a number of situations in which compliance with them would require procyclical 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. As discussed in this article, a 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) 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 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. As far as the potential for improvement is concerned, Ódor presents a decentralised solution for the longer term, where the first line of defence against deficit bias would be constituted by country-specific (preferably constitutional) rules under the supervision of national FCs. However, this path of progress would require restoring, at least in part, the "no bail-out" clause (for instance, by involving private capital in the bail-outs).

Under such potential division of labour, the community level would serve two important functions. One would be the supervision of the national framework. Rather than analysing 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. Obviously, 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.

5 Conclusions

In order to design more effective fiscal frameworks, we went back to the basic question of measuring fiscal performance. No fiscal rule can operate well without measuring the true fiscal position. We have examined two types of indicators. The appropriately corrected headline indicators are expected to eliminate the effects of creative accounting, while more precise structural 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.

As seen above, the methodological manual of the IMF also proposes alternative solutions for estimating structural deficits, which, incidentally, have no legal consequences. At the level of basic indicators, they are much less able to deviate from the clearly biased statistical indicators. Non-compliance with the terms of IMF lending arrangements employed in a crisis situation will have consequences; experience indicates, however, that greater country-specific flexibility would be necessary in the definition of headline indicators.

By contrast, the EU also uses fiscal rules to prevent crisis situations. However, their legal consequences make the definition of these indicators very rigid. The headline indicators are not allowed to deviate from the statistical indicators, even though the latter are not suitable for measuring the true fiscal position. As far as the estimation of the underlying position is concerned, budgetary effects of the business cycle are the only exogenous factors eliminated. The methodology used has not been updated in more than a decade and it is unlikely to be updated, given the rigidity of the legislation. Instead, more and more new fiscal rules have been introduced at the cost of increased complexity, potential inconsistencies and asymmetry in the framework.

This paper argues that new and better fiscal indicators are necessary. The involvement of suitable fiscal institutions is a precondition; the independent FCs may fulfil this role at the national level. The indicators incorporating country-specific considerations can then contribute to the optimal operation of the fiscal rules and institutions (FCs) in line with the original objectives. We do not recommend focusing on public debt only while ignoring other stock indicators. In our view, appropriate measuring of different financial and non-financial assets and liabilities, as well as the impacts of aging, is an important precondition for determining country-specific target values. This task will be achievable in the long term; until then, estimates of the above factors may be considered in determining the medium-term objective (MTO). Concerning headline indicators, we have proposed a shift from the existing statistical approach and presented a variety of alternatives. Similarly, there are a number of methods available for eliminating exogenous factors. The FCs may play a key role in these open issues. Their increased powers would also entail greater responsibility, making it necessary to design appropriate control mechanisms.

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