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To: Members of the Executive Board

From: The Acting Secretary

Subject: **Fiscal Rules—Anchoring Expectations for Sustainable Public Finances**

The attached paper on fiscal rules—anchoring expectations for sustainable public finances will be discussed in a Board seminar that is tentatively scheduled for **Wednesday, December 2, 2009**. Issues for discussion appear on page 38.

The staff proposes the publication of this paper after the Executive Board completes its discussion, together with a PIN summarizing the Executive Board's discussion.

Questions may be referred to Mr. Kumar (ext. 37771), Mr. Baldacci (ext. 36116), and Ms. Schaechter (ext. 37791) in FAD.

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INTERNATIONAL MONETARY FUND

Fiscal Rules—Anchoring Expectations for Sustainable Public Finances

Prepared by the Fiscal Affairs Department

(In consultation with other departments)

Approved by Carlo Cottarelli

November 11, 2009

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EXECUTIVE SUMMARY

The sharp increase in fiscal deficits and public debt in most advanced and several developing economies has raised concerns about the sustainability of public finances and highlighted the need for a significant adjustment over the medium term. This paper assesses the usefulness of fiscal rules in supporting fiscal consolidation, discusses the design and implementation of rules based on a new data base spanning the whole Fund membership, and explores the fiscal framework that could be adopted as countries emerge from the crisis.

Fiscal rules have become more common in recent years. Until the early 1990s, rules were used only in a few countries: public debts accumulated during the 1970s and 1980s, and the recognition that currency unions should be supported by rule-based frameworks led more governments to subject their policies to numerical constraints. As a result, in early 2009, 80 countries had in place national or supranational fiscal rules.

The use of fiscal rules is on average associated with improved fiscal performance. While this association may generally reflect changes in countries' attitudes toward fiscal rectitude—determining both the improved fiscal performance and the introduction of rules—the spread of rules suggests their contribution to prudent fiscal policies. However, fiscal rules are often introduced to lock-in earlier consolidation efforts rather than at the beginning of the fiscal adjustment. Moreover, fiscal frameworks not involving formal rules but focused on transparent and credible strategies backed by proper fiscal institutions could also provide a viable approach to support fiscal discipline.

A rule has to be credible with regard to its ability to help deliver the required adjustment and put debt on a sustainable path. But it should also have adequate flexibility to respond to shocks. Simulation analysis shows that cyclically adjusted balance rules are superior in dealing with output shocks, but cyclical adjustment requires care. The paper also discusses the issue of coverage of rules, the extent to which rules should respond to past deviations, and the importance of effective monitoring and enforcement procedures.

The recent crisis has strained the fiscal rules, with about a quarter of the countries with national rules modifying them or putting them into abeyance. Looking ahead, in a period of large consolidation needs and unusual uncertainty, the paper suggests that an early introduction of a new rule or a rapid return to the fiscal targets implied by an existing rule may not be appropriate, as the required speed of adjustment may be excessive. During the transition period, a parametric approach, focused on medium-term targets, is preferable. However, it may be helpful to design and announce early-on a credible rule-based framework, and a timetable for its introduction or for a return to the existing rule-based path.

I. INTRODUCTION

1. **As countries exit from the crisis, the main challenge for fiscal policy is to develop credible strategies to strengthen public finances.** The sharp increase in fiscal deficits and public debt in many countries has raised concerns about the sustainability of public finances. These are particularly acute given the underlying fiscal challenges, such as those arising from rapidly aging populations. There is, therefore, recognition of the need to put public finances back on a sound footing once recovery is assured. The credibility of the needed fiscal adjustment will be essential to anchor longer-run expectations about government solvency.

2. **Fiscal rules are institutional mechanisms aimed at supporting fiscal credibility and discipline.** While longstanding experience with rules concerns mainly advanced economies, there has been an increasing interest from emerging market and low-income countries. This paper assesses the usefulness, design, and implementation of fiscal rules with a view to distilling lessons and exploring available options from country experiences worldwide. It also examines the appropriateness of a rule-based framework in the transition from the current crisis.

3. **The paper is arranged in three parts:** The first part, consisting of Sections II and III, provides a taxonomy of fiscal rules and assesses global trends; the benefits and costs of rules, and the role they have played in past large adjustment episodes. The second part (Section IV) explores design and implementation issues: the appropriate variable to constrain; response to output shocks; timing of introduction and coverage; and monitoring and enforcement mechanisms. The last part (Section V) analyzes the response of fiscal rules to the current crisis and discusses a framework that could be implemented in the near term. The paper concludes with the “Issues for Discussion.”

II. TAXONOMY AND EVOLUTION OF FISCAL RULES

A. Definition and Objectives

4. **A fiscal rule is defined as a permanent constraint on fiscal policy through simple numerical limits on budgetary aggregates** (Kopits and Symansky, 1998). Each of the elements in the definition is important: a rule delineates a numerical target over a long-lasting time period with a view to guiding fiscal policy; it specifies a summary operational fiscal indicator to which it is applicable; and it is simple so that it can be readily operationalized, communicated to the public, and monitored.¹

¹ The designation of a fiscal rule may not always be straightforward as some institutional arrangements closely resemble rules. These “gray” areas arise notably in the case of institutional fiscal frameworks that use numerical targets that are subject to revision.

5. **While fiscal rules can serve different goals, the focus here is primarily on rules that promote fiscal sustainability.** How do different rules comply with this objective? (see Table 1 and Appendix IVb):

- **Budget balance rules**, which can be specified as overall balance, structural or cyclically adjusted balance, and balance “over the cycle” can help ensure that the debt-to-GDP ratio converges to a finite level.² Primary balance rules are less linked to debt sustainability as increases in interest payments would not require an adjustment even if they affect the budget balance and public debt. The “golden rule,” which targets the overall balance net of capital expenditures, is even less linked to debt.
- **Debt rules** set an explicit limit or target for public debt in percent of GDP. This type of rule is, by definition, the most effective in terms of ensuring convergence to a debt target. However, it does not provide sufficient guidance for fiscal policy when debt is well below its ceiling.
- **Expenditure rules** usually set permanent limits on total, primary, or current spending in absolute terms, growth rates, or in percent of GDP. As such, these rules are not linked directly to the debt sustainability objective since they do not constrain the revenue side. They can provide, however, an operational tool to trigger the required fiscal consolidation consistent with sustainability when they are accompanied by debt or budget balance rules.
- **Revenue rules** set ceilings or floors on revenues and are aimed at boosting revenue collection and/or preventing an excessive tax burden. These rules are also not directly linked to the control of public debt, as they do not constrain spending.

6. **Rules have different implications for the way fiscal policy responds to shocks.** With regard to output shocks, overall balance or debt rules typically provide the lowest degree of cyclical flexibility (see an illustrative assessment of the properties of rules in Table 1). A cyclically adjusted or structural balance rule allows the full operation of automatic stabilizers, though it does not provide room for discretionary fiscal stimulus.³

² The convergence of the debt-to-GDP ratio is the appropriate criterion for fiscal solvency because it ensures that the intertemporal budget constraint of the government is met (if the interest rate on public debt exceeds the GDP growth rate) and, in any case, because GDP represents the pool of resources over which the government can potentially have claims to service the debt (Appendix IVb).

³ A cyclically adjusted balance captures the change in fiscal policy not related to the effects of the economic cycle on the budget. The structural balance, in addition, controls for additional one-off factors and other non-discretionary changes in the budget unrelated to the cycle. In the rest of the paper, these terms are used interchangeably, unless there is a need to highlight a difference in their behavior or properties. While these rules specify an annual target, an “over-the-cycle” rule requires the attainment of a nominal budget balance *on average* over the cycle.

Rules defined “over the cycle” provide room for both discretionary and cyclical adjustments. Expenditure rules are consistent with cyclical and discretionary reductions in tax revenues, but they do not normally permit discretionary expenditure stimulus. Revenue rules do not generally account for the operation of automatic stabilizers on the revenue side in a downturn (or in an upturn for revenue ceilings). As automatic stabilizers are stronger on the revenue side, these rules per se tend to result in procyclical fiscal policy. In addition to output shocks, budgets can be significantly affected by interest rate and exchange rate movements through changes in debt service; primary balance rules do not require full adjustment to them (see Section V.B).

Table 1. Properties of Different Types of Fiscal Rules Against Key Objectives 1/

Type of fiscal rule	Objectives		
	Debt sustainability	Economic stabilization	Government size
Overall balance	++	-	0
Primary balance	+	-	0
Cyclically adjusted balance	++	++	0
Balanced budget over the cycle	++	+++	0
Public debt-to-GDP ratio	+++	-	-
Expenditure	+	++	++
Revenue			
Revenue ceilings	-	-	++
Revenue floors	+	+	-
Limits on revenue windfalls	+	++	++

1/ Positive signs (+) indicate stronger property, negative signs (-) indicate weaker property, zeros (0) indicate neutral property with regard to objective.

7. **Fiscal rules have also been introduced to contain the size of the government and support intergenerational equity.** Containing the size of government is a key function of expenditure rules, as well as of ceilings on revenues. In addition, balance rules can aim to support intergenerational equity by, for instance, requiring the buildup of public assets from the proceeds of exhaustible natural resources. Revenue rules have also been introduced to help protect priority spending by earmarking funds for specific sectors (e.g., health and education, as in Brazil’s fiscal rule).

8. **Rules can also be classified according to whether they are part of a broader institutional or policy framework.** Fiscal rules embedded within stronger legal frameworks, including fiscal responsibility laws (FRLs), are more difficult to reverse. But it can take longer to establish them, particularly in times of economic and political uncertainty. Other distinguishing elements include mechanisms for accountability, monitoring, and enforcement that are important in determining rules’ effectiveness (see Section II.C).

B. Trends in Fiscal Rules

9. **Fiscal rules have a long history.** As early as the mid-nineteenth century, subnational entities of federal countries were subjected to legislated rules to avoid large fiscal deficits and free-riding risks (Kopits, 2001). After World War II, Germany, Italy, Japan, and the Netherlands incorporated budget balance rules at the central or general government level into their stabilization programs. Later, excessive public debts accumulated during the 1970s and 1980s by many countries prompted a growing number of them to subject their policies to numerical constraints, including the United States (Gramm-Rudman-Hollings Act of 1985, replaced by the Budget Enforcement Act of 1990), Canada (Federal Spending Control Act of 1991), and various Latin American countries in the late 1990s. In European Union (EU) member states, however, supranational fiscal rules (Maastricht Treaty in 1992, Stability and Growth Pact (SGP) in 1997) originated from the need to constrain individual countries from running fiscal policies inconsistent with the needs of the economic and monetary union. Increasingly, EU members have complemented the EU framework with national fiscal rules (European Commission, 2009).⁴

10. **In recent years, an increasing number of countries have relied on rules to guide policy.** Based on a new dataset (Box 1), in early 2009, of the full Fund membership, there were 80 countries with national and/or supranational fiscal rules:⁵ 21 advanced, 33 emerging markets, and 26 low-income countries (Figure 1a). In contrast, in 1990, only seven countries had fiscal rules. The rapid expansion occurring since then reflects the adoption of national rules, particularly in Europe and Latin America, as well as the institution of supranational rules, particularly in low-income countries (Figure 1b). In 2009, 53 countries had national fiscal rules in place (of which 20 had them in combination with supranational rules). About 52 percent of the rules in operation were national rules with the remainder being embodied in four supranational treaties: the SGP in Europe; the West African Economic and Monetary Union (WAEMU); the Central African Economic and Monetary Community (CEMAC); and the Eastern Caribbean Currency Union (ECCU) (Appendix Table 1).

⁴ Some EU members had national fiscal rules already in place before the adoption of the Maastricht Treaty (e.g., Belgium and Germany).

⁵ Fiscal rules considered here cover, at a minimum, central government. Thus, rules applying only to the local and regional government or individual sectors are not included in these numbers.

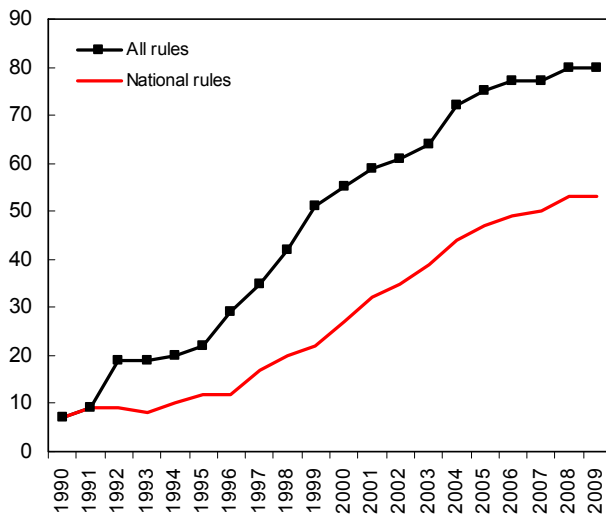
Box 1. Dataset on Fiscal Rules

The new dataset compiled by staff covers 80 advanced, emerging, and low-income economies. Data cover national (but not subnational) as well as supranational rules.

The dataset was compiled on the basis of responses to questionnaires by IMF area departments, as well as an assessment of fiscal framework legislations. The data cover several dimensions of fiscal rules, including (i) legal origin of rules, numerical target and year of adoption or major changes in the framework; (ii) coverage of fiscal aggregates; (iii) degree of freedom rules allow to policymakers in responding to different types of shocks (e.g., through cyclically adjusted fiscal targets, or exclusion of some spending aggregates from the target or escape clauses); and (iv) supporting procedures (such as monitoring of compliance with the rule outside the government, independent formulation of fiscal assumptions in the budget, and formal enforcement procedures).

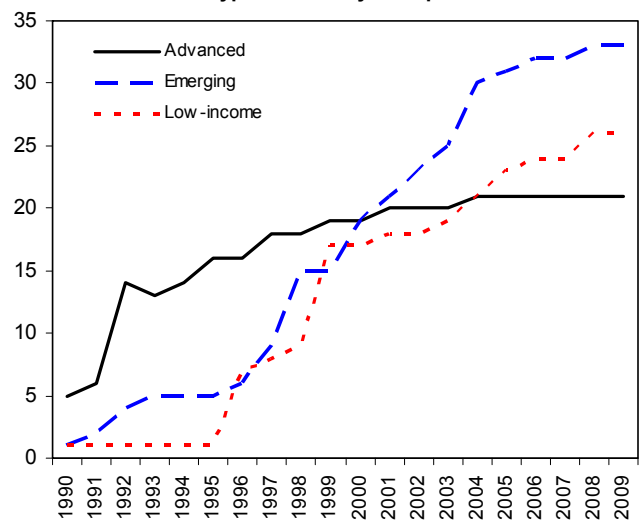
An index of strength of fiscal rules was constructed using principal component analysis of the following variables: (i) enforcement score; (ii) coverage score; (ii) legal basis score; (iii) supranational rules score; (iv) index of supporting procedures for monitoring of compliance and enforcement; (v) flexibility score; (vi) average number of fiscal rules; and (vii) the ratio of national to total fiscal rules in each country. These scores have been weighted using principal component analysis to create an index that retains more than 80 percent of the original data variance and represents the strength of various rules' dimensions, including coverage, enforcement, flexibility, and supporting procedures. The index is standardized to have a zero mean and a standard deviation of one.

Figure 1a. Number of Countries with Fiscal Rules



Sources: IMF fiscal rules database; and staff calculations.

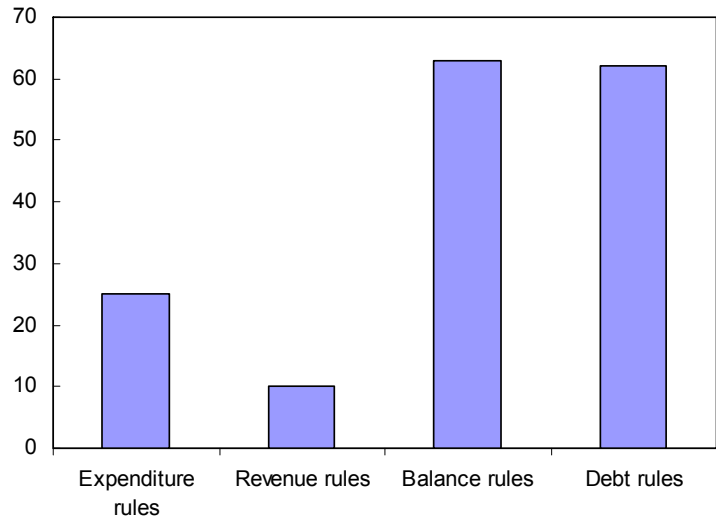
Figure 1b. Number of Countries with Fiscal Rules by Type of Country Group



Sources: IMF fiscal rules database; and staff calculations.

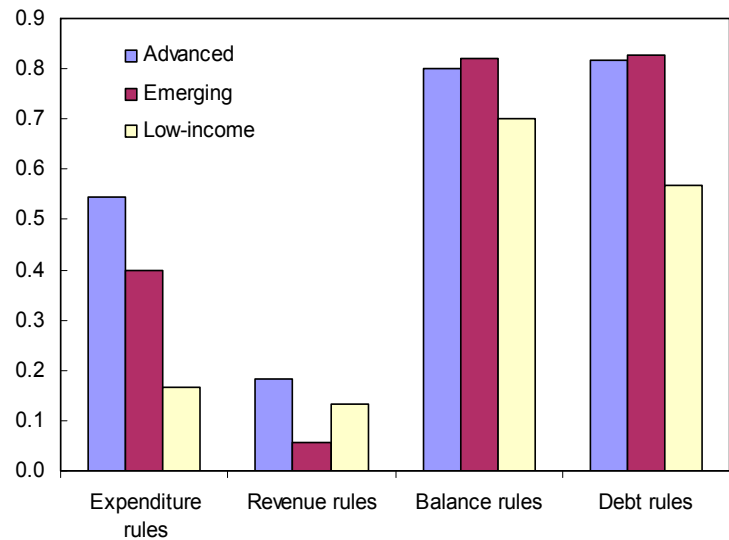
11. **Over time, countries have moved away from a single rule and, in many cases, toward a combination of rules closely linked to debt sustainability.** The average number of rules per country has increased. While in the early 1990s countries had on average 1½ numerical rules, this number had grown to almost 2½ by last year. This reflects both the adoption of multiple national and supranational rules and the use of multiple rules in countries that had single rules. In early 2009, a significant proportion of countries with rules had budget balance and debt targets frequently combined (Figure 2): about 60 percent of countries with fiscal rules had a budget balance rule and a similar percentage had a debt rule. This reflects governments' preferences for rules with a close link to fiscal sustainability. Since this was a concern in many emerging market economies, both types of rules are particularly widespread in this grouping (e.g., Argentina, Indonesia and Mexico) (Figure 3). Supranational rules often combine budget balance rules with debt rules (in 41 countries). Later, these rules were accompanied, particularly in the advanced economies by national rules, such as expenditure ceilings and specific revenue rules in some countries (e.g., tax revenue ceilings in Denmark, and a windfall revenue rule in France).

Figure 2. Number of Countries with at Least one Fiscal Rule by Type of Rule, 2009



Sources: IMF fiscal rules database; and staff calculations.

Figure 3. Share of Countries with Fiscal Rules by Type and Country Group, 2009



Sources: IMF fiscal rules database; and staff calculations.

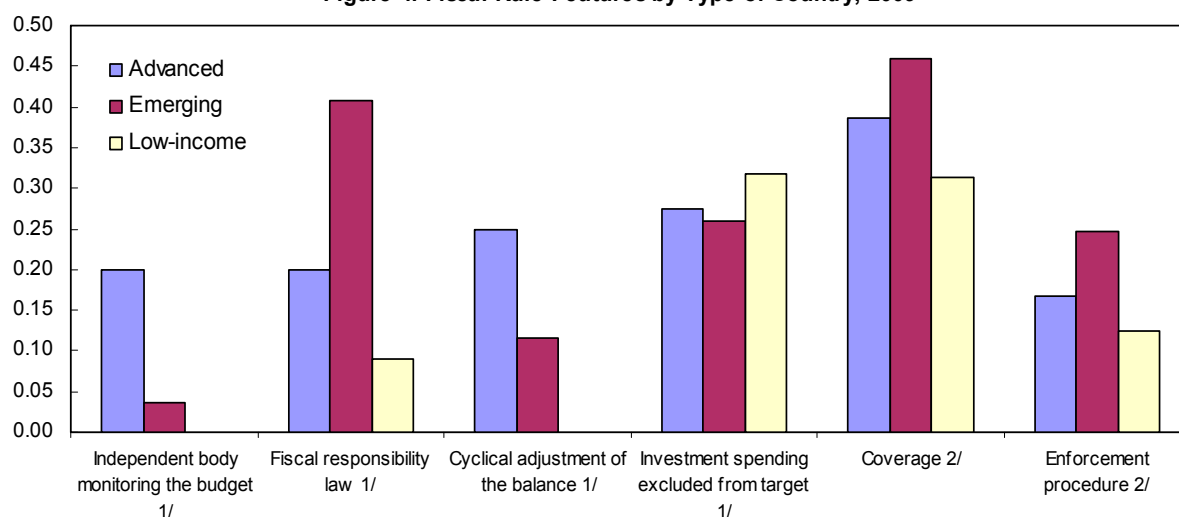
12. **However, the goal of curtailing the size of government has also come to the fore in recent years.** The increasing use of expenditure rules, in combination with budget balance or debt rules (this combination of rules is now in place in 16 countries), points to the mutual objectives of reducing government size and giving more attention to the rule's stabilization properties. There were only 10 countries with expenditure rules in place in 1999 (about a

fifth of the countries with rules at that time), while in 2009, the number had risen to 25 countries (almost a third of the countries with rules).

13. **Moreover, the use of cyclically adjusted balance and structural balance targets is receiving greater acceptance**—some variant of these rules is now used by about 11 percent of the countries. An over-the-cycle fiscal rule, however, has so far only been adopted by the United Kingdom and Sweden and, in the former case, the financial crisis led to its abeyance.

14. **There are clear differences in the basic features of rule-based frameworks across advanced and developing economies.** These reflect different needs, institutional capacity, and exposure to global shocks (including large and volatile capital inflows) across country groups. Advanced economies tend to emphasize flexibility: more than a quarter of them have cyclically adjusted balances compared to 10 percent of emerging economies and no low-income country. Emerging markets rank highest in terms of coverage of fiscal aggregates under the rule. The majority of these countries have a target expressed in terms of general government aggregates. Rules in low-income countries frequently exclude public investment and other poverty-reduction spending aggregates (in more than 30 percent of the countries). Rules were accompanied by fiscal responsibility laws in more than a third of emerging economies, a fifth of advanced economies, and a tenth of low-income countries. Enforcement procedures and presence of fiscal responsibility legislation also differ (Figure 4), with both being more prevalent in emerging economies. Independent forecasts of budget aggregates are not a widespread feature in any group, but the share of countries with independent fiscal bodies assessing the budget is 18 percent in advanced economies, and only 2 percent in developing countries.

Figure 4. Fiscal Rule Features by Type of Country, 2009



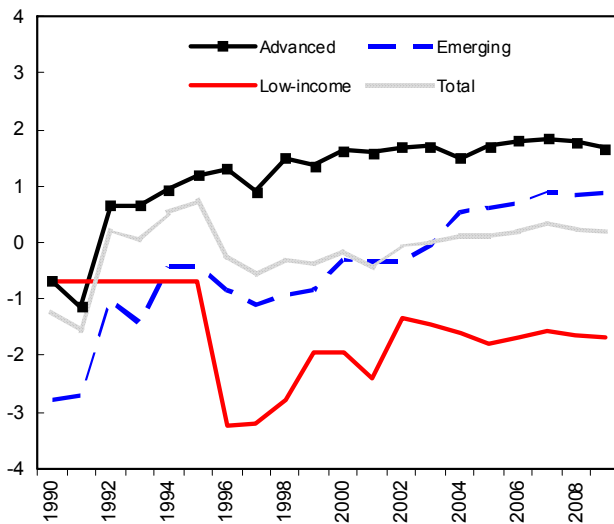
Sources: IMF fiscal rules database; and staff calculations.

1/ Share in country group.

2/ Index ranging from zero to one capturing the coverage of the fiscal aggregate and the strength of the enforcement mechanism.

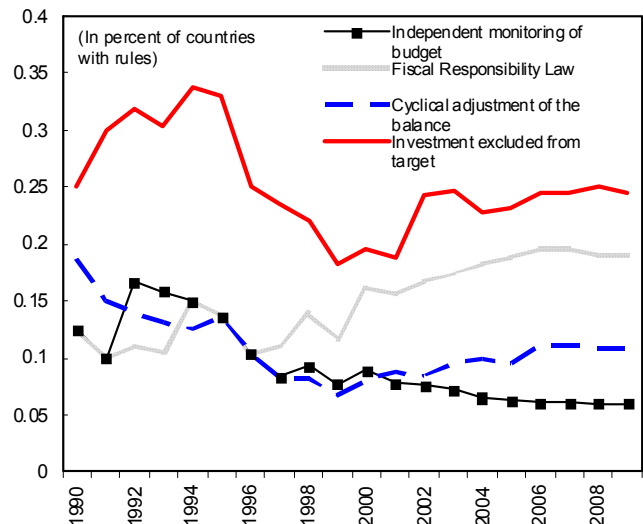
15. **Some aspects of the rule-based frameworks have become more stringent over time.** The rules' overall strength, measured by a composite index, has increased over the past decade (Box 1 and Figure 5a). Analysis of the different components of the index suggests that enforcement procedures and the flexibility of fiscal targets relative to output shocks (such as cyclically adjusted balances) have become more widespread (Figure 5b). This trend has not been common to other features of fiscal rules, such as the statutory basis and monitoring procedures, particularly in low-income countries.⁶

Figure 5a. Index of Strength of Fiscal Rules 1/



Sources: IMF fiscal rules database; and staff calculations.
 1/ See Box 1 for details on the construction of the fiscal rules index.

Figure 5b. Selected Features of Fiscal Rules



Sources: IMF fiscal rules database; and staff calculations.

C. Preconditions and Complementary Approaches

16. **Adequate public financial management (PFM) systems are prerequisites for effective implementation of fiscal rules.** First, there should be reliable data availability as well as a minimum technical forecasting capacity. Budgetary aggregates need to be predictable with sufficient degree of accuracy to avoid the risk that large deviations from the announced fiscal policy stance undermine a rule's credibility. Second, budget reporting systems should be comprehensive in terms of aggregates covered, and sufficiently developed to produce in-year and timely end-year reports. This allows internal monitoring of the adherence to the rule, and provides an opportunity to signal policymakers in time if policy changes are needed. Third, internal and external audit systems need to ensure that public

⁶ An index measuring the strength of the legal basis of the rule (highest for rules enshrined in constitutional laws, lowest for informal coalition agreements) shows that balance and debt rules have much larger scores compared to expenditure and revenue rules. The index has slightly declined over time for all types of rules as a result of the adoption of additional, more informal rules in the last decade.

resource utilization is fully accounted for. And finally, fiscal data—consistent with the budget reporting system—should be publicly released in line with a pre-announced calendar to allow external monitoring of the rule.

17. **In many cases, fiscal rules have been introduced as part of broader reforms aimed at strengthening the framework for fiscal policy, often through the introduction of fiscal responsibility laws** (Table 2). These frameworks typically rely on: (i) legislated broad principles that guide the formulation of fiscal policy; (ii) detailed articulation of rolling budget plans and fiscal projections over short, medium, and long horizons; (iii) effective budget mechanisms and procedures designed to minimize deficit biases;⁷ and (iv) strong transparency requirements and public oversight.⁸ These approaches have sometimes been strengthened by the operation of independent fiscal agencies tasked with the monitoring and assessment of fiscal developments (Box 2).

18. **These reforms have sometimes represented an alternative to the introduction of fiscal rules.** Some countries have strengthened their fiscal frameworks without emphasizing numerical fiscal targets. This approach has, for example, been followed by Australia and New Zealand. In these cases, in the absence of simple, well publicized, and easy-to-monitor numerical rules, the requirements of fiscal transparency may become even more important than under the fiscal rule approach.

⁷ This includes, for example, the adoption of top-down budgeting procedures, such as requirements that the aggregate expenditure ceilings and broad sectoral allocations be proposed by the Ministry of Finance and decided before considering specific line-by-line allocations. This reduces the room for shifting the budget envelope. Also, rigorous cost-benefit analysis requirements for projects, program budgeting, and strict limits on the capacity to amend or supplement the budget all limit the scope for short-term considerations to prevail over the medium-term orientation of fiscal policy.

⁸ This includes the mandatory publication of regular reports that must contain multiyear fiscal projections and other pre-determined disclosures (e.g., tax expenditures, impact quantification for new policies, long-term sustainability analyses, etc.).

Box 2. Independent Fiscal Agencies

An independent fiscal agency or a fiscal council can help in the formulation and implementation of sound fiscal policies. While leaving discretion about policy objectives and instruments in the hands of the political representatives, it can contribute to greater transparency—a prerequisite for the accountability of fiscal policy—and raise the political cost of inappropriate policy.

The desirable form of a fiscal council is country specific. The best form depends on the nature of the fiscal problem and on the country's political environment, including the constitutional setup, the legal tradition, and policymaking customs. A fiscal council can complement the role played by existing institutions and enhance the effectiveness of fiscal rules (see Debrun, Hauner, and Kumar, 2009).

A variety of fiscal councils have been in operation in many countries. There are three types:

- Agencies that provide objective analysis of current fiscal developments, and costing of budgetary initiatives.
- Bodies that produce independent projections and forecasts regarding both the budgetary variables as well as the relevant macroeconomic variables.
- Institutions that, in addition to the above tasks, have the mandate to provide normative assessments, including regarding the appropriateness of the fiscal policy stance.

Some examples:

- In Chile, to strengthen the implementation of the structural rule, the projection of inputs needed for estimating the trend GDP and “trend” copper prices is delegated to two independent expert panels (Appendix I).
- The Central Planning Bureau (CPB) of the Netherlands conducts detailed analyses and provides the economic assumptions for the budget. It also undertakes research on a broad range of economic issues and plays a key role in the development of the budget policy contained in the agreements among the government coalition partners.
- Hungary has instituted a “Fiscal Council” to monitor compliance with a new rule, introduced as part of the Fiscal Responsibility Law adopted in November 2008. The Council is mandated to facilitate the law's enforcement and to provide independent macroeconomic and budgetary forecasts although these are not binding for budget preparation.
- Sweden's Fiscal Policy Council monitors compliance with the surplus target of 1 percent of GDP on average over the business cycle, and assesses whether current fiscal policy is consistent with fiscal sustainability. It also evaluates transparency of the budget and the quality of forecasts.
- The U.S. Congressional Budget Office (CBO) advises Congress on a range of fiscal issues. It analyzes the administration's budget based on its own assumptions, “scores” new legislative proposals, and produces a large number and variety of in-depth analyses and reports.

Table 2. Fiscal Responsibility Laws in Selected Countries: Main Features

Country and Date	Original Law	Procedural Rules	Numerical Targets in FRL 1/	Coverage 2/	Escape Clauses	Sanctions
Argentina: Federal Regime of Fiscal Responsibility (2004)	1999, 2001	Yes	ER; DR	CG 3/	Yes	Yes
Australia: Charter of Budget Honesty (1998)		Yes	-- 5/	CG	No	No
Brazil: Fiscal Responsibility Law (2000)		Yes	-- 5/	PS	Yes	Yes
Colombia: Organic Law on Fiscal Transparency and Responsibility (2003)	1997, 2000	Yes	BBR; ER; DR	NFPS 6/	No	Yes
Ecuador: Fiscal Responsibility Law (2005)	2002	Yes	BBR; ER; DR	PS	No	Yes
India: Fiscal Responsibility and Budget Management Act (2003)		Yes	BBR	CG 3/	Yes	No
New Zealand: Public Finance (State Sector Management) Bill (2005)	1994 4/	Yes	-- 5/	GG	No	No
Pakistan: Fiscal Responsibility and Debt Limitation Act (2005)		Yes	BBR; DR	CG	Yes	No
Panama: Law No. 2 on Economic Activity Promotion and Fiscal Responsibility (2002)		No	BBR; DR	NFPS	No	No
Peru: Fiscal Prudence and Transparency Law (2003)	1999, 2000	Yes	BBR; ER; DR	NFPS	Yes	Yes
Spain: Budget Stability Law (2007)	2001	Yes	BBR	NFPS	Yes	Yes
Sri Lanka: Fiscal Management Responsibility Act (2003)		Yes	BBR; DR	CG	Yes	No
United Kingdom: Code for Fiscal Stability (1998)		Yes	-- 5/	GG	No	No

Sources: Corbacho and Schwartz (2007), and country documents.

1/ ER = Expenditure rule; BBR = Budget balance rule; DR = Debt rule; RR = Revenue rule.

2/ CG = Central government; GG = General government; PS = Public sector; NFPS = Non-financial public sector.

3/ Also adopted by some subnational governments.

4/ Fiscal Responsibility Act (1994) (and Fiscal Responsibility Amendment Act, 1998).

5/ These countries operate (de facto) rules, which are however not spelled out in the FRL.

6/ Fiscal rules set out in the FRL only apply to subnational governments.

III. EFFECT OF FISCAL RULES ON PERFORMANCE

A. Pros and Cons of Rules

19. **Rules aim at correcting the distorted incentives in policymaking.** Two main explanations have been put forward to explain such distortions and the resulting deficit bias: governments' shortsightedness and the "common pool problem" (this is similar to the debate on rules versus discretion for monetary policy). The shortsightedness derives from concerns about electoral prospects potentially leading to insufficient attention to longer-term requirements; governments may also opportunistically raise spending or cut taxes to increase reelection chances (Rogoff, 1990). The "common-pool problem" occurs since special interest groups or "constituencies" do not internalize the overall budgetary impact of their competing demands (see Debrun and Kumar, 2007b). In currency unions, supranational rules can

contribute to internalizing the regional costs of fiscal indiscipline and to establishing a framework for better coordination of the monetary-fiscal policy mix.

20. **However, several concerns arise regarding rule-based fiscal policy.** First, rules adopted without a sufficient political commitment to pursue a disciplined policy or without the prerequisites adequately in place are unlikely to be sustained and may end up undermining policy credibility. Second, rules—especially deficit and debt ceilings—may entail a procyclical stance in bad times as they constrain discretion (and in good times they may not be binding). Third, rules may reduce the quality of fiscal policy because they are generally silent on the composition of the eventual fiscal adjustment needed to comply. This may result in easy-to-cut capital spending that may have high social returns with potential negative impact on long-term growth prospects (Blanchard and Giavazzi, 2004). Rules may also distract from other priorities. Specifically, adjusting to a deficit limit may require difficult measures diverting political capital from other policies (e.g., long-term structural reforms). Fourth, rules can encourage “creative” accounting and off-budget operations to be seen abiding by the rule, reducing transparency. This temptation is likely to be all the greater in an environment of large deficits and debts, and sustainability concerns.

B. Available Empirical Evidence on the Impact of Fiscal Rules

21. **Empirical studies suggest that national fiscal rules have been generally associated with improved fiscal performance.** The most comprehensive analyses have been carried out for EU countries based on detailed data on national fiscal rules collected by the European Commission and summarized in fiscal rule indexes.^{9 10} The main findings are:

- For EU countries, tighter and more encompassing fiscal rules are correlated with stronger cyclically adjusted primary balances. The relation weakens, however, when measuring fiscal performance in terms of changes in public debt-to-GDP ratios. This may be an indication that creative accounting could have played a role in conforming to the rules’ requirements.
- As regards the type of fiscal rules, budget balance and debt rules have contributed to better budgetary outcomes. For expenditure rules, an impact is found only in terms of restraining primary spending.

⁹ Debrun et al., 2008; European Commission, 2006; Deroose, Moulin, and Wiertz, 2006; Debrun and Kumar, 2007a; and Ayuso-i-Casals et al., 2006.

¹⁰ For an overview of experiences with fiscal rules in emerging market economies, see, for example, Kopits (2004) and Corbacho and Schwartz (2007).

- The government level at which the rules apply matters. Rules for higher levels of government have been associated with more fiscal discipline than those applying to local governments.
- Some design features of fiscal rules seem to have a particularly beneficial impact on fiscal performance, including a strong legal basis of rules and strict enforcement.
- Fiscal rules are not per se credibility enhancing when measured in terms of their impact on market risk premia. Rather, staff analysis for the OECD countries suggests that direct “credibility reward” seems to be reaped primarily by countries that had already pursued reasonably prudent policies (Appendix IIb). For these countries, there was a beneficial impact in terms of lower risk premia.

22. Fiscal rules have also been identified as a success factor for fiscal consolidation.

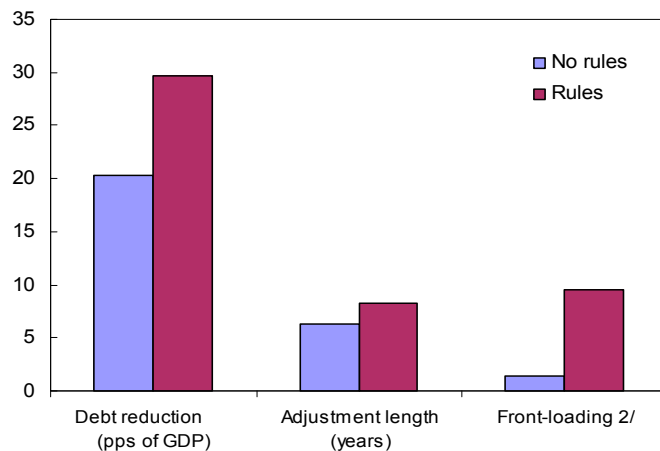
In OECD countries, the size of fiscal consolidations was significantly larger when national or supranational fiscal rules were present (Guichard et al., 2007). For EU countries, empirical analysis indicates that stronger and wider fiscal rules—as measured by a fiscal rules index—were associated with a greater likelihood for successful fiscal consolidation (European Commission, 2007). Econometric evidence on whether national fiscal rules have contributed to triggering fiscal consolidations (successful or unsuccessful) in EU countries is not clear-cut, however. When estimating the probability of a fiscal retrenchment occurring, the fiscal rules index is found to be only weakly significant (Larch and Turrini, 2008). However, the probability for fiscal rules to trigger a sharp consolidation rather than a gradual one is somewhat higher.

C. New Evidence on Fiscal Rules and Large Adjustments

23. In several cases of large fiscal adjustments, fiscal rules have played a supportive role.

This is suggested by a review of episodes in which countries managed to significantly reduce their public debt-to-GDP ratios through a combination of consolidation efforts and other factors, such as growth-enhancing structural reforms (Box 3). On average during large adjustments, countries with fiscal rules were associated with a larger reduction in their public debt ratio and over a longer uninterrupted period than

Figure 6. Features of Large Adjustments in Countries With and Without Fiscal Rules 1/



Source: Staff calculations.

1/ Includes 24 episodes in G-20, OECD, and European Union member states since 1980 (see Table in Box for details).

2/ Cumulative change in the cyclically adjusted primary balance (CAPB) in first three years relative to reduction in public debt-to-GDP-ratio over whole adjustment period.

countries without fiscal rules (Figure 6). At the same time, the tightening of the fiscal stance (measured by changes in the cyclically adjusted primary balance) was more front-loaded than in countries without rules (Table 3). These findings, however, do not control for other factors, such as exchange rate effects.

24. **While most fiscal rules were in place at the outset, some were adopted only during large adjustments.** In nearly half of the 24 successful cases since 1980, countries started the fiscal consolidation with national fiscal rules in place—in many cases they had just been introduced specifically with a view to reversing a trend of fiscal deterioration. For example, in Finland and Sweden, the adoption of fiscal rules was a major building block of adjustment efforts that followed the countries' banking and economic crisis of the early 1990s. Seven countries introduced fiscal rules after their debt ratios had started to decline (Appendix Figure 1).

Table 3. Characteristics of Large Adjustments in Countries With and Without Fiscal Rules

	No rules	Rules		
		In place at start and during adjustment	In place at start	Put in place during adjustment
		(Percent of GDP, unless indicated otherwise)		
Initial public debt	48.5	69.7	70.3	68.8
Reduction in public debt	20.3	29.7	24.0	38.5
Relative reduction in debt (percent of initial public debt ratio)	42.6	42.9	33.1	58.2
Adjustment length (years)	6.3	8.2	7.1	10.0
Annual reduction in public debt	4.0	3.7	3.3	4.3
Front-loading of reduction in public debt ratio (percent) ^{1/}	49.5	39.1	40.0	44.0
Front-loading of adjustment in CAPB (percent) ^{3/}	1.3	9.6	40.0	0.1
<i>Memorandum item:</i>				
Number of countries	6	18	11	7

Source: Staff calculations.

^{1/} Reduction in public debt-to-GDP ratio that occurred in first three years relative to total change in the public debt-to-GDP-ratio.

^{2/} Cumulative change in the cyclically adjusted primary balance (CAPB) in first three years relative to reduction in the public debt-to-GDP-ratio over the whole adjustment period.

Box 3. Large Fiscal Adjustments

The findings in this section are based on large public debt reductions that occurred in conjunction with fiscal consolidation, based on experience across 45 OECD, G-20, and EU countries since 1980. A large reduction in the public debt-to-GDP ratio is defined as a continuous drop by at least 10 percentage points over three years and 20 percent of the initial public debt stock. Abstracting from oil exporters and those episodes in which the reductions in debt ratios were predominantly driven by rapid real GDP growth and inflation (mainly the new EU member states) rather than primary surpluses reduces the number of episodes to 24. This sample matches closely that of earlier studies where adjustment was defined in terms of improvements of the cyclically-adjusted primary balance and impact on debt (see Kumar, Leigh, and Plekhanov, 2007). These countries managed to reduce their public debt ratios on average by 27 percent of GDP (or 40 percent of the initial debt ratio) over a period of about seven years.

Types and Coverage of National Fiscal Rules and Large Fiscal Adjustments 1/

	Fiscal Adjustment				Role of Fiscal Rules				Type and coverage of fiscal rules (Rules in place at start or during adjustment)			
	Year when public debt-to-GDP ratio first dropped	First year of sign. improvement in CAPB 2/	Change in public debt-to-GDP ratio	Length of episode (no. of years)	Year of adoption of fiscal rule	Fiscal rules at start in place?	Fiscal rules adopted/ revised during adjustment period?	Fiscal rules adopted later?				
Australia	1995	1995	-24.2	14	1998	No	Yes	No		CG		CG
Belgium	1994	1993	-53.0	14	1993	Yes	Yes	No	CG, SSS	CG	RG, LG, SSS	
Brazil	2003	2003	-21.0	4	2000	Yes	No	No	GG			GG
Bulgaria	2001	2000	-60.4	8	2003	No	Yes	No	GG			GG
Canada	1997	1995	-19.6	4	1998	No	Yes	No	CG		CG	CG
Denmark	1994	1997	-57.7	15	1992	Yes	Yes	No	GG		GG	
Finland	1995	1996	-15.4	8	1995	Yes	Yes	Yes			LG	CG
Finland	2004	na	-11.0	5	1999	Yes	Yes	No	CG	SSS	CG, LG	
Iceland	1996	1995	-15.4	5	2004	No	No	Yes				
Iceland	2002	2004	-20.5	4	2004	No	Yes	No	CG			
Ireland	1994	1993	-69.6	13	2004	No	Yes	No	CG		LG	
Korea	1983	na	-14.6	12	--	No	No	No				
Mexico	1991	1995	-25.2	3	2006	No	No	Yes				
Netherlands	1996	1996	-25.6	7	1994	Yes	No	No	GG	GG		
New Zealand	1993	1993	-44.2	16	1994	No	Yes	No			GG	GG
South Africa	2004	na	-10.0	5	--	No	No	No				
Spain	1997	1996	-31.3	11	2002	No	Yes	No			GG	RG, LG
Sweden	1997	1994	-19.7	4	1996	Yes	Yes	Yes	CG, SSS			
Sweden	2002	na	-18.6	7	2000	Yes	Yes	No	CG, SSS		GG, LG	
Switzerland	2004	2005	-13.5	5	2003	Yes	No	No	CG			
Turkey	2002	2001	-38.1	6	--	No	No	No				
United Kingdom	1985	1988	-15.7	7	1997	No	No	Yes				
United Kingdom	1998	1995	-12.0	5	1997	Yes	No	No			GG	GG
United States	1994	1994	-16.9	7	1990	Yes	No	No	CG		CG	

ER = Expenditure rule; RR = Revenue rule; BBR = Budget balance rule; DR = Debt rule

GG = General government; CG = Central government; RG = Regional government; LG = Local government; SSS = Social security system; na = non-available

1/ Includes episodes in G-20, OECD and European Union member states (except oil exporters) in which the public debt-to-GDP ratio dropped continuously over at least three years by at least 10 percent of GDP and at least 20 percent of the initial public debt stock; and this reduction was primarily driven by primary surpluses

(i.e., accounting in principal for more than 25 percent of the reduction, with the other three factors being inflation, real growth, and stock flow adjustments).

2/ Changes in the cyclically adjusted primary balance (CAPB). Improvement of at least 1 percent of GDP.

Sources: IMF fiscal rules database, European Commission database on fiscal governance, and country reports.

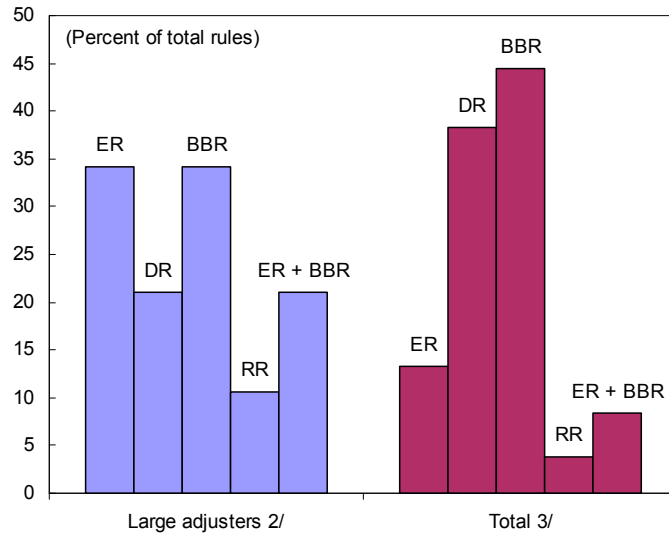
25. Combining budget balance with expenditure rules appears to have been particularly effective.

Expenditure rules were more widespread among large adjusters than across other countries that used fiscal rules and were in many cases combined with budget balance rules (Figure 7).

26. Moreover, these rules had a wide coverage and stronger monitoring mechanisms.

Most fiscal rules applied either to the general government or, in countries with decentralized structures, were supplemented by strict targets at the regional or local level (e.g., Belgium, Brazil, Canada, Spain, Switzerland, and the United States). Fiscal rules in the large adjusters were stronger regarding monitoring and enforcement mechanisms and were often strengthened over time. However, as regards the statutory basis, alternative approaches seemed to have worked well: while in some countries' rules were (or still are) enshrined in law (e.g., Ireland, Spain, Switzerland, and the United States), in others they are determined as part of political agreements (e.g., Denmark, Finland, the Netherlands, and Sweden).

Figure 7. Type of Rules Used During Large Adjustments 1/



Source: Staff calculations.
 1/ ER = expenditure rules; DR = debt rules; BBR = budget balance rules; RR = revenue rules; ER+BBR = simultaneous use of expenditure and budget balance rules.
 2/ National rules in place during large adjustment (see Table in Box 3).
 3/ Rules in place in a sample of 80 countries from around the world during 1985-2009; includes also supranational fiscal rules.

D. Caveats

27. While the above evidence suggests that rules are correlated with good fiscal performance, it should be interpreted with some caution. In particular, both fiscal rules and improved fiscal performance could be affected by omitted determinants of fiscal behavior such as political or budgetary institutions or processes. As a result, standard estimation would attribute the impact of these omitted variables to rules, causing a statistical bias. Stronger political commitment to fiscal discipline, for instance, could lead to both an improvement in performance and the adoption of rules. Since the problem is essentially one of data availability for the determinants of fiscal performance, to deal with it one needs to consider a sufficiently broad range of such determinants. A related issue is that of reverse causality—improved fiscal performance leading to the adoption of rules, perhaps to “lock in” gains in consolidation, or as a signal of authorities’ commitment. Using an instrumental variable methodology suggests that the potential bias due to the latter may be small (Debrun et al., 2008). However, the omitted variable problem can lead to a model misspecification that is not addressed by the instrumental variable method. Unfortunately, there is no fully

satisfactory methodology to deal with this issue unless adequate (but difficult to find) information on variables measuring commitment and budgetary processes and procedures can be obtained. Nonetheless, the fact that almost half of the Fund membership has adopted rules would suggest that they do confer some benefit.

IV. DESIGNING AND IMPLEMENTING FISCAL RULES

28. **There are three components of effective fiscal policy rules.** These components are particularly germane to an environment of weak public finances and heightened uncertainties about macroeconomic and fiscal developments:

- ***An unambiguous and stable link*** between the numerical target and the ultimate objective, such as public debt sustainability.
- ***Sufficient flexibility to respond to shocks*** so that the rule should at least not exacerbate their adverse macroeconomic impact. Depending on country circumstances, flexibility might be needed to deal with output, inflation, interest rate and exchange rate volatility, and other unanticipated shocks (e.g., natural disasters). However, it is essential to distinguish between temporary and persistent shocks.
- ***A clear institutional mechanism*** to map deviations from the numerical targets into incentives to take corrective actions: this can be achieved by incorporating in the rule a mechanism that mandates a correction of past deviations over a well-defined time frame, raising the cost of deviations; and an explicit enforcement procedure.¹¹

A. What is the Appropriate Variable to Constrain?

29. **The variable to constrain depends on a number of factors:** (i) a close link to the ultimate objective (i.e., the debt ratio); (ii) controllability and provision of clear operational guidance for fiscal policy; and (iii) transparency and ease of monitoring.

30. **The overall budget balance as a ratio to GDP generally fulfills these operational criteria.** It is in principle the variable that is most closely linked to the debt ratio, although operations that are off-budget (e.g., extra budgetary funds) or recorded as financing items could weaken this link. It is also easy to monitor and seen to be the key element determining performance. Even though spending rigidities may make adjustments difficult to achieve in practice, most of the budget items are controllable directly by the government, except for

¹¹ Implications of fiscal rules for cross-border externalities and policy coordination could be important but their assessment is beyond the scope of this paper.

debt service payments. Excluding the latter would raise controllability but it would come at the expense of weakening the anchor with debt.

31. **Constraining the debt ratio directly is operationally more challenging.** Debt is primarily influenced via the budget balance, but given the lags entailed in the impact of any budgetary slippages on the debt ratio, any remedial action may come too late to avoid adverse debt dynamics and market reaction. This explains why in many cases the debt ratio is constrained only in combination with a limit on the budget deficit. Debt could also be highly volatile in some cases as a result of changes in interest rates and the exchange rate, as well as “below-the-line” financing operations, which could imply the need for unrealistically large fiscal adjustments.

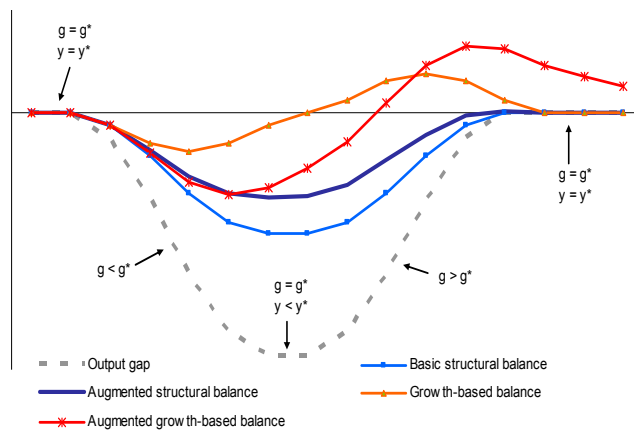
32. **An alternative variable to target is the level of expenditures but this also has limitations.** While expenditures are directly under the control of the policymakers, provide operational guidance, and are easy to monitor, they are not linked directly to the debt ratio without considering also the revenue side (see Section II.A). Therefore, their usefulness in meeting the debt target is generally limited to when they are used in conjunction with a budget balance rule. Alternatively, the government could consider constraining expenditure in combination with freezing tax parameters (for a proposal regarding this, see Anderson and Minarik, 2006). However, this is likely to be considerably more complicated, and there may also be loopholes emanating from tax expenditures.

B. Response to Output Shocks

33. **Targeting a cyclically adjusted or structural balance rather than the nominal balance provides a straightforward mechanism for allowing flexibility to respond to output shocks.** The main feature of the structural balance rule—which can be designed in several ways—is to provide an explicit allowance for the economic cycle’s impact through the operation of automatic stabilizers, both on the revenue and the expenditure side. The budget balance is allowed to decline (or rise) as necessary in response to changes in the *output gap* without prompting specific action (for a formal representation, see Box 4). If the cycle is reasonably well defined, that is deficits during the downturn are offset by surpluses during the upturn, a target structural balance consistent with the debt objective can be attained (see Appendix III for details).

34. **A variant of this rule uses deviations of output growth from trend.** Instead of using the output gap, which may be difficult to estimate in countries with limited technical capacity, an alternative is to compute a measure based on the difference between actual and long-term or trend *growth* (Box 4). This “growth-based balance” rule may be particularly useful in periods of uncertainty about the level of the output gap: in this rule, the nominal deficit is allowed to be higher when GDP growth in the current year is below its trend level, and vice versa. However, this approach does not remove the risk of procyclicality: for instance, during the early phase of economic recovery, actual growth may exceed trend growth and the rule may posit adjustment, even while the output gap is still highly negative¹² (Figure 8). To deal with that, an adjustment mechanism may be required (discussed below).

Figure 8. Response of Rules to Output Gap and Growth



35. **Another option is to target the overall balance “over the cycle.”** In contrast to the above two variants, which target annual structural balance levels, an over-the-cycle rule would require the government to achieve a nominal budget balance target *on average* over a full economic cycle. This implies greater budgetary flexibility to output fluctuations as it allows discretionary expansion in downturns which can be offset by corresponding contraction in upturns. But it could come at the expense of credibility: in particular, toward the end of the cycle procyclical fiscal tightening may be needed if fiscal policy was too loose in preceding years. Moreover, monitoring the performance of the rule requires precise dating of the cycle which hinges on the methodology used and the stability of national accounts data (e.g., the United Kingdom had defined its “golden rule”—excluding public investment from the target—over the cycle, and both issues became important subjects of public debate).

36. **For commodity exporters, an adjustment to volatile commodity prices may also be useful.** The basic issue is the uncertainty with regard to commodity-based revenues, and the possibility of boom-bust cycles reflecting changes in international prices. This would call for the structural balance with an adjustment for commodity revenue fluctuations (as in the case of Chile; see Appendix I), or targeting a non-commodity balance.¹³ Adjustment of the structural balance rule may also be needed to reflect the nonrenewable nature of a resource

¹² For a discussion of procyclicality issues, see Balassone and Kumar, 2007a and 2007b.

¹³ See Box 6 which also discusses issues related to coverage.

being depleted (this is the case, for example, in Botswana and Norway).¹⁴ The rule can be implemented with a notional fund, where any windfall from an increase in commodity revenue above its target is saved, which can then be used when commodity revenue falls (Appendix I and III).

37. **To implement a structural balance rule, three elements are needed.**

- **First, a structural balance target.** This is the balance that would lead to a sustainable debt level. The target should take into account the expected increase in spending due to demographic and other factors, as well as projected growth. For example, the structural surplus objectives in Denmark and Finland account explicitly for the impact of rising age-related spending.
- **Second, an estimation of the output gap.** This can be done using a simple statistical procedure (e.g., the Hodrick-Prescott (HP) filter), which produces symmetric estimates of output gaps. This depends on the sensitivity parameter and is influenced by the latest data (Appendix IVa). Although estimates can be subject to revisions ex post, some measure of output gap is regularly computed in most countries, and is an essential element in macropolicy generally. Nonetheless, given the limitations of the statistical procedures, an alternative may be to use the production function approach which is, however, more data demanding.
- **Third, estimates of revenue and expenditure elasticities.** These can be based on an analysis of the past relationship between the budget and the output gap, taking into account factors that may lead to changes in the elasticities (e.g., tax policy changes or expenditure reforms) (Appendix IVa). An important issue relates to the impact of cycles in corporate profits and asset prices on revenues, which may not be adequately captured by changes in output. The magnitude of this impact can be significant, and in principle should be taken into account. In practice, however, adjusting for these effects is challenging and has seldom been systematically undertaken.

¹⁴ Under the permanent income approach (used in Norway and a number of low-income oil producing countries), returns to the natural resource asset can be consumed.

Box 4. Structural Balance Fiscal Rules

A. Appropriate Response to Output Shocks

The *structural balance* rule posits that the budget balance in any given year is equal to the medium-term balance target adjusted for changes in the output gap. Formally,

$$b_t = b^* + a y_t^G, \quad a > 0 \quad (1)$$

where b_t is the overall balance in the current year, b^* is the medium-term balance target, a is the semi-elasticity of budget balance with respect to the output gap, and y_t^G is the output gap in the current year.

A variant of this rule, the *growth-based balance*, replaces the output gap with the difference between actual and long-term growth: that is

$$b_t = b^* + a (g_t - g^*) \quad a > 0 \quad (2)$$

where g_t is the GDP growth rate in the current year; and g^* is the average long-run GDP growth rate. Thus the overall balance reacts to changes in the growth rate rather than in the level of output. This could give rise to a procyclical response (Figure 8), which is why an additional term may be required (see below).

B. Responding to Past Deviations

In addition to the response to output shocks, these rules can be modified by taking into account past deviations from the target that can help deal with the speed of adjustment and/or procyclicality issues. Given that, the *augmented structural balance* rule is the basic structural balance rule with an additional term correcting for deviations in the balance from its target in the previous year. That is,

$$b_t = b^* + a y_t^G - c (b_{t-1} - b^*), \quad a > 0, \quad 0 < c < 1 \quad (3)$$

where c is the pace of correction to the deviation in the overall balance in the previous year, b_{t-1} , from its medium-term target b^* . The additional term reduces the magnitude of the balance deviation from its target, while still allowing for a countercyclical measure in the rule.

Likewise, the *augmented growth-based balance* rule includes a term that ‘smoothes’ the adjustment from any deviation in the deficit from its target in the previous year. (This type of rule is proposed in Fletcher and Benelli (forthcoming)). Formally,

$$b_t = b^* + a (g_t - g^*) + e (b_{t-1} - b^*), \quad a > 0, \quad 0 < e < 1 \quad (4)$$

where e is the pace of adjustment when the overall balance in the previous year, b_{t-1} , is away from the medium-term target b^* . By delaying the adjustment of the balance back to target, this term reduces the procyclicality of the rule. Note that this has the opposite effect than in the augmented structural balance where the adjustment to target is accelerated by the extra term (hence the opposite sign).

38. **Depending on country circumstances, an independent fiscal agency or a fiscal council could play a useful role in addressing some of the above elements.** Such a body, while leaving policy choices entirely in the hands of policymakers, could reduce the risk of biased estimates of the needed parameters as well as an assessment of the required adjustment (Box 2). It is likely to make a particularly useful contribution in an environment of heightened uncertainties about the economic cycle and potential growth when future trends may differ appreciably from the past.

C. Response to Inflation

39. **Inflation can complicate the design and implementation of fiscal rules.** The impact of inflation varies: nominal balance, expenditure, and revenue ceilings are the most affected. Even when targets are expressed as ratios to GDP, inflation can have an impact given its differential impact on the numerator and the denominator. Similarly, the debt-to-GDP ratio may be affected by inflation (even when real interest rates are unchanged) as the increase in the interest bill in response to the inflation-induced erosion in nominal debt may differ from the increase in nominal GDP. For countries that have nominal expenditure ceilings in the fiscal rule (such as multiyear spending limits in Sweden), higher inflation implies a lower real volume of goods and services that can be provided by the government. Budget aggregate ceilings expressed in real terms (e.g., real caps in spending mandated in the fiscal rules in Finland and the Netherlands) are protected from the effects of inflation.

40. **While there is no best practice, containing the impact of inflation on fiscal policy is desirable.** Fiscal rules that target real spending or revenue aggregate tend to entirely accommodate price increases, even when savings in real terms may be needed to avoid transmitting inflationary shocks to the economy through the budget. This is a particular concern in countries with high initial inflation or a track record of weaker inflationary control. Nominal ceilings run the opposite problem of not allowing any compensation in the budget for higher price levels. This may be more appropriate in countries with large governments where the spending inertia linked to inflation could be largest. When fiscal targets are expressed as ratios to GDP, the impact of inflation could lead to inappropriate fiscal response: for example, the overall balance could deteriorate as a result of price pressures leading to higher debt service spending. Therefore, an inflation-adjusted fiscal target (i.e., which eliminates the inflationary component of debt service from the balance) may be more appropriate.

D. Dealing with Other Shocks

41. **In addition to changes in output and inflation, flexibility may be needed to respond to a variety of other shocks.** In many countries, interest rate and exchange rate movements have a key impact via debt service (especially if the debt stock is large, short-term, and/or foreign currency denominated). In these cases, a rule based on overall balance could force sharp fiscal policy adjustments. While response will be needed if the shock is

persistent, targeting the primary balance may be helpful to the extent that shocks are transitory but encountered often.¹⁵

42. **While well-designed rules can provide adequate flexibility to deal with most shocks, the possibility of rare events needs to be taken into account.** This may be done via an “exceptional circumstances clause” that allows a temporary deviation from the rule in the face of a rare shock, or even to deal with the budgetary impact of major structural reforms (e.g., civil service reform). To ensure that the integrity of the rule is not undermined, a critical requirement for such a provision is to have predetermined, credible, and transparent mechanisms for underpinning the clause: (i) there should be a very limited range of factors that allow such escape clauses to be triggered; (ii) there should be clear guidelines on the interpretation of events; and (iii) the provision should specify the path back to the rule.

E. Response to Past Deviations

43. **Inability to meet the rule’s operational target in a given year does not necessarily need to trigger a response.** When the deviation from a budget balance reflects the impact of nonsystematic or temporary factors, it need not entail an adjustment.¹⁶ This reflects the expectation that such factors would offset each other in the medium term; for example, random errors in projecting growth would be cancelled out over time. However, when deviations are neither due to these factors, nor reflect “one offs” (such as the impact of the current crisis) that imply a more permanent departure from the rule, mechanisms to respond to past deviations are essential to maintain fiscal credibility.

44. **When deviations are unlikely to be offset in the medium term, the basic structural balance rule could be modified.** After a large downward shock to output, as has been the case during the current crisis, substantial debt accumulation may persist over time. In order to ensure an appropriate adjustment, the structural balance (as discussed in Section IV.B above) could be modified for deviations of past deficits from the target, giving the “*augmented structural balance rule*” (Box 4). The required adjustment can be calibrated to target a specific rate of decline in the debt ratio while preserving the countercyclical properties of the rule. Likewise, to reduce the procyclicality implied by the growth-based balance, an “*augmented growth-based rule*” can be specified. This calls for a gradual

¹⁵ In a currency union, while exchange rate and short-term interest rate movements reflect union wide developments, domestic policy instruments are constrained, and hence the design of rules should be particularly cognizant of the needed flexibility as fiscal policy remains the only available macroeconomic stabilization tool. In a fixed exchange rate environment, fiscal policy similarly has the onus to respond to shocks, and therefore adequate flexibility in the design of rules is needed.

¹⁶ No country has used debt as the operational target (see Section IV.A). If it were to be used, then deviations from the debt target would require adjustment.

adjustment to the target when the deficit is above the ceiling and incorporates an automatic but smooth adjustment to past deviations.¹⁷

45. **Both augmented variants can help achieve sustainability while providing scope for a countercyclical response.** The weight given to the adjustment to past deviations from the balance target relative to the cyclical parameter will determine the speed at which the overall balance returns to target (the “convergence” element), and the degree of countercyclicality envisaged by the rule. With a low weight on past deviations, adjustment will be slow and the countercyclical component may outweigh the pull from the convergence factor, allowing for stronger overall countercyclicality. But if convergence is required to occur rapidly and the weight placed on correcting past deviations is large, fiscal deficit may have to shrink while the output gap is still widening (Appendix III). It should be noted that while both variants have desirable properties, there could be a trade-off between analytically superior results and possible weakened credibility owing to complexity, especially in less advanced economies.

46. **Which rule is relatively better suited to lower debt or allow countercyclicality depends on the type of shock.** Simulations were undertaken to explore properties of rules (Appendix III):¹⁸ these suggest that in a persistently low-growth environment, the augmented growth-based balance rule performs well. It ensures a convergence of the deficit back to target, and places debt on a sustainable path faster than that required by the other structural balance variants. However, when facing large abrupt shocks, the relative performance of the different structural balance rules depends on whether the *initial* output shock is positive or negative. Under an adverse shock, the augmented growth-based balance rule is more apt to reduce the debt ratio faster, but at the cost of reduced countercyclicality. Conversely, the augmented structural balance rule performs better when the economy experiences a large positive shock, (even when followed by a drop in output), as the rule forces a larger share of the revenue windfall to be saved during the boom.

47. **The Swiss and German structural balance rules with a “debt brake” include a mechanism that deals with past deviations from the target.** In both countries, any ex post deviation from the structural balance rule (positive or negative) are stored in a notional account (Appendix I). In the Swiss case, the government must take action as soon as the negative balance in that account exceeds 6 percent of expenditure (about 0.6 percent of GDP)

¹⁷ The Turkish authorities recently announced their intention to adopt a version of this rule from the 2011 budget cycle. This type of rule is discussed in Fletcher and Benelli (forthcoming).

¹⁸ The simulations included (i) a *low growth scenario*, in which real GDP growth remains below trend and the output gap widens throughout the simulation horizon; (ii) a *large shock scenario*, where the output gap widens rapidly and then narrows progressively; (iii) a *boom-bust scenario*, where the economy experiences rapid growth for a few years, followed by a sharp decline in activity; and (iv) a *contingent liability scenario*, where the debt ratio rises by 15 percentage points.

and bring it back to below this threshold within the next three years. The German rule foresees an adjustment when a deficit limit of 1 percent of GDP in the notional account has been breached but this adjustment has to take place only in times of economic recovery. The maximum annual adjustment in structural terms is capped at 0.35 percent per year.¹⁹

F. What is the Appropriate Coverage?

48. **Coverage of fiscal rules raises two issues:** first, what level of government should the fiscal rule apply to (i.e., should it extend beyond the central government and also include subnational governments, social security accounts, or public companies)? And second, what expenditure and/or revenue items should be included in the target variable?

49. **As in most countries where different levels of government are responsible for fiscal policy, coverage of broad fiscal aggregates usually requires rules at different government levels.** Coverage of general government aggregates is more common in countries with supranational rules because of the higher status of the supranational legislation. In national fiscal rules, budget aggregates most often targeted under the rule relate to central government aggregates only, but there are separate rules for subnationals (Box 5). Public sector aggregates (comprising nonfinancial public enterprises that play key fiscal policy functions) could also be considered in countries where quasi-fiscal activities of these enterprises are large.

50. **With respect to the categories of expenditure and revenue covered by the fiscal rule, there are pros and cons of a more selective coverage.** Fiscal sustainability considerations argue in favor of a more comprehensive coverage, including on the spending side of tax expenditures. This is more likely to ensure effective control of total revenue and

¹⁹ Another difference between the Swiss and German adjustment mechanisms is the treatment of forecast errors regarding real GDP growth and the output gap. In the Swiss case, when such projection errors result in target deviations, they will feed fully into the notional account. This is not the case under the German rule, which corrects the ex post outcome of the structural balance for the forecast error in real GDP growth.

Box 5. Fiscal Rules at Subnational Level

Fiscal discipline is particularly challenging in countries where subnational governments account for a large share of resources. The main factors underlying fiscal profligacy by subnational governments include limited revenue authority and dependence on central government transfers that create moral hazard, spillovers from higher-spending jurisdictions, and differences in the timing and size of economic cycles across subnational governments that may spur procyclical fiscal behaviors. Also, in cases of large fiscal adjustment needs, it is essential to have a framework in place to ensure that the burden of the fiscal consolidation is shared by different government levels (see Ter-Minassian, 1997).

While subnational rule frameworks can be developed after national fiscal rules, consistency of fiscal policy objectives across government levels is necessary. It is optimal for fiscal rule frameworks to be applied at each level of government and introduced simultaneously. However, this is seldom the case in practice. In many countries, subnational rules were already in place before the adoption of national rules, e.g., Canada had legislated budget balance rules for a number of provinces and territories before it targeted a balanced budget at the federal level. In several Latin American countries, on the other hand, effective subnational rules were only introduced after rules had been adopted at the central government level, thereby undermining their effectiveness (e.g., in Argentina).

Nonetheless, establishing adequate coverage of fiscal aggregates in the national rules can help bring general government finances under control. Also, the flexibility of the fiscal rule should reflect the potential for asymmetric cyclical impact on regional economies of exogenous shocks. Complementing fiscal rules at the national level with subnational fiscal rules can help achieve this result.

Table 4. Pros and Cons of Selective Coverage

	Exclude	Include
<i>Interest payments</i>	<ul style="list-style-type: none"> ● Not under the control of the government in the short run. ● May be highly volatile and require short-term adjustments in other expenditure categories, with capital spending often the easiest to be cut. 	<ul style="list-style-type: none"> ● Compatible with objectives for overall public debt and tax burden.
<i>Cyclically-sensitive expenditure</i>	<ul style="list-style-type: none"> ● Not under the control of the government in the short run. ● May weaken the countercyclicality of fiscal policy and require short-term adjustments in other expenditure categories. 	<ul style="list-style-type: none"> ● Compatible with objectives for overall public debt and tax burden. ● Avoids political discussion on what items to exclude. ● Most cyclical sensitivity is on the revenue side not the expenditure side.
<i>Capital expenditure</i>	<ul style="list-style-type: none"> ● It is politically easier to be cut than current expenditure and thus short-term ad hoc adjustments in capital spending may negatively impact long-term growth prospects ("golden rules" exclude capital expenditure). 	<ul style="list-style-type: none"> ● Compatible with objectives for overall public debt and tax burden. ● More transparent. Excluding capital spending could lead to reclassification of current spending as capital. ● Not all capital spending raises productivity and long-run growth. ● Other spending on human capital investment could be as or more effective in stimulating growth as public investment.

Box 6. Coverage for Primary Commodity Exporters

Primary commodity exporters may choose to target a fiscal balance that excludes revenues from these exports. Setting a target on the noncommodity balance can insulate the budget from the volatility of commodity revenues and allows authorities to focus on a fiscal aggregate that can be controlled more readily than the overall balance. During periods of relatively high commodity prices or output, the overall budget might accumulate a surplus, and during periods of low prices or output, a deficit, but expenditures would be unaffected.^{1/} This is an advantage over the (unadjusted for commodity revenue) overall budget target which leads to budgeted spending levels rising and falling in line with commodity revenue forecasts, regardless of cyclical or efficiency considerations and could spur inflationary pressures. Another advantage of such a rule is that it may provide room for a fair use of commodity resources across generations by targeting the level of net wealth that includes the consumption out of resource assets (e.g., oil reserves). (In Norway, for instance, the structural non-oil deficit targeted by the fiscal guidelines excludes the budget's oil-related revenues and expenditures, and a variety of adjustments are made including for cyclical fluctuations in mainland economic activity).

There are, however, concerns that targeting a noncommodity balance could lead to excessive headline deficits in case of a sharp drop in commodity prices or output. With a given noncommodity balance, a steep decline in commodity revenues—say, from a collapse of prices—could lead to a large increase in the overall deficit. To address this concern, the noncommodity deficit target could be complemented by a limit on the cumulative deviation of the overall deficit from its notional target (the projected headline budget deficit given the official noncommodity target and a projection of commodity revenues) over a rolling period. Should the cumulative deviation in headline outturns exceed this limit, the authorities could, for example, be required to announce measures to reduce the cumulative deviation to zero over a prescribed period. This would be comparable to the correction mechanism of the Swiss “debt brake.” An alternative is Chile’s budget balance rule, which is defined in structural terms, including by correcting for deviations in the prices of copper and molybdenum, from their long-term levels (Appendix I).

^{1/} A sustained period of high or low commodity prices could have an impact on the assessment of the sustainable noncommodity balance, which would affect the level of spending.

expenditure, and make the target more transparent and easier to monitor and enforce. However, including volatile items in the rule would lower the overall stability and predictability of fiscal aggregates and could require ad hoc adjustments in other budgetary items (Table 4 and Box 6). One item that has in practice been frequently excluded from targeted fiscal aggregates is capital expenditure (the “golden rule”) on the grounds that such spending contributes to growth over the long run. This type of rule however raises serious concerns: it weakens the link with gross debt; not all capital expenditure is necessarily productive; and other items such as expenditures on health and education may raise productivity and potential growth even more. Thus, the exclusion of capital expenditure needs to be weighed against risks of “creative” accounting that reclassifies spending items; lower transparency; and a weaker link to sustainability.

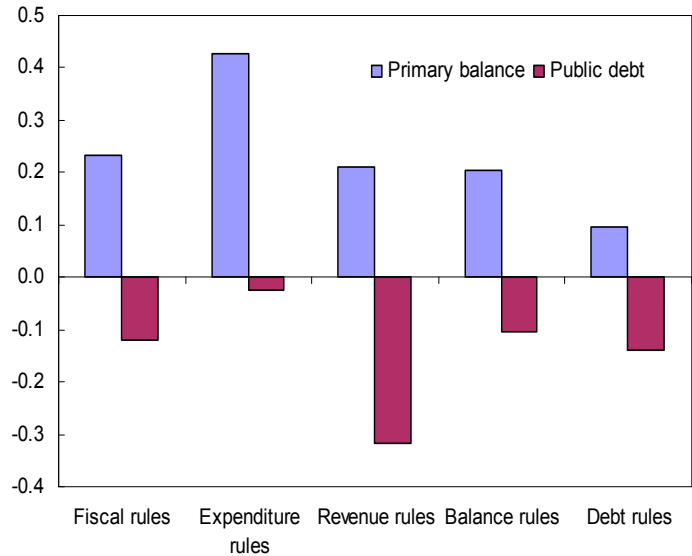
51. **A related question is whether with regard to the ultimate target, net or gross debt should be used.** In principle, net debt (gross debt minus financial assets) would be desirable since it takes into account the full financial balance sheet of the government. However, gross debt indicators are generally used in fiscal rule frameworks, perhaps because they better reflect

the potential financing risks envisaged from tapping limited domestic capital markets in many countries.

G. When to Introduce a Rule?

52. **Rules have typically been adopted to lock-in fiscal adjustment gains.** Fiscal rules have a higher likelihood of being introduced when countries have already made at least some initial progress toward fiscal consolidation and macroeconomic stability (Figure 9 and Appendix IIa). Countries that were able to reduce the public debt ratio by more than 2 percentage points in the three years before the introduction of fiscal rules had twice the probability of adopting a rule compared to other countries. This suggests that prior consolidation makes the establishment of the rule more credible (Ireland, Mexico, and Spain, for example, adopted fiscal rules toward the end of large fiscal consolidation efforts to cement the results achieved). In other countries, existing rules were strengthened after adjustment efforts had achieved tangible improvements: in the three years prior to the tightening of rules or expansion of their coverage in EU countries, fiscal indicators improved significantly and stabilized after the rule was implemented.²⁰

Figure 9. Impact of Selected Initial Fiscal Conditions on the Probability of Introducing Fiscal Rules by Type 1/



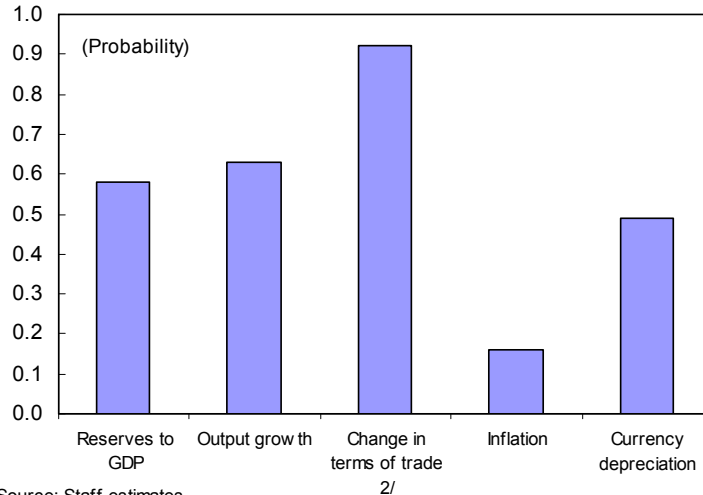
Source: Staff estimates.
 1/ Logit regression results. The bars measure the effect on the probability of introducing fiscal rules of a 1 percent of GDP increase in the primary balance and public debt.

53. **The lag in the introduction of rules reflects two factors relating to credibility aspects and the speed of adjustment.** First, prior consolidation makes the adoption of rules more credible. It signals the authorities' commitment to undertake the requisite measures to put the budgetary situation on a sustainable footing. Second, the speed of adjustment during the consolidation period may be different from that needed during the steady state. There are two aspects of this: (i) the rule may require an excessive pace of adjustment in the near term—especially if starting from a high debt level—which may not be feasible (this important consideration is explored in Section V.B); and (ii) the rule may not mandate enough adjustment, based on the fiscal policy needs once economic conditions return to normalcy.

²⁰ Both fiscal deficit and public debt indicators improved preceding the introduction of tighter fiscal quantitative rules or their expansion to cover a larger proportion of the budget (see Debrun and Kumar, 2007a).

54. **Fiscal rules should, in general, not be introduced in an excessively uncertain economic environment.** Economic instability can complicate the establishment of an appropriate fiscal target as well as the implementation of policies to attain it. (For example, fiscal rules were introduced in Argentina in the context of extreme economic volatility in 1999 and were ineffective and later reversed). Staff analysis suggests that low output growth, increasing public debt and large currency depreciations were all associated with a lower probability of introducing a fiscal rule (Figure 10). Nonetheless, a well-designed fiscal rule can be instrumental in stabilizing expectations and help policy credibility once debt levels have been reduced through fiscal consolidation and economic conditions have improved as a result of a shift in policies (Section V.B).

Figure 10. Impact of Economic Factors on the Probability of Introducing Fiscal Rules 1/



Source: Staff estimates.

1/ Each bar measures the relative probability of introducing fiscal rules in countries with higher-than-average values in the respective variables except for the reserves and output variables (which are below average).

2/ An increase in the variable is equivalent to deterioration in the terms of trade.

H. What is the Desirable Legislative Support?

55. **Rules enshrined in higher-level legislation are likely to be more difficult to reverse or abandon.** Fiscal rule frameworks embedded in constitutional laws, such as the recent German fiscal rule, need parliamentary “super-majorities” to be established and changed. This confers more stability to the rule framework, although it does not necessarily make it more effective if accountability procedures and enforcement mechanisms are weak. Countries belonging to monetary unions have fiscal rules established by international treaties. However, rules can also be established solely through political commitments, through coalition agreements, or by embedding them in statutory norms. The main advantage of the last option is the simplicity of the adoption process and the potential for rapid implementation of the rule.

56. **A majority of rules is embedded either in statutory norms or international treaties.** The bulk of budget balance and debt rules is contained in international treaties, while expenditure rules are enshrined in national legislation (Table 5). A significant number of

Table 5. Statutory Basis of Fiscal Rules 1/

	Type of Fiscal Rule			
	Expenditure	Revenue	Balance	Debt
Political commitment	9	6	4	3
Coalition agreement	2	1	1	2
Statutory	14	3	13	7
International treaty			41	47
Constitutional			4	3
Total	25	10	63	62

Sources: IMF fiscal rules database; and staff calculations.

1/ The sum across columns can yield a higher number than the countries with the rules as multiple rules are in place in many countries.

countries have implemented spending rules through political commitments and coalition agreements. Revenue rules are also more commonly established in this manner. Stronger constitutional mandates for fiscal rules are present only in a few countries (including Germany, Poland, and Switzerland). The variety of statutory mechanisms indicates that country-specific circumstances are key in the choice of the legislative framework, including the coverage of the rule. Nonetheless, rules embedded in higher level legislation tend to be longer-lasting and reduce the likelihood that they can be radically changed with a change of government. This is particularly important in countries where political change could otherwise undermine the credibility of fiscal policy.

I. Enforcement

57. **The mere introduction of fiscal rules does not guarantee success, unless the cost of breaking the rule is higher than the benefit of doing so.** Thus, the cost entailed in deviations from numerical targets play a key role in a rule's effectiveness. Evidence suggests that rules that do not have effective enforcement mechanisms tend to fare worse than rules that do and are more likely to be abandoned or reversed (Debrun et al., 2008). The cost of deviations from the rule range from formal sanctions (both institutional sanctions such as credit restrictions and personal fines, dismissal, and penal prosecution) to the adverse reputational impact of renegeing on a public commitment.

58. **Sanctions are rarely envisaged, because they require an effective third-party enforcer.** The SGP for the EU and similar arrangements in the monetary unions of the African Franc Zone constitute examples of formal sanctions being envisaged on a noncompliant government. These sanctions involve, in the extreme case, the payment of a fine under the Excessive Deficit Procedure for the euro area or the suspension of voting rights in supranational bodies under the WAEMU. However, in the case of the euro area, it has been argued that sanctions have only been envisaged as the ultimate deterrent never intended to be used (Eichengreen and Wyplosz, 1998) as they come at the end of a long series of procedural steps designed to increase pressure for self-compliance. At the national level, constitutional rules can effectively prevent the submission or adoption of a budget at odds with the prescription of the rule. Although they may differ in terms of their specific features, all sanctions for ex post deviations reflecting a deliberate intent to breach the numerical limits are generally difficult to implement and are likely to come with delays. Furthermore, in some cases, full enforcement of the sanctions may lead to political instability. As a result, their effectiveness may be limited.

59. **Therefore, formal enforcement procedures should rely on mechanisms maximizing reputational cost and/or mandating corrective actions.** Reputational costs can be increased in various ways, including a court ruling declaring unconstitutional violations of the rule, or an obligation to publicly explain deviations. The obligation to take corrective action can also be effective. There can be binding correction clauses that automatically require adjustment of certain expenditure or tax parameters. Such procedures, however, effectively amount to

sanctions and they deprive parliament from its budget prerogatives (they are only found in some Swiss cantons). More realistically, enforcement procedures involve the close monitoring of adjustment measures (as in the EU), or an automatic tightening of the numerical limits affecting future budgets (Switzerland and Germany). Earlier, the so-called sequesters under the Gramm-Rudmann-Hollings Act in the U.S. (1985–87) mandated spending cuts to offset deviations from fixed deficit targets.

60. **While enforcement generally deals with past deviations from the rule, it is often possible to detect slippages during the budget year.** Corrective actions, such as specific budget amendments (e.g., as in Belgium), could be mandated with a view to avert a deviation by year-end. Incentives to do so can come from the desire to forestall future sanctions or reputational costs, but could also be specifically prescribed by the fiscal rule.

V. RULES IN THE CURRENT ENVIRONMENT

A. Response of Fiscal Rules to the Crisis

61. **While rules can help anchor medium-term expectations, the current crisis has exposed their limits in many cases when faced with extreme shocks.** Based on responses to a staff questionnaire to area department desks, challenges in operating existing fiscal rules during the crisis varied considerably across countries and rules (Table 6).²¹

- In over half the countries with national fiscal rules only, the existing frameworks were able to deal with the crisis. This was aided by flexibility built into numerical constraints, timeframe for adjustment, and/or escape clauses (as, for instance, in Brazil, India, Indonesia, Kenya, and Norway). Another quarter of the countries with only national rules modified them or put them into abeyance in response to the crisis. Desks for the rest of the countries noted a conflict between the fiscal rules and the desired policy response, and expected that the rules would be modified or suspended.

²¹ For countries with fiscal rules, the questionnaire inquired about three options in response to the crisis: (i) no need to change the fiscal rule; i.e., rule(s) could accommodate an adequate policy response to the crisis because of flexible numerical constraint (e.g., set in cyclically adjusted terms), flexible timeframe for adjustment, and/or escape clauses; (ii) no change but conflict with rule, i.e., rule(s) were not changed, but a conflict existed between the numerical constraint(s) and adequate fiscal policy response. In this case, the rules are expected to be put in abeyance, or substantially modified; and (iii) change in the rule or application suspended; i.e., numerical constraints and/or policy rule(s) were changed either temporarily or permanently.

Table 6. Fiscal Rules and the Crisis 1/

No need for change 2/	Number of countries	31	<i>Belgium</i>	Brazil	<i>Bulgaria*</i>	Cape Verde	<i>Chad</i>
	In percent of total responses	43	<i>Cyprus</i>	<i>Czech Republic*</i>	Ecuador	<i>Equatorial Guinea*</i>	<i>France*</i>
			<i>Greece</i>	Iceland	India	Indonesia	<i>Ireland*</i>
			<i>Italy</i>	Japan	Kenya	<i>Latvia</i>	Liberia
			<i>Luxembourg*</i>	<i>Malta</i>	Norway	<i>Poland*</i>	<i>Portugal*</i>
			<i>Romania</i>	<i>Slovak Republic</i>	<i>Slovenia*</i>	<i>Sweden*</i>	Switzerland
			<i>Timor-Leste</i>				
No change but conflict with rules 3/	Number of countries	25	<i>Antigua and Barbuda</i>	<i>Benin</i>	Botswana	<i>Burkina Faso</i>	<i>Cameroon</i>
	In percent of total responses	35	<i>Central African Republic</i>	<i>Congo</i>	<i>Cote d'Ivoire</i>	<i>Denmark*</i>	<i>Dominica</i>
			<i>Gabon</i>	<i>Grenada</i>	<i>Guinea Bissau</i>	Israel	Kosovo
			<i>Mali</i>	<i>Niger</i>	Nigeria	Pakistan	Panama
			<i>Senegal</i>	<i>St. Kitts and Nevis</i>	<i>St. Lucia</i>	<i>St. Vincent and the Grenadines</i>	<i>Togo</i>
Rules changed or application suspended	Number of countries	16	Angola	Argentina	<i>Austria* 4/</i>	Chile	Costa Rica
	In percent of total responses	22	<i>Estonia*</i>	<i>Finland*</i>	<i>Germany* 4/</i>	<i>Hungary*</i>	<i>Lithuania*</i>
			Mexico 4/	Namibia	<i>Netherlands*</i>	Peru	<i>Spain*</i>
			<i>United Kingdom*</i>				

Source: Responses to questionnaire to IMF desk economists (April 2009).

* Italics indicates countries with only supranational rules; italics and asterisk denote countries with both supranational and national rules; all others have only national rules.

1/ The survey inquired about the response of both national and supranational fiscal rules to the crisis. No supranational rules have been modified or suspended so far.

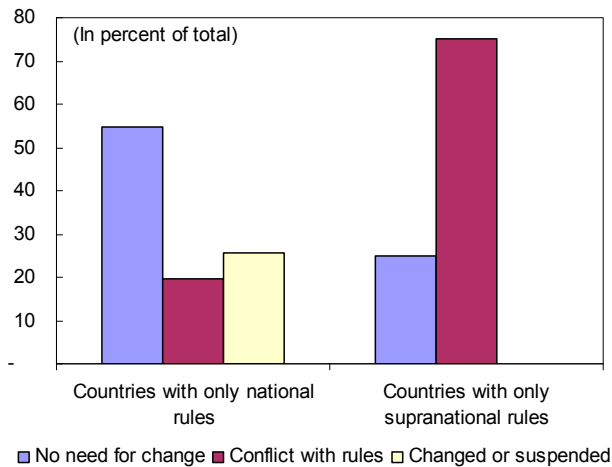
2/ Relatively long deadlines for correcting the excessive deficits were generally endorsed under the EU's SGP; thus, for the supranational rule, EU countries fall into "no need for change" response. EU countries that are shown in the other two categories reflect responses of their national rules. See also Appendix I and Appendix Table I.

3/ This refers to the cases where an adequate policy response to the crisis, either already in place or under consideration, was not entirely consistent with the existing rules, while an explicit modification of the rules or their application has not been made as of April 2009.

4/ Changes in the rules were envisaged prior to the current crisis.

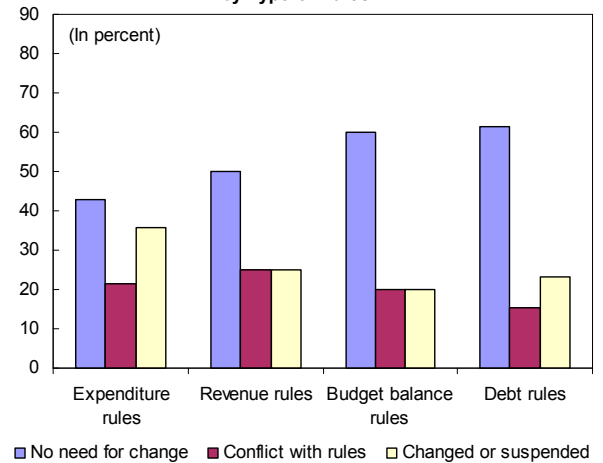
- No supranational rules have been changed in response to the crisis. However, experience has varied with regard to the flexibility that these rules allowed to deal with the crisis. Under the EU's SGP, while excessive deficit procedures have been initiated for 20 of the 27 member countries, relatively long deadlines for correcting those deficits were generally endorsed. In the two African monetary unions and the ECCU, the rule-based framework was generally deemed to pose a conflict with many countries' fiscal policies. This is reflected in Figure 11, which shows that the incidence of a conflict between the supranational rule (for those countries that *only* operate a supranational

Figure 11. Responses of Fiscal Rules during the Current Crisis 1/



Source: Responses to questionnaire to IMF desk economists.
 1/ The responses shown here apply to countries that had either only national or only supranational rules in place.

Figure 12. Responses of National Rules: by Type of Rules 1/



Source: Responses to questionnaire to IMF desk economists.
 1/ The responses shown here apply to countries that had only national rules in place.

rule) and adequate policy response was relatively high (since most EU countries also have national rules in place).

- Numerical constraints on spending were more restrictive than others, particularly when combined with limits on deficit or public debt. Among countries with only national rules, expenditure rules tended to have higher incidence of policy conflict (21 percent) and rules were changed more frequently (36 percent) (Figure 12).
- The ability to provide countercyclical policy support was notable in rules with a flexible timeframe for adjustment. Many advanced and emerging economies had such rules in place. In low-income countries, however, the ability to provide policy support was mostly attributable to flexible numerical constraints and escape clauses reflecting, in several cases, difficulties in casting rules in medium-term fiscal frameworks.

B. Framework for the Transition Period

62. **In the transition from crisis management to normalcy countries are confronting the issue of the fiscal framework appropriate to their circumstances.** As the global economy recovers, many countries face the need to bring public debt down to prudent levels within a specified timeframe and taking into account longer-term spending pressures. Other countries with less pressing adjustment needs nonetheless will also benefit from maintenance of market confidence. The above evidence highlights the challenge many countries with rules have faced in times of exceptional distress. Looking ahead, a number of questions arise: should rules be reinstated in countries where they were put into abeyance, and should they be introduced in others where they have not been in operation in the recent past? And should countries with existing rules consider strengthening them?

63. **In countries with no existing rule and relatively small adjustment needs, early implementation of a rule may help cement policy credibility.** Introducing a rule that is well-designed and implemented (and supported by political commitment as well as appropriate institutional mechanisms) can help guide fiscal policy and anchor expectations regarding public finance sustainability. While this may not be needed for all countries with limited adjustment needs, it can be useful where there are growing concerns about the ability of governments to restrain future spending pressures (for instance, related to aging) or potential exposure to further global shocks. Such anchoring could help forestall adverse market reaction including through higher risk premia and facilitate the conduct of prudent fiscal policy.

64. **In countries facing large fiscal consolidation needs and unusual uncertainty, an early adoption of a rule or a rapid return to the fiscal targets envisaged by existing rules may be infeasible.** These countries need to bring debt under control through significant fiscal adjustment in an environment characterized by high risk, including through lower potential growth and rising global sovereign bond supply. In such a situation, implementing a fiscal rule involving fiscal targets that are appropriate for the medium term would entail an excessive pace of fiscal adjustment. For example, for the average of the advanced G-20 countries, an early implementation of a fiscal rule targeting, say, a zero structural balance in 2011 would entail an adjustment of around 4½ percentage points of GDP,²² in an environment of significant economic uncertainties and a fragile recovery.

65. **This suggests that in these countries a time bound, realistic consolidation plan should precede the implementation of the rule.** Such a strategy would enhance policy credibility and facilitate convergence to the eventual fiscal rule target. During this transition, clearly specified multiyear structural balance paths backed by appropriate benchmarks and policies can be instrumental in achieving the required debt reduction while ensuring a feasible adjustment pace. When economic conditions have normalized, the fiscal rule can be introduced or operationalized again.²³

66. **At the same time, it may be advisable for countries to design and announce a credible rule-based framework and a timeframe for its implementation.** The process of reaching social consensus on the framework, and ensuring that the supporting budgetary procedures and the institutional mechanisms are in place is likely to take time. In addition, coordinating such a fiscal framework across different levels of government (and/or the supranational level where relevant) to ensure consistency in fiscal targets can be important and may take time, as may the development of monitoring and enforcement mechanisms. Therefore, a useful strategy would be to accompany the fiscal consolidation plan with the

²² This estimate is consistent with the projections in IMF (2009).

²³ For example, the German fiscal rule provides a transition period of five years during which substantial adjustment is envisaged before the rule becomes operational.

design and announcement of a fiscal rule to be implemented when economic conditions return to normal.

VI. ISSUES FOR DISCUSSION

- There has been a marked increase in the adoption of rule-based frameworks in many advanced and developing countries. How do Directors view this increase? Have these frameworks helped enhance fiscal policy credibility and anchor medium-term expectations regarding fiscal sustainability?
- Would Directors consider that fiscal rules can play a useful role in the conduct of fiscal policy even if they are not necessarily appropriate for all countries? While commitment is essential for rules to be effective, can they in turn enhance it? How do Directors view the adoption of institutional fiscal frameworks, including FRLs, which do not rely on quantitative numerical rules?
- What design features would Directors regard as most desirable and appropriate? How do they view the trade-off between credibility and flexibility in the adoption of rules? What are the measures that can be adopted to enhance credibility while preserving adequate flexibility? Would they agree that to provide flexibility in response to output shocks, cyclically adjusted balance rules are potentially useful options?
- How do Directors view the role of supporting budgetary and monitoring institutions, including public financial management, and fiscal councils, in ensuring the effectiveness of rules?
- Do Directors agree that given the large adjustment needs, and high uncertainty, it would be desirable for some countries to adopt a time-bound and realistic consolidation plan before implementing a fiscal rule? Nonetheless, would they consider it advisable to design and announce early-on a credible rule-based framework, and a timetable for its introduction?

Appendix I. Fiscal Rules Allowing for Cyclical Flexibility: Selected Cases

Switzerland

Switzerland’s “debt brake” was motivated by a desire to arrest a significant build up in the public debt ratio. The new rule, enshrined in the constitution, was adopted by popular vote in 2001 and took effect in 2003 with the objective of stabilizing the nominal level of Federal debt. This was in response to a surge of the public debt ratio in the 1990s—even though at 51 percent of GDP it was still below that of many other advanced economies.

The core of the Swiss fiscal framework is expenditure targets consistent with annual structural balanced budgets. In particular the rule specifies a one-year-ahead ex ante ceiling on central government expenditures equal to predicted revenues (both net of one-off items), adjusted by a factor reflecting the cyclical position of the economy. The cyclical factor is determined as the ratio of trend real GDP (estimated by using the HP filter) to expected real GDP. At the end of the budget year, the ex post expenditure ceiling is calculated by multiplying the actual revenue ratio by trend GDP. Any deviations of actual spending from the ex post spending ceiling, independent of their cause, are accumulated in a notional compensation account. If the negative balance in that account exceeds 6 percent of expenditures (about 0.6 percent of GDP) the authorities are required by law to take measures sufficient to reduce the balance below this level within three years. An escape clause exists: parliament can approve by supermajority a budget deviating from the rule in “exceptional circumstances.” Moreover, “extraordinary expenditure” can be added through supplementary budgets.

Despite some complications at the start, the Swiss rule has so far performed generally well. As a relatively large structural balance emerged in 2003 due to an underperformance of revenues, the rule was initially not applied strictly but an adjustment path was instead specified. Nevertheless, the debt brake has contributed to stabilizing the public debt level until the current crisis. However, a number of issues have been noted: (i) the deficit limit may be too tight, implying a sharp reduction of the public debt-to-GDP ratio over the long run; (ii) difficulties in appropriately capturing the cycle with the HP filter underpinning the fiscal rule, with errors potentially intensifying procyclicality; (iii) the rule applies only to the Federal budget, excluding social security, and therefore does not provide an anchor for long-term fiscal sustainability; and (iv) the rule could be circumvented by drawing on the exemption clause and introducing extraordinary expenditure. In response to the last issue, Switzerland has recently amended the rule making the authorization of extraordinary expenditures contingent on additional measures over the medium term.

Germany

Germany revised its constitution in June 2009 with a view to ensuring the sustainability of public finances. Under its previous constitutional “golden rule,” which limited net borrowing to the level of investment except in times of a “disturbance of the overall economic equilibrium,” the public debt to-GDP-ratio had steadily risen. The new rule will take effect from 2011—with a transition period until 2016 for the Federal government and until 2020 for the states.

The German constitution defines structural budget balance targets. In particular, the structural (net of one-off items) Federal budget is set to not exceed a deficit of 0.35 percent of GDP, while the states need to balance their structural budgets. The cyclical component of the budget is calculated based on the European Commission’s method, multiplying commonly agreed-upon revenue and expenditure elasticities with an output gap estimate (derived from a production function approach). If the outturn of the structural balance deviates from the 0.35 percent of GDP deficit limit, the (positive or negative) gap is stored in a notional control account corrected for those errors deriving from real GDP growth projections. If the control account debit exceeds 1.5 percent of GDP the Constitution requires an adjustment. In practice, ordinary law foresees the adjustment to start already when a limit of 1 percent of GDP is reached. However, it only needs to be launched during an economic recovery to avoid a procyclical tightening. The budget rules allows for exceptions, if adopted by supermajority in parliament, in case of a natural disaster or exceptional emergencies. Adoption of exceptionally higher budget deficits, however, needs to be accompanied by an amortization plan. While there are no binding sanctions for violating the new budget rule, a Stability Council will be established with the task to monitor public finances and issue early warnings.

The new fiscal rule can be seen as an important element in Germany’s exit strategy from the crisis and is consistent with the EU’s supranational fiscal framework. Even though the process for reforming the fiscal rule had started well before the crisis, the adoption of a transition regime from 2011 to 2016, when the rule will take effect for the Federal budget, is consistent with the currently envisaged timing for exiting from the crisis-support policies. Moreover, the 0.35 percent structural balance target is in line with Germany’s obligations under the EU’s SGP, which include for Germany a medium-term budgetary objective (defined in structural terms) of a deficit of ½ percent of GDP. During a normal business cycle, this should also be consistent with meeting the 3 percent headline deficit limit of the SGP. By using the EU’s methodology for defining the structural budgetary position, Germany has also aimed to enhance the transparency of the rule’s technical aspects.

Chile

Since 2001, Chile's fiscal policy has been built on the concept of a central government structural balance. This framework has been intended to signal long-term fiscal policy intentions, while avoiding procyclical policies and allowing full operation of automatic stabilizers from the revenue side. Under the structural balance rule, government expenditures are ex ante budgeted in line with structural revenues, i.e., revenues that would be achieved if: (i) the economy were operating at full potential; (ii) the prices of copper and molybdenum, Chile's major exports, are at their long-term levels; and, more recently, (iii) the return on accrued financial assets were in line with the long-term interest rate.

The implementation of the structural balance rule is aided by two independent panels of experts to determine potential output and the long-term price of copper. Each year, the Finance Ministry assembles two independent panels of 11–15 individuals who are widely regarded as experts in their fields. The Finance Ministry asks the copper price panel to provide a ten-year forecast of copper prices and the reference price is then set as the arithmetic average of the forecasts (excluding two most extreme estimates). From the potential output panel, the ministry requests 5–6 year growth forecasts for: (i) labor force; (ii) real investment; and (iii) total factor productivity. Officials compute average forecasts and use HP-filtered series to estimate trend GDP and the output gap from an aggregate Cobb-Douglas production function.

Compliance with structural balance targets is not legally binding. However, successive governments have reiterated their commitment to the set targets and have complied with them. The 2006 Fiscal Responsibility Law (FRL) institutionalized key aspects of the structural balance rule framework (without forcing the government to commit to a specific target) and complemented the fiscal framework with the introduction of various government funds (e.g., Pension Reserve Fund, and the Economic and Social Stabilization Fund).

The structural balance target was originally set at a surplus of 1 percent of GDP but has been changed in recent years. Between 2002 and 2007, a target of 1 percent of GDP surplus was chosen because of: (i) the structural operating deficit and negative net worth of the Central Bank of Chile; (ii) the existence of contingent liabilities related primarily to state-guaranteed minimum pensions and old-age benefits; and (iii) external vulnerabilities arising from currency mismatches in the public sector balance sheet. In 2008, the target was reduced to a 0.5 percent of GDP surplus because of an improvement in underlying conditions and the accumulation of financial savings. In 2009, the target was reduced to 0 percent of GDP to accommodate countercyclical fiscal policy in the context of the global financial crisis.

European Union

The Stability and Growth Pact (SGP) is the rule-based fiscal framework of the European Union (EU). EU members are bound to avoid excessive deficits (defined with reference to a 3 percent of GDP threshold for the general government deficit) and reduce their public debt-to-GDP ratio to below 60 percent. In addition, they commit to aiming at structural balances close to balance or in surplus (with country-differentiated margins). The provisions of the SGP apply to all EU members, although provisions for imposing sanctions for non-compliance apply only to members of the euro area. The SGP, in force since 1997, is based on the Treaty of the European Union (“Maastricht Treaty,” adopted in 1992, and consists of two EU regulations with force of law complemented by European Council resolutions. To provide greater flexibility, the SGP was revised in 2005. The Pact consists of a preventive and a corrective arm.

Under the provisions of the preventive arm, EU member states have to submit annually programs on their medium-term budgetary strategy. These strategies (for euro-area members “stability programs,” for others “convergence programs”) include policies to ensure meeting the member states’ *medium-term budgetary objectives* (MTOs). Before the revision of the SGP in 2005, MTOs were defined in structural terms as “close to balance or in surplus.” With the revision of the SGP, the MTOs differentiate across countries, in particular taking debt ratios and potential growth into account. They should also account for implicit liabilities from age-related spending (the relevant criteria for doing so have been recently endorsed by EU Finance Ministers). However, for euro-area and ERM II members MTOs cannot be less than -1 percent of GDP. Currently, MTOs vary between -1 percent of GDP (in several new member states) and +2 percent of GDP (Finland). If countries deviate from their MTOs, the SGP foresees an annual adjustment effort (defined in structural terms) of 0.5 percent of GDP as a benchmark for euro-area and ERM II members but there is no sanction mechanism for noncompliance. On the stability and convergence programs the Council of Minister issues an opinion, based on an assessment by the European Commission.

Two other instruments exist under the preventive arm of the SGP to avoid excessive deficits to occur. The Council of Finance Ministers can, on recommendation by the Commission, issue an *early warning* when it identifies that a country diverges significantly from its medium-term budgetary objective or the adjustment path towards it. The early warning recommendation asks the country to take the necessary adjustment measures. An early warning was issued by the Council only on one occasion (France in early 2003), while on three other occasions (Germany and Portugal in late 2002, Italy in mid-2004) the Council, while recognizing that the Commission recommendations were well-founded, declined to issue the warning. The second tool is the *policy advice* (introduced under the reform of the SGP), which can in principle be more readily used as it is issued by the European Commission under its sole responsibility. A policy advice was, for the first time, issued to France and Romania in mid-2008. It was intended to address fiscal imbalances in an overall macroeconomic context, including structural reforms.

The corrective arm of the SGP governs the excessive deficit procedure (EDP). The EDP is triggered when a country breaches the 3 percent of GDP threshold. When the Council decides that a deficit is excessive, it makes recommendations to the member state concerned establishing in particular a deadline for its correction. The Council monitors implementation of its recommendations and abrogates the EDP decision when the excessive deficit is corrected. If the member state fails to comply, the Council can decide to move to the next step of the EDP, the ultimate possibility being to impose financial sanctions—however, only for euro-area members. In all the steps of the EDP, the Council acts based on a recommendation by the Commission, which it can however in principle modify or decline to follow (as happened in the case of France and Germany in late 2004). With the reform of the SGP in 2005, a number of elements of flexibility were introduced into the EDP. The most important one is the possibility to revise recommendations for the correction of the excessive deficit including to extend the deadline in case of adverse economic developments with major unfavorable consequences for public finances. At the same time, the reformed Pact made explicit the requirement of a minimum annual structural adjustment of 0.5 percent when a country is in EDP.

The global crisis has entailed new challenges for the SGP. Before the crisis, and against the backdrop of a favorable economic climate, the number of countries in EDP was reduced from a peak of twelve at the beginning of 2006 to two by the end of 2007. However, many member states did not sufficiently use the good economic times to build up public finance buffers as demanded under the preventive arm of the Pact. The crisis has put the SGP under stress, with the rules of the corrective arm being stretched to allow in particular for expansionary policies in 2009 in breach of the 3 percent of GDP deficit threshold. Twenty of the twenty-seven EU member states (by October 2009) are under EDP. Relatively long deadlines for correcting the excessive deficits were generally endorsed, which in part have already been extended to cater for worse than initially expected economic conditions. A rapid procyclical fiscal consolidation was required only in cases of perceived immediate sustainability risk.

Appendix IIa. Determinants of Fiscal Rules

This appendix analyzes the determinants of fiscal rules. The empirical analysis is based on a sample of 68 countries over the period 1985–2008.²⁴ About two-thirds of these countries have adopted at least one numerical fiscal rule. The dataset includes information on the type of fiscal target (e.g., expenditure, revenue, overall fiscal balance, or public debt); year of the introduction or revision of the rule; the monitoring and implementation procedures in place; and the coverage of the fiscal target (e.g., central government or general government).

Three econometric methods are used to carry out the analysis. First, the factors affecting the probability of introducing a fiscal rule are estimated using duration analysis methods. Both parametric and nonparametric hazard models are used to assess the impact of initial fiscal conditions and other economic determinants on the likelihood of adopting a fiscal rule.²⁵ Second, a conditional fixed effects logit model is used to estimate the determinants of the probability of having fiscal rules.²⁶ Finally, a Tobit model is used to assess the factors underlying the number of fiscal rules for countries that have numerical targets.

Fiscal rules tend to be introduced in countries that have already made progress in fiscal and economic stability. Results also show that having fiscal rules reflects better initial fiscal conditions, stronger economic performance. Using bivariate parametric regressions to estimate the link between macroeconomic factors and the likelihood of introducing a fiscal rule, a significant correlation emerges between initial economic performance and rules adoption. The results (Table 1) report the hazard ratios²⁷ of introducing a fiscal rule for countries with above-average values of the macroeconomic indicators in the preceding years. They show that countries with a larger primary surplus had a 40 percent higher probability of adopting a rule, and countries with a ratio of public debt to GDP that was below the sample average²⁸ had three times the chance to adopt a rule compared to other countries. High inflation and currency depreciations were also associated with lower probabilities of introducing a fiscal rule. Positive GDP growth and higher reserves to GDP also increased the likelihood of adopting a rule. The

²⁴ The sample of 68 economies includes all OECD countries and the emerging market economies (both middle-income and low-income) in the EMBIG Index.

²⁵ The hazard rate at time t is equal to the probability of adopting a rule in time t , conditional on not having a fiscal rule in time $t-1$. The parametric model assumes an exponential function for the hazard rate, while the proportional hazard specification only assumes that covariates affect the hazard rate in a multiplicative way.

²⁶ The conditional logit model estimates the determinants of the unconditional probability that a country has a fiscal rule.

²⁷ The hazard ratio expresses the relative risk of having a fiscal rule for countries with unitary value of the covariate, holding other factors constant.

²⁸ About 40 percent of GDP on average during the sample period.

effect of terms of trade shocks is not found to significantly influence the probability of introducing a fiscal rule.

Multivariate regression results²⁹ confirm the importance of economic determinants of fiscal rules. Good fiscal performance affects positively both the likelihood of having fiscal rules and the average number of quantitative fiscal targets (Table 2). The correlation between having fiscal rules and the primary fiscal balance is positive, and countries in healthier fiscal conditions also have more fiscal rules. Poor initial fiscal conditions delay the introduction of fiscal rules, as countries need to establish prudent and credible measures to bring fiscal policy back on track towards sustainability. The relationship with public debt is nonlinear, with higher levels of public debt discouraging fiscal rules up to a threshold.³⁰ For high-debt countries, rules may be instrumental to achieving sounder fiscal policy, forcing a return to stability along with a credible fiscal consolidation. Macroeconomic conditions also have a bearing on fiscal rules: high inflation, low and volatile economic growth, and sharp exchange rate movements are negatively correlated with the probability of having rules.

Initial economic conditions also affect the design of fiscal rules. Expenditure rules tend to be implemented in countries with better macroeconomic conditions, while larger fiscal deficits (unlike debt levels) do not influence the use of debt rules. Exchange rate stability, low public debt, and limited inflation are significant determinants of budget balance rules, while low levels of public debt and price stability increase the likelihood of having revenue rules. The presence of supranational fiscal rules increases the number of fiscal targets. Federal states, similarly, tend to have a wider coverage of fiscal rules.

²⁹ Using conditional fixed effects logit for the probability of having a fiscal rule and the fixed effects Tobit estimator for the average number of fiscal rules.

³⁰ This threshold is estimated to be in the range of 80 percent to 100 percent of GDP.

Table 1. Economic Determinants of Fiscal Rules Adoption 1/

	Coefficient 2/	T-value	P> z	Wald	P> chi2
Primary Balance	1.42	3.88	0.00	14.1	0.00
Public	0.28	-14.75	0.00	236.39	0.00
Reserves to	0.58	-4.39	0.00	22.0	0.00
Output	0.63	-5.66	0.00	32.7	0.00
Change in terms of trade	0.92	-1.00	0.31	1.00	0.31
Inflatio	0.16	-4.34	0.00	36.5	0.00
Currency depreciation	0.49	-6.75	0.00	49.7	0.00

1/ Dependent variable is the probability of adopting a fiscal rule. Parametric hazard model regression with exponential distribution. Exogenous variables are dummies for countries/years in which the value of the variable was above the sample average except for the reserves and output variables (which are below average).

2/ Coefficients measure the odds ratios for the probability of adopting fiscal rules. Sample of 68 advanced and emerging economies in the period 1985–2008. Note that the T-value is based on the untransformed regression coefficients.

Table 2. Determinants of Fiscal Rules 1/

	Fiscal rules		Expenditure rules		Revenue rules		Budget balance rules		Debt rules	
	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z	Coef.	P> z
Primary Balance	23.21	0.000	42.57	0.000	21.14	0.427	20.53	0.000	9.71	0.207
Public Debt	-11.86	0.000	-2.53	0.520	-31.73	0.031	-10.37	0.000	-14.07	0.000
Public Debt squared	7.22	0.000	3.62	0.083	18.84	0.157	6.65	0.000	8.29	0.000
Reserves to GDP	-10.84	0.643	16.12	0.508	23.52	0.569	-8.82	0.684	-5.78	0.864
Output growth	-0.11	0.988	-23.09	0.013	-6.78	0.772	-3.61	0.595	3.08	0.743
Change in terms of trade	-1.92	0.515	-11.65	0.022	0.54	0.956	-0.67	0.811	2.82	0.507
Inflation	-48.88	0.000	-39.55	0.000	-26.85	0.097	-46.68	0.000	-50.09	0.000
Currency depreciation	-1.77	0.279	-4.96	0.014	-3.99	0.325	-3.20	0.046	-0.26	0.892
Supranation rules dummy	21.21	0.970	26.71	0.982	23.31	0.991	22.86	0.989	22.66	0.988

1/ Dependent variable is the probability of having fiscal rules. Conditional logit estimates with fixed effects. Country-specific fixed effects not reported. Sample of 68 advanced and emerging economies in the period 1985–2008.

Appendix IIb. Credibility Effects of Fiscal Rules: Evidence from Market Risk Premia

A fiscal rule can help raise the credibility of a government's medium-term fiscal strategy. If a fiscal rule is seen to commit a government credibly to a sustainable fiscal path, this should reduce market risk premia, independent of accompanying changes in the fiscal performance. The latter, reflected in lower budget deficits and debt, may further lower risk premia.

Empirical evidence from staff analysis suggests that rules per se may not be credibility enhancing. Direct “credibility rewards” seem to be reaped primarily by countries that already have a record for reasonably prudent policy. During 1990–2008, OECD countries with public debt ratios below 70 percent of GDP enjoyed a substantial credibility effect: a reduction in 10-year bond spreads by 10–20 basis points in the long run, depending on the overall strength of their fiscal rule, as measured by its statutory rank and the quality of monitoring and enforcement mechanisms. Yet, in the absence of prior fiscal prudence, there was little evidence that the introduction of fiscal rules per se was helpful: in a full sample of OECD economies, the presence of a fiscal rule did not affect spreads once macroeconomic and fiscal conditions were controlled for.

Explicit cyclical contingencies enhance the credibility of a fiscal rule. By allowing flexibility in a downturn, cyclically contingent rules appear more robust, as long as they are also well-monitored and well-enforced. Currently eight OECD countries operate fiscal-rule frameworks which explicitly allow for countercyclical fiscal policy in some form. Median market reactions to the introduction of new fiscal rules or the strengthening of existing ones show that reforms which resulted in a substantial strengthening of the fiscal-rule framework while introducing cyclical contingency were best received by markets in the quarter of implementation. Estimates suggests that a moderate strengthening of fiscal rules accompanied by the introduction of a cyclical contingency can lower spreads by 10 basis points upon impact, and up to 20 basis points in the long run.

However, cyclically contingent fiscal rules have so far only been implemented in countries with a high degree of market confidence. Seven out of the eight countries which operated cyclically contingent rules during 1990–2008 consistently enjoyed below-average spreads. In most cases, fiscal rules which introduced cyclical contingencies were implemented in countries whose spreads were already low *prior to reform*. This may highlight the need for strengthening of underlying fiscal institutions to guarantee the effectiveness of cyclically contingent fiscal rules.

Table 1. Rules and Risk Premia; Regression Results

Dependent variable: Sovereign spread (basis points)	(1)	(2) Fixed effects	(3)	(4) Fixed effects	(5) Arellano Bond
Lag of sovereign spread (basis points)			0.62*** (0.02)	0.46*** (0.02)	0.46*** (0.02)
Average spread (basis points)	1.00*** (0.04)	1.02*** (0.03)	0.62*** (0.03)	0.74*** (0.03)	0.74*** (0.03)
Fiscal balance (% GDP)			-0.41*** (0.16)	-0.30 (0.21)	-0.06 (0.18)
Lag of public debt (% GDP)			-0.01*** (0.00)	0.03* (0.01)	0.03* (0.01)
Inflation (%)			2.49 (1.93)	2.81 (2.96)	4.78* (2.61)
Unemployment rate (%)			0.56*** (0.20)	0.72* (0.38)	0.85** (0.35)
Output gap (% GDP)			0.25 (0.34)	0.52 (0.37)	0.47 (0.34)
Slope of yield curve (% points)			2.09*** (0.39)	1.88*** (0.39)	1.96*** (0.36)
Government stability indicator			-0.87*** (0.27)	-0.60** (0.29)	-0.59** (0.27)
Maastricht dummy			7.32*** (1.48)	5.75 (3.72)	4.94 (3.45)
Eurozone dummy			-1.78 (1.14)	-2.87** (1.30)	-2.52** (1.21)
Fiscal rule index			0.70 (3.67)	-3.49 (5.53)	-3.23 (5.10)
Fiscal rule index * Cyclical dummy			-15.39** (6.11)	4.30 (8.60)	6.10 (7.89)
Cyclical dummy			-0.03 (2.66)	0.41 (3.33)	-0.59 (3.05)
Country fixed effects	No	Yes	No	Yes	Yes
Observations	1,299	1,299	1,145	1,145	1,132
Number of countries	22	22	22	22	22
Adjusted R-squared	0.3	0.7	0.8	0.8	0.8

Standard errors in parentheses; * significant at 10%; ** significant at 5%; *** significant at 1%
 Sample includes 22 OECD countries for 1990-2008.

Appendix III. Assessment of Alternative Fiscal Rules

This appendix explores the properties of different fiscal rules under a variety of circumstances. These properties are analyzed through two sets of simulation exercises: (i) impact of rules on fiscal variables in response to exogenous shocks; and (ii) in a general equilibrium framework. Results suggest that cyclically adjusted balance rules combined with mechanisms to correct past deviations from a specific target are best suited at achieving a significant reduction in public debt while leaving room for countercyclical fiscal policy.

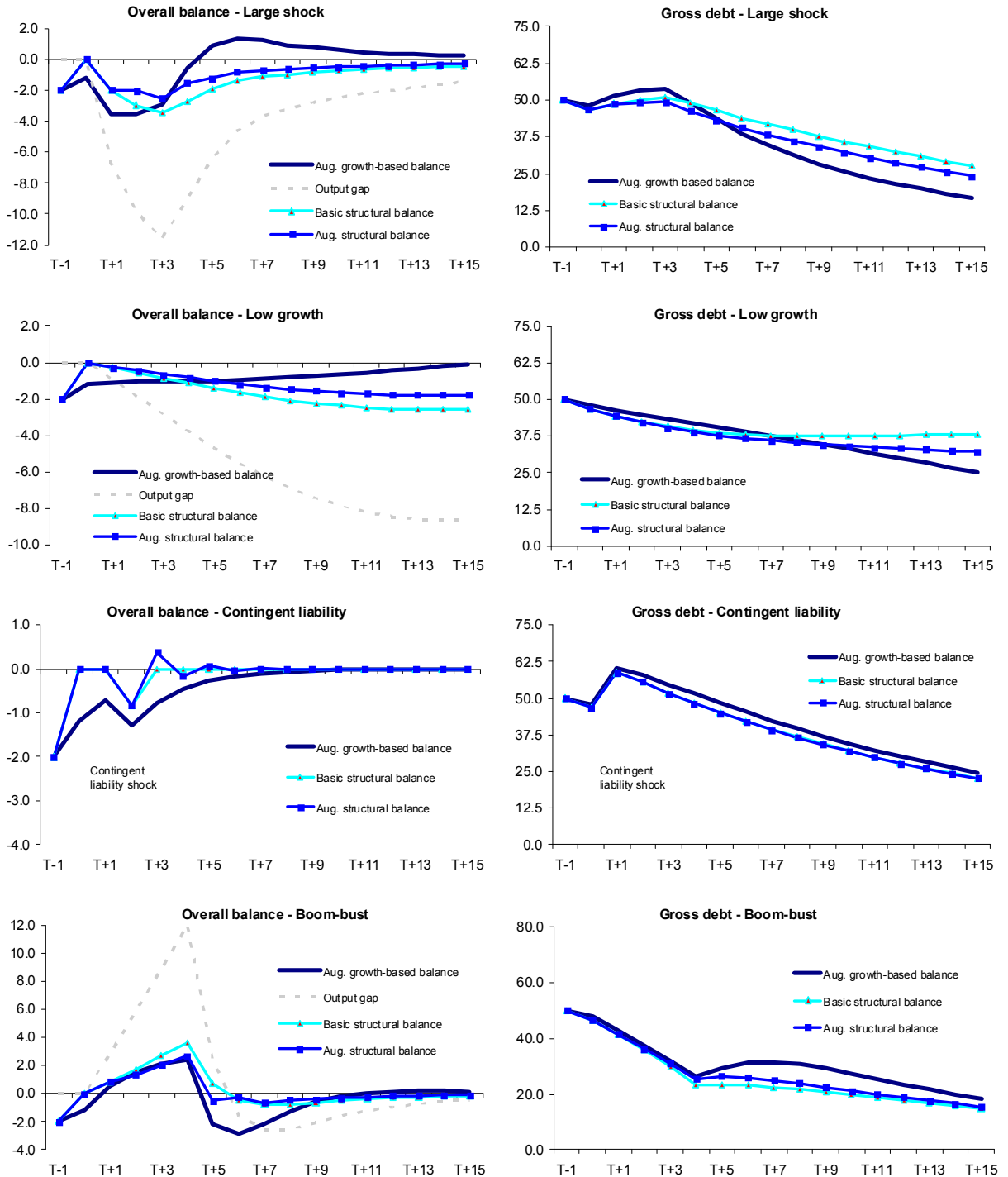
Three variants of a cyclically adjusted balance rule are considered in the simulations (for a formal presentation, see Box 4): (i) a *basic structural balance* rule which allows for temporary deviations in the overall nominal deficit from its medium-term target according to cyclical developments; (ii) an *augmented growth-based* rule where the deficit is permitted to be higher when GDP growth in the current year is below its trend level, and calls for a gradual adjustment of the balance to the target level when the initial deficit is above target; and (iii) an *augmented structural balance* rule which incorporates, in addition to rule (i), an automatic correction mechanism to past deviations from the target.

To illustrate how these rules behave under different conditions, their reaction to different shocks is explored. The simulations assume that the rules are introduced in year T and implemented from year T+1 onwards, and growth shocks are exogenous (Table 1). The objectives of the fiscal rule are to achieve a significant reduction in debt, while providing sufficient room for countercyclical fiscal responses.

Under a large shock scenario, the augmented structural balance rule allows for a stronger response. While all rules ensure a progressive narrowing of the budget deficit after the initial shock, they do so at different speeds (Figure 1). The basic structural balance rule works well in letting automatic stabilizers operate during the periods in which there is a non-zero output gap. However, this rule is less successful at reducing public debt in the aftermath of the shock. The augmented structural balance and the augmented growth-based balance rules both provide room for countercyclical fiscal responses, but have mechanisms which entail some degree of fiscal policy correction consistent with debt sustainability. However, this comes at the cost of a more limited countercyclical response to the shock, which is stronger for the augmented structural balance rule than for the augmented growth-based rule. The latter implies a tighter fiscal position when the output gap is still large as output growth returns above trend.

In a low-growth scenario, the augmented growth-based balance rule ensures debt consolidation. The basic structural balance rule could place the debt-to-GDP ratio on an unsustainable path in this case, as it allows automatic stabilizers to expand throughout the

Appendix III. Figure 1. Response of Overall Balance and Debt-Ratio to Macroeconomic Shocks 1/



Source: Staff calculations.

1/Details on the scenarios can be found in the Annex. All budgetary outcomes are in percent of GDP.

simulation. This can be avoided under the augmented structural balance rules by requiring the deficit to eventually converge to zero, but this process is slow. The augmented growth-based rule leads to the fastest reduction in debt in this scenario as the overall balance is tightened both as a result of a return to trend output growth and the operation of the deficit-convergence mechanism.

All rules behave similarly in the case of a sudden increase in debt—and, hence, interest payments—reflecting the emergence of contingent fiscal risks.

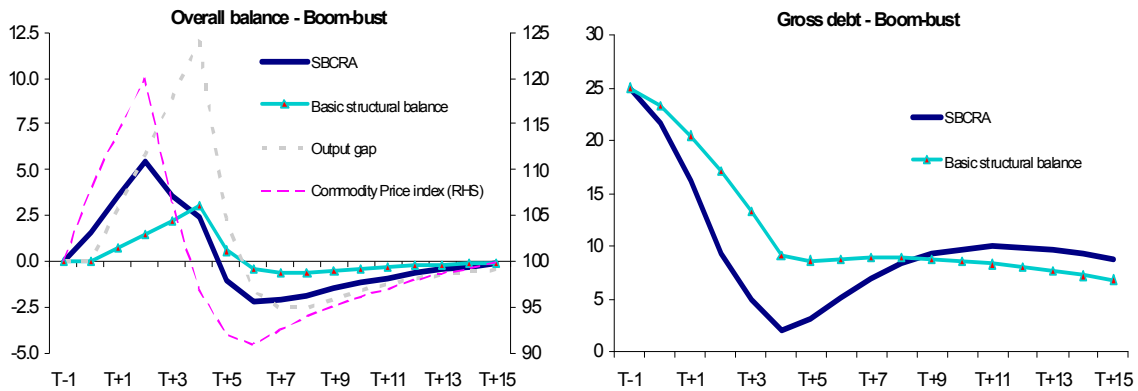
In a very volatile economic environment, the augmented structural balance rules work better. Under a scenario of output boom and bust, these rules reduce the fluctuations in the fiscal balance compared to the basic structural balance rule, since they include mechanisms for reducing the surplus as output—or GDP growth—increasingly deviates from potential. In the long run, however, all rules induce a surplus in the primary balance and consequently, the debt ratio would follow a downward path following the bust period.

Table 1. Assumed Real GDP Growth Rates in Simulation Scenarios

Percent change	T-1	T	T+1	T+2	T+3	T+4	T+5	T+6	T+7	T+8	T+9
Baseline	1.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Large shock	1.5	4.0	-3.0	0.5	2.0	7.0	7.0	6.0	5.0	4.5	4.5
Low growth	1.5	4.0	3.0	3.0	3.0	3.0	3.0	3.1	3.2	3.3	3.4
Fiscal risk	1.5	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Boom-bust	1.5	4.0	7.0	7.0	7.0	7.0	-5.0	0.0	3.0	4.0	4.5
<i>Memorandum item:</i>											
Commodity price index	100	104	107	110	103	99	96	95	96	97	97

To allow for an adjustment of fluctuations in commodity prices that impact export revenues, the structural balance rule can be enhanced. The structural balance rule could include a component allowing the overall balance to deviate temporarily from its target when the revenue from commodity exports deviates from a predetermined level. The simulation uses the same output assumptions as the boom-bust scenario and, in addition, a large spike in the export commodity price followed by a sharp fall in the price of the latter. The modified rule ensures that a surplus is recorded whenever commodity revenue deviates upwards from its target, despite a zero output gap (and vice versa) (see Appendix III Figure 2).

Appendix III. Figure 2. Response of the Structural Balance and SBCRA Rules to a Boom-Bust Scenario 1/



Source: Staff calculations.
 1/ Details on the scenarios can be found in the Annex.
 2/ SBCRA stands for Structural Balance with a Commodity Revenue Adjustment.

The response of fiscal rules was further explored by allowing feedbacks between fiscal policy and the economy in the simulations. Results using the IMF’s Global Integrated Monetary and Fiscal model (GIMF)³¹ confirm macroeconomic stabilizing effects of cyclically adjusted balance rules under both demand and supply shocks to the economy.³² In the case of an emerging economy with significant commodity export revenue accruing to the budget, the simulations also point to the desirability of adjusting the structural budget target for deviations of commodity-related revenue from its trend, in addition to the conventional structural adjustment by the output gap.

The simulations highlight the essential trade-off between macroeconomic volatility and debt sustainability. For each of the model economies and shocks, the volatility of macroeconomic variables that are likely to be of concern to policymakers (output, employment, consumption) is higher under a balanced budget rule than under a structural balance rule. The results are very similar for a structural balance rule that, instead of responding to the output gap, responds to the tax revenue gap. In the case of a negative demand shock, structural balance rules allow countercyclical increases in the amount of transfers to credit-constrained agents stabilizing income and consumption during the downturn. This contrasts with a balance rule where the endogenous decrease in tax revenues

³¹ For a discussion of the main features and design of the IMF GIMF model, see Kumhof and Laxton (2007).

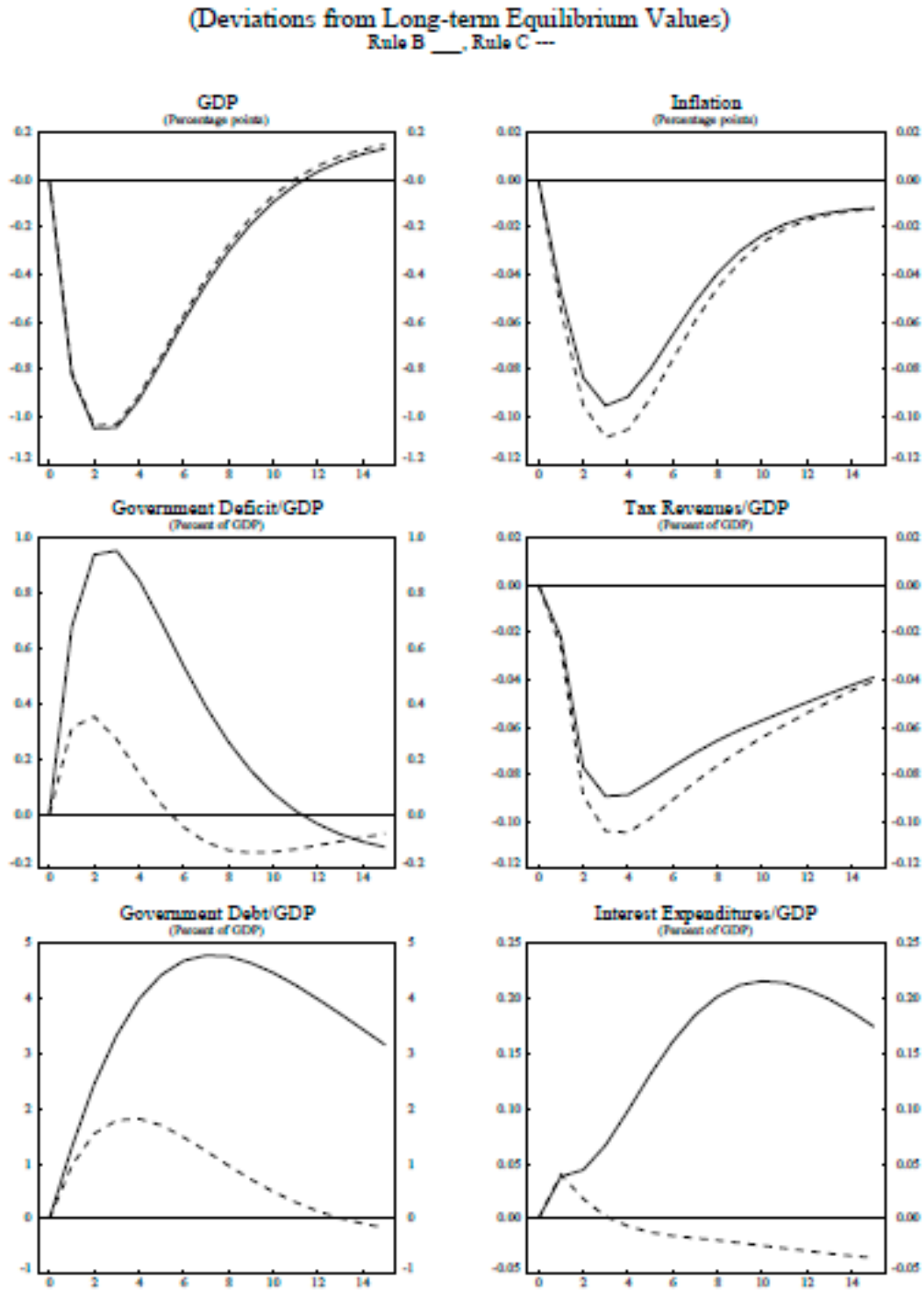
³² Simulations were performed for three stylized economies calibrated to represent a small open advanced economy, a large open advanced economy, and a small open commodity-exporting economy. The shocks considered were a downward domestic demand shock, an exogenous fall in supply (a fall in productivity), and, for the commodity-exporting economy, an exogenous fall in external demand for the commodity (thus triggering a fall in its international price).

has to be offset by a procyclical reduction in transfers to keep the government deficit from increasing. The reduction in transfers leads to lower consumption, in particular in countries with a high share of credit-constrained individuals. However, the more active countercyclical policy comes at the price of significant debt accumulation over the peak of the downturn.

A structural balance rule with medium-term debt objective can help needed debt reduction in the short run. An economy that starts at the debt target, or close to it, and suffers an adverse shock can initially have countercyclical fiscal policy. As debt grows above its target, however, the modified structural balance rule will call for an increasing annual adjustment to moderate the debt spike (Figure 3).

The simulations also underline the importance of embedding in the fiscal rule policies to smooth shocks to commodity revenue where the latter plays a key budgetary role. In line with the previous results, for the commodity-augmented structural balance rule, the enhanced stabilization properties come at the price of a more volatile government net worth aggregates. However, countries applying this type of rule can accumulate commodity-revenue fund in times of windfall that can be run down in times of shortfall—as it is done, for example, in Chile.

Appendix III Figure 3. Effects of a Negative Demand Shock under Adjusted and Unadjusted Structural Balance Rules
(Large open economy scenario)



B= Structural Balance Rule Responding to Output Gap;
C = Structural Balance Rule with Medium-term Debt Adjustment.

Appendix IVa. Calculating Structural Balances in Practice

The calculation of structural balances requires an estimate of the output gap and the budget elasticities. Different approaches to the estimate of these factors are followed in practice by countries that have implemented fiscal rule frameworks based on a structural balance target. This appendix discusses the available options.

Output gap

Different techniques can be used to estimate potential output, and the output gap. The most widely used methods are the Hodrick-Prescott (HP) filter and estimations using a production function. Switzerland uses an HP filter to compute the cyclical component required in its fiscal rule, while the structural balance calculations in the new German rule are based on output gap estimates consistent with the production function approach.

HP filter requires information only on the output series. The method allows extraction of a trend component from GDP time series which can be considered the potential output. The only assumption required is a sensitivity parameter that weights the growth rate of the trend component; the larger this parameter the lower the weight. Potential output estimates are obtained in an objective manner, and can be easily reproduced by third parties. By design, the method provides output gap estimates which are symmetric over the cycle.

While HP filter presents some drawbacks, measures can be taken to ameliorate them:

- Estimates based on the HP filter suffer from an end-point bias: the trend component of output is biased in the direction of recent output developments. This may lead to underestimating the magnitude of the cyclical component reducing the countercyclicality of fiscal policy rules. To minimize this bias, forecasts that move the series end-point forward could be used, provided these are reasonable forecasts.
- HP filter estimates do not respond well to changes in the duration of the cycle. The estimated trend component of output tends to move in line with actual output when real growth remains persistently low or high during long periods of time. However, protracted recessions—accompanied by an erosion of both physical and human capital—could affect negatively potential output as captured in the filter estimations.
- The estimated trend component will—by construction—not include the structural breaks observed in the output series, and the corresponding output gap estimates will switch signs at the break point. To mitigate this problem, the break in the output series needs to be identified beforehand, and the series adjusted for the break can then be used to estimate potential output with the filter.

An alternative way to compute the output gap relies on a production function estimate. An advantage of using a production function is that it is based on economic fundamentals; in contrast to a purely statistical estimation using the HP filter. However, this comes at the expense of increased methodological complexity: this includes selecting the appropriate factor inputs, which is also data demanding, and identifying an appropriate functional form (a Cobb-Douglas production function is commonly used).

Production function estimates are generally obtained from a simple linear regression estimation. This presents the advantage of effectively providing symmetric estimates of the output gap over the estimation horizon³³ ensuring that surpluses and deficits cancel out over the cycle. The estimation of potential output for future periods requires projections of factor inputs as well.

Output elasticities of revenue and expenditure

Revenue and expenditure elasticities tend to differ significantly. This is because revenue tends to be more responsive to changes in output than expenditure, except for unemployment benefits, which make up only a relatively small part of the budget. This is why some rules of thumb place the elasticity of revenue close to one, whilst that of expenditure close to zero.

Elasticities, however, fluctuate over time. For example, in the current environment, output elasticities of revenues obtained for the pre-crisis period are likely to exceed those of the post-crisis period. This is because some of the revenues recorded during the boom came from buoyant sectors—such as the financial and housing markets—which have been severely hit by the crisis. Tackling short-term fluctuations as well as long-term changes of tax elasticities represents a practical challenge for countries implementing a cyclically-adjusted fiscal policy. Thus, even when revenue elasticities are estimated via a regression approach, structural breaks poses problems. A disaggregated analysis of individual tax bases could improve the estimation of the revenue elasticities. This method explicitly allows for composition effects, resulting from changes in consumption or income shares of GDP, changes in asset and commodity prices. A similar approach could be used for estimating the elasticities of expenditure if the latter can be decomposed along relevant expenditure elements. For example, for the EU fiscal framework tax and expenditure elasticities are being estimated based on a commonly agreed method developed by the OECD (see Girouard and André, 2005, and Larch and Turrini, 2009).

³³ By construction, the sum of the residuals from the OLS estimation of a linear function with a constant term is zero. In the estimation of (the logarithm of) potential output using a Cobb-Douglas production function, the residuals are the difference between potential and actual output.

Appendix IVb. Some Technical Aspects of Fiscal Sustainability

A fiscal policy plan leads to sustainable public finances if it is consistent with the government's inter-temporal budget constraint. This implies that future primary balances will be sufficient to fully service the existing debt as well as new debt that may be issued in future years. This is seen as precluding the servicing of public debt on a regular basis by issuing new debt—a strategy commonly known as a Ponzi game. Under a Ponzi game dynamics, public debt grows at a rate at least equal to the interest rate. The discussion below argues that the equivalence between the inter-temporal budget constraint and the no-Ponzi game condition is well founded.

In practice, markets, policymakers and the general public interpret correctly a high and growing debt-to-GDP ratio as an indication of unsustainability. In other words, a fiscal policy plan that results in an exploding debt-to-GDP ratio is seen as unsustainable, as it is considered to contradict the budget constraint. Also in this case, the perceived relationship between public solvency and keeping the public debt ratio permanently below a reasonable level is well founded. Indeed, the no-Ponzi game condition implies that the debt ratio must be bounded above. This underpins the requirement, common to most fiscal rules, that the debt ratio should be kept stable below a prudent limit.

The following outlines the technical argumentation of the above stated relationships between the inter-temporal budget constraint, the no Ponzi-game condition, and the existence of a limit to the debt ratio. The proposition that the no-Ponzi game condition implies that the debt ratio is bounded above is proved by Bartolini and Cottarelli (1994) in a more general case including uncertainty.

Notation. Let p_t denote the primary balance in period t as a ratio to GDP and d_t denote the debt at the end of year t as a ratio to that year's GDP. Also, let the growth-adjusted interest rate be $\lambda = \frac{i - \gamma}{1 + \gamma}$, where i and γ represent the nominal interest rate paid on government debt and the nominal growth rate of GDP, respectively. It can be shown that this definition also implies equivalently that $\lambda = \frac{r - g}{1 + g}$, where r is the real interest rate and g is the growth rate of real GDP.

Except when noted, the discussion here is conducted under the assumption that the growth-adjusted interest rate λ is strictly positive ($\lambda > 0$), or equivalently that the real interest rate r exceeds the real growth rate g . This is usually known as the modified golden rule and has both theoretical and empirical basis. From a theoretical standpoint, the modified golden rule derives from efficiency considerations of the growth path and the preference for current versus future consumption of economic agents (see Blanchard and Fischer (1989), Chapter 2, p. 45). Empirically, the modified golden rule holds for most mature economies on average over sufficiently long periods that include several business cycles (exceptions include Finland, Greece, Ireland, and Spain after joining EMU, when interest rates fell sharply and growth accelerated).

Budget constraint and no-Ponzi game condition

Given an initial debt ratio d_0 , the government's intertemporal budget constraint can be formally stated as follows.

$$d_0 = \sum_{t=1}^{\infty} (1 + \lambda)^{-t} p_t \tag{0.1}$$

This indicates that the present value of all future primary balances must equal the existing debt. In turn, the no-Ponzi game condition can be stated as

$$\lim_{N \rightarrow \infty} (1 + \lambda)^{-N} d_N = 0, \tag{0.2}$$

indicating that the present discounted value of debt must decline over time toward zero. This precludes paying the annual (growth-adjusted) interest bill (λd_t) by issuing new debt on a recurrent basis.

The year-by-year government's budget constraint for year t is the recursive equation:

$$d_t = (1 + \lambda)d_{t-1} - p_t \tag{0.3}$$

Given an initial debt ratio d_0 , iteration of the above recursive annual equation gives an identity that must be met by the debt-to-GDP ratio d_N in any future period N .

$$d_0 = (1 + \lambda)^{-N} d_N + \sum_{t=1}^N (1 + \lambda)^{-t} p_t \tag{0.4}$$

By taking $\lim_{N \rightarrow \infty}$ on both sides of equation (0.4), it can be seen that the no-Ponzi game condition (0.2) implies that government's inter-temporal budget constraint (0.1), and vice versa.

No Ponzi-game condition and boundedness of the debt ratio

If the primary balance-to-GDP ratio is bounded above, then the no-Ponzi game condition (or equivalently, as discussed above, the government's budget constraint) implies that the debt ratio is also bounded above. The assumption that the primary balance-to-GDP ratio be bounded above is reasonable: it must be bounded, for example, by 100 percent of GDP, although in practice, of course, the effective bound (although uncertain and country-dependent) is more likely to be a few percentage points of GDP.

The supporting argument is as follows. In the case of strictly positive λ (the modified golden rule case), if the debt ratio were not bounded, then for some year it would be large enough so that even the highest possible primary balance would not be sufficient to stabilize the debt (i.e., the primary balance would be less than the interest bill). Therefore, after that year, the debt ratio would explode at a rate at least equal to the (growth-adjusted) interest rate. This would contradict the no-Ponzi game condition (0.2), and therefore the latter implies that the debt ratio is bounded above. If the (growth-adjusted) interest rate λ is not positive, then the no-Ponzi game condition (0.2) directly implies that the debt ratio must be bounded.

Appendix Table 1. Fiscal Rules Around the World, 2008

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Angola	ER (2005)	—	Political commitment	GG	Annual	—
Antigua and Barbuda	—	DR(1998)	International Treaty	GG	Annual	ECCU. 1/
Argentina	ER, BBR, DR (2000)	—	Statutory	GG, CG	Annual	The Argentine Congress has repeatedly granted "emergency superpowers" to the president, leading to suspension of the fiscal rule. FRL in place.
Armenia	DR(2008)	—	Political commitment	CG	Annual	
Australia	RR, BBR, DR (1998)	—	Statutory	CG	Multiyear	The medium-term strategy does not require that the budget remain in surplus every year of the economic cycle. FRL in place.
Austria	BBR (1999)	BBR, DR (1995)	International Treaty; Statutory	GG, CG	Multiyear (ER), Annual (BBR,DR)	<u>National rules</u> : BBR: Deficit targets for the CG, RG (Länder), and LG contained in a National Stability Pact within a multiyear budgetary setting. Formal enforcement procedures. <u>ER</u> : An expenditure rule was adopted in 2007 and took effect with the 2009 budget. <u>Supranational rules</u> : Euro area. 2/
Belgium	—	BBR, DR (1992)	International Treaty	GG	Annual	Euro area. 2/
Benin	—	BBR, DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Botswana	ER (2003)	—	Statutory	CG	Annual	—

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Brazil	ER (2000), DR (2001)	—	Statutory; Constitutional	GG	Annual	The law states that budget must be consistent with primary target approved in an earlier budget guideline law. However, since parliament can change the target during the year it is not considered a formal rule here. A FRL is in place; and some budgetary rigidities, including on certain spending items, impose permanent constraints' on fiscal policy. Investment spending excluded from fiscal targets. The law sets out a number of numerical fiscal indicators. The government sets numerical multiyear targets for the budget balance, expenditure and debt. In case of noncompliance, corrective measures need to be taken and can result in sanctions. Escape clauses exist for a real GDP contraction of 1 percent and natural disaster, but can only be invoked with Congressional approval.
Bulgaria	ER (2006), DR (2003)	BBR,DR (2006)	International Treaty; Political commitment; Statutory	GG	Annual	<u>National rules:</u> ER: Ceiling on the expenditure to-GDP-ratio of 40 percent. DR: Outstanding portion of the consolidated government debt at the end of each year may not exceed the previous year's level in percent of the projected GDP. <u>Supranational rules:</u> EU. 3/
Burkina Faso	—	BBR, DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Cameroon	—	BBR (1996), DR(2002)	International Treaty	GG	Annual	CEMAC. 5/
Canada	ER, BBR, DR (1998)	—	Political commitment	CG	Annual	FRL in place. Independent body monitors budget developments.
Cape Verde	BBR, DR (1998)	—	Political commitment	CG	Annual	—
The Central African Republic	—	BBR (1996), DR(2002)	International Treaty	GG	Annual	CEMAC. 5/
Chad	—	BBR (1996), DR(2002)	International Treaty	GG	Annual	CEMAC. 5/

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Chile	BBR (2000)	—	Political commitment	CG	CA, Multiyear	Structural balance with independent body providing key inputs. Under the structural balance rule, government expenditures are budgeted ex ante in line with structural revenues, i.e., revenues that would be achieved if (i) the economy were operating at full potential; (ii) the prices of copper and molybdenum were at their long-term levels; and, more recently, (iii) the return on accrued financial assets were in line with the long-term interest rates. Between 2002 and 2007, a surplus of 1 percent of GDP was targeted; in 2008, 0.5 percent of GDP; and in 2009, 0 percent of GDP.
Comoros	BBR (2001)	—	Constitutional	CG	Annual	—
Congo	—	BBR (1996), DR(2002)	International Treaty	GG	Annual	CEMAC. 5/
Costa Rica	ER (2001)	—	Statutory	CG	Annual	The government has submitted a bill to parliament requesting suspension of fiscal rule for two years.
Cote d'Ivoire	—	BBR (1999), DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Cyprus	—	BBR (2004), DR (2004)	International Treaty	GG	Annual	Euro area. 2/
Czech Republic	ER (2005)	BBR (2004), DR (2004)	International Treaty; Statutory	GG, CG	Multiyear for ER	<u>National rules:</u> ER: Expenditure limits inserted in a medium-term expenditure framework (MTEF), covering two years beyond the budget year. The government may change the MTEF for the originally second and third years when a state budget bill is introduced. Nevertheless, this is possible only in defined cases. The government has to provide reasons in case of deviations from the approved MTEF to parliament, and have these approved. <u>Supranational rule:</u> EU. 3/
Denmark	ER (1990), RR (2001), BBR (1990), DR (1992)	BBR (1992), DR (1992)	International Treaty; Political commitment	GG	CA or Multiyear	<u>National rules:</u> BBR: Structural budget surpluses in the interval 0.75–1.75 percent of GDP in the years toward 2010, surpluses or at least balance up to 2011–15. ER: Real public consumption on a national account basis must not increase by more than certain amounts per year. Besides, total ceiling of 26.5 percent of cyclically adjusted GDP in 2015. RR: Direct and indirect taxes cannot be raised. <u>Supranational rules:</u> EU. 3/
Dominica	—	DR (1998)	International Treaty	GG	Annual	ECCU. 1/

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Ecuador	BBR (2003), DR (2003)	—	Statutory Treaty	CG, GG	Annual	The rule applies only ex ante. It does not bind outcomes and does not apply for supplementals during the course of the year. FRL in place. Rule excludes public investment or other priority items from ceiling.
Equatorial Guinea	BBR (2007)	BBR (1996), DR (2002)	International Treaty; Political commitment	GG	Annual	<u>National rules:</u> The fiscal rule is based on the permanent income model and the sustainable non-oil primary deficit. The authorities have committed to reaching the sustainable non-oil primary deficit over the medium term. The response to the crisis was to sharply reduce the overall budget by over 40 percent and in particular capital expenditures. <u>Supranational rules:</u> CEMAC. 5/
Estonia	BBR (1993)	BBR (2004), DR (2004)	International Treaty; Political commitment	GG, CG	Annual	<u>National rules:</u> BBR: Balanced budget for CG. <u>Supranational rules:</u> EU. 3/
France	ER (1998), RR (2005), DR (2008)	BBR (1992), DR (1992)	International Treaty; Statutory; Political commitment	GG, CG	Multiyear for ER	<u>National rules:</u> ER: Targeted increase of CG expenditure in real terms. RR: CG to define the allocation of higher than expected tax revenues ex ante. DR: Each increase in the Social Security debt has to be matched by an increase in revenues. <u>Supranational rules:</u> Euro area. 3/
Finland	ER (1991), DR (1995)	BBR (1995), DR (1995)	International Treaty; Political commitment	GG, CG	Multiyear for ER	<u>National rules:</u> ER: Spending limits in the Spending Limits Decision 2010–13 from March 2009. Unemployment-related appropriations and similar automatic stabilizers are outside the spending limits (about ¼ of total spending). BBR: Target of structural surplus of 1 percent of potential GDP. Cyclical or other short-term deviations allowed, if they do not jeopardize the reduction of the CG debt ratio. CG deficit must not exceed 2.5 percent of GDP. The government decided in February 2009 that it can temporarily deviate from the CG deficit target if structural reforms are undertaken to improve general government finances (in the medium or longer term). <u>Supranational rules:</u> Euro area. 2/
Gabon	—	BBR (1996), DR (2002)	International Treaty	GG	Annual	CEMAC. 5/

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Germany	BBR (1972), ER (1982)	BBR (1992), DR (1992)	International Treaty; Constitutional	GG, CG	Multiyear for ER	<u>National rules:</u> BBR: "Golden rule" which limits net borrowing to the level of investment except in times of a "disturbance of the overall economic equilibrium." A new structural balance rule was enshrined in the constitution in June 2009. After a transition period, starting in 2011, it will take full effect in 2016 for the Federal government and 2020 for the states. The rule calls for a structural deficit of no more than 0.35 percent of GDP for the Federal government and structurally balanced budgets for the Länder. <u>Supranational rule:</u> Euro area. 2/
Greece	—	BBR (1992), DR (1992)	International Treaty	GG	Annual	Euro area. 2/
Grenada	—	DR (1998)	International Treaty	GG	Annual	ECCU. 1/
Guinea Bissau	—	BBR (1999), DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Hong Kong SAR	BBR (1997)	—	Political commitment	GG	Annual	—
Hungary	BBR (2007)	BBR (2004), DR (2004)	International Treaty; Statutory	GG	Annual	<u>National:</u> BBR: Primary budget surplus balance target. BBR, DR: In November 2008, Hungary adopted a primary budget balance rule and a real debt rule, which will take effect in 2012. Transition rules call for a reduction of the budget deficit (in percent of GDP) and limit real expenditure growth in 2010 and 2011. <u>Supranational:</u> EU. 3/
Iceland	ER (2004)	—	Political commitment	CG	Multiyear for ER	De facto fiscal rule comprising 3-year spending targets and countercyclical adjustments to public investment.
India	BBR (2004)	—	Statutory	CG	Annual	Current balance target. The escape clause in the fiscal rule law (FRBMA) allows the government not to comply with the targets in exceptional circumstances "as the central government may specify." Rule excludes public investment or other priority items from ceiling.
Indonesia	BBR (1967); DR (2004)	—	Coalition Agreement	GG	Annual	Major changes to BBR in 2004.
Ireland	ER (2000)	BBR (1992), DR (1992)	International Treaty	GG, CG	Annual	<u>National rules:</u> ER: limits on the composition of central government spending since 2000; expenditure ceiling since 2004. <u>Supranational rules:</u> Euro area. 3/
Israel	ER (2003), BBR (1991)	—	Statutory	CG	Multiyear expenditure ceiling	Some rules exclude public investment or other priority items from ceiling.

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Italy	—	BBR (1992), DR (1992)	International Treaty	GG	Annual	Euro area. 2/
Japan	ER (1947)	—	Statutory	CG	Multiyear expenditure ceiling	There has been a golden rule under which current expenditure shall not exceed domestic revenues (Public Finance Law, Article 4). Since 1975, except the period of 1990–93, the government has requested a waiver of this rule every year.
Kenya	RR (1997), DR (1997)	—	Political Commitment	CG	Annual	—
Kosovo	ER (2008)	—	Political commitment	GG	Multiyear expenditure ceiling	Rules exclude public investment or other priority items from ceiling.
Latvia	—	BBR (2004), DR (2004)	International Treaty	GG	Annual	EU. 3/
Liberia	BBR	—	Political Commitment	CG	—	—
Lithuania	ER (2007), RR (2007), DR (1997)	BBR (2004), DR (2004)	International Treaty, Statutory	GG, CG	Annual	<u>National rules:</u> ER: If the GG budgets recorded a deficit on average over the past five years, the annual growth of the budget appropriations may not exceed 0.5 percent of the average growth rate of the budget revenue of those five years. RR: The deficit of the budget shall be reduced by excess revenue of the current year. DR: Limits set on CG net borrowing. <u>Supranational rules:</u> EU. 3/
Luxembourg	ER (1999), DR (1992)	BBR (1992), DR (1992)	Political Commitment, International Treaty	GG, CG	Multiyear expenditure ceiling	<u>National rules:</u> ER: In the course of the legislative period, public expenditure growth is maintained at a rate compatible with the medium-term economic growth prospects (quantified). Independent body sets budget assumptions. Some rules exclude public investment or other priority items from ceiling. Major changes to DR in 2004. <u>Supranational rules:</u> Euro area. 2/
Madagascar	ER (2006), RR (2006), BBR (2006)	—	Political Commitment	CG	—	BBR in cyclically-adjusted terms or multiyear. Rules exclude public investment or other priority items from ceiling.
Mali	—	BBR (1999), DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Malta	—	BBR (2004), DR (2004)	International Treaty	GG	Annual	Euro area. 2/

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Mauritius	ER (2008), BBR (2008), DR (2008)	—	Statutory	CG	Multiyear expenditure ceiling	—
Mexico	BBR (2006), RR (2006)	—	Statutory	GG	Multiyear expenditure ceiling	FRL in place. Mexico has modified its budget fiscal rule primarily as part of an energy sector reform and independently of the economic slowdown, although the latter has allowed for some stimulus. Starting with the 2009 fiscal year, Mexico changed the definition of its balance budget rule to exclude the investment outlays of the state-owned oil company Pemex from the fiscal balance. This change is the result of a general reform of the energy sector that aims at boosting investment in oil projects. For the 2010 budget, the exceptional circumstances clause in the FRL is proposed to be used.
Namibia	DR (2001)	—	Coalition agreement	CG	Annual	FRL in place.
The Netherlands	ER (1994), RR (1994)	BBR (1992), DR (1992)	International Treaty; Coalition agreement	GG	Multiyear expenditure ceiling	<u>National rule:</u> ER: Real expenditure ceilings are fixed for total and sectoral expenditure for each year of government's 4-year office term. Expenditure includes interest payments. If overruns are forecast, the Minister of Finance proposes corrective action. RR: At the beginning of the electoral period, the coalition agrees on the desired development of the tax base, and this multi-year path needs to be adhered to during the period. Additional tax increases are compensated through tax relief and vice versa. Independent body sets budget assumptions. Some rules exclude public investment or other priority items from ceiling. <u>Supranational rule:</u> Euro area. 2/
New Zealand	BBR (1994), DR (1994)	—	Statutory	GG	Multiyear expenditure ceiling	The Fiscal Responsibility Act (FRA) sets out the principles for responsible fiscal management. The FRA also includes principle rules for the budget and debt: (i) the government needs to run operating surpluses annually until "prudent" debt levels are achieved; (ii) prudent debt levels need to be maintained on average over a reasonable period; and (iii) a buffer against adverse events should be established. Need to specify the reasons if these principles are breached. The FRA requires governments to set out specific fiscal targets for 3-year and 10-year objectives, typically in percent of GDP. Rules exclude public investment or other priority items from ceiling.

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Niger	—	BBR (1999), DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Nigeria	RR (2004), BBR (2007)	—	Statutory	GG, CG	Annual	Annual overall deficit ceiling of 3 percent of GDP. FRL in place.
Norway	BBR (2001)	—	Political commitment	CG	CA or Multiyear	BBR in cyclically-adjusted terms or multiyear.
Pakistan	BBR (2005), DR (2005)	—	Statutory	CG	Annual	FRL in place. Rules exclude public investment or other priority items from ceiling.
Panama	BBR (2002), DR (2002)	—	Statutory	GG	Annual	FRL in place.
Peru	ER (2000), BBR (2000), DR (2000)	—	Statutory	GG	Annual	FRL in place.
Poland	DR (1997)	BBR (2004), DR (2004)	International Treaty; Constitutional	CG, GG	Annual	<u>National rules:</u> DR: Debt ceiling of 60 percent of GDP. The Public Finance Act includes triggers for corrective actions when the debt ratio reaches thresholds of 50, 55, and 60 percent of GDP. Rules exclude public investment or other priority items from ceiling at subnational levels. <u>Supranational rules:</u> EU. 3/
Portugal	BBR (2002)	BBR (1992), DR (1992)	International Treaty; Statutory	CG, GG	Annual	<u>National rules:</u> Balanced budget rule for CG. Rules exclude public investment or other priority items from ceiling at subnational levels. <u>Supranational rules:</u> Euro area. 2/
Romania	—	BBR (2007), DR (2007)	International Treaty	GG	Annual	<u>National rules:</u> Rules exclude public investment or other priority items from ceiling at subnational levels. <u>Supranational rules:</u> EU. 3/
Senegal	—	BBR (1999), DR (1999)	International Treaty	GG	Annual	WAEMU. 4/
Slovak Republic	—	BBR (2004), DR (2004)	International Treaty	GG	Annual	EU. 3/
Slovenia	ER (2005), BBR (2000), DR (1990)	BBR (2000), DR (2005)	International Treaty; Coalition agreement	GG	Annual	<u>National rules:</u> DR: The debt/GDP ratio of GG and nonfinancial public entities (classified outside GG) cannot exceed 40 percent of GDP. Rules exclude public investment or other priority items from ceiling at subnational levels. <u>Supranational rules:</u> Euro area. 2/

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
Spain	BBR (2003)	BBR (1992), DR (1992)	International Treaty; Statutory	GG	CA or Multiyear	<u>National rules:</u> In “normal” economic conditions, GG and its subsectors must show a balanced budget or a surplus. In downturns, the overall deficit must not exceed 1 percent of GDP. In addition, a deficit of up to 0.5 percent of GDP is allowed to finance public investment under certain conditions. Spain also has a FRL to support its rules. The “exceptional circumstances” and “special conditions” clauses have been activated during the current downturn and the provision to presenting plans to correct within three years have been put on hold without a specific time frame. <u>Supranational rules:</u> Euro area. 2/
Sri Lanka	BBR, DR (2003)	—	Statutory	CG	Multiyear	Fiscal responsibility law. Exceptional circumstances clause.
St. Kitts and Nevis	—	DR (1998)	International Treaty	GG	Annual	ECCU. 1/
St. Lucia	—	DR (1998)	International Treaty	GG	Annual	ECCU. 1/
St. Vincent and the Grenadines	—	DR (1998)	International Treaty	GG	Annual	ECCU. 1/
Sweden	ER (1997), BBR (2000)	BBR (1995), DR (1995)	International Treaty; Political commitment	GG, CG	Multiyear for ER; target government saving over the cycles	<u>National rules:</u> BBR: A surplus of 2 percent of GDP for the GG over the cycle targeted. ER: Nominal expenditure ceiling for CG and extra-budgetary old-age pension system targeted. Some rules exclude public investment or other priority items from ceiling. <u>Supranational rules:</u> EU. 3/
Switzerland	BBR (2003)	—	Constitutional	CG	CA or Multiyear	Structural balance rule: One-year-ahead ex ante ceiling on CG expenditures equal to predicted revenues, adjusted by a factor reflecting the cyclical position of the economy. Any deviations of actual spending from the ex post spending ceiling, independent of their cause, are accumulated in a notional compensation account. If the negative balance in that account exceeds 6 percent of expenditures (about 0.6 percent of GDP) the authorities are required by law to take measures sufficient to reduce the balance below this level within three years.
Timor-Leste	RR (2005)	—	Statutory	CG	Annual	—
Togo	—	BBR (1999), DR (1999)	International Treaty	GG	Annual	WAEMU. 4/

Country	Type of National Rules (Start Date)	Type of Supranational Rules	Statutory Base	Coverage	Time Frame	Other Features of Rules
United Kingdom	BBR (1997), DR (1997)	BBR (1992), DR (1992)	International Treaty; Political commitment	GG	CA or Multiyear	<u>National rules:</u> <u>BBR:</u> Golden rule: GG borrowing only allowed for investment, not to fund current spending. Performance against the rule is measured by the average surplus on the current budget in percent of GDP over the economic cycle. <u>DR:</u> Sustainable investment rule: public sector net debt as a proportion of GDP should be held at a stable and prudent level over the economic cycle. Other things equal, net debt to be maintained below 40 percent of GDP over the economic cycle. There is an FRL to support these rules. Rules exclude public investment or other priority items from ceiling. Government has departed “temporarily” from the fiscal rules “until the global shocks have worked their way through the economy in full.” Authorities have adopted a temporary operating rule. <u>Supranational rule:</u> EU. 3/

Sources: IMF database of fiscal rules, European Commission database on fiscal governance, IMF staff reports, and authorities' reports.

Rules in effect in 2008. ER = Expenditure rules; RR = Revenue rule; BBR = Budget balance rule; DR = Debt rule

GG = General government; CG = Central government. CA = Cyclical adjustment

1/ Eastern Caribbean Currency Union (ECCU). The member countries aim at reducing public debt to 60 percent of GDP by 2020.

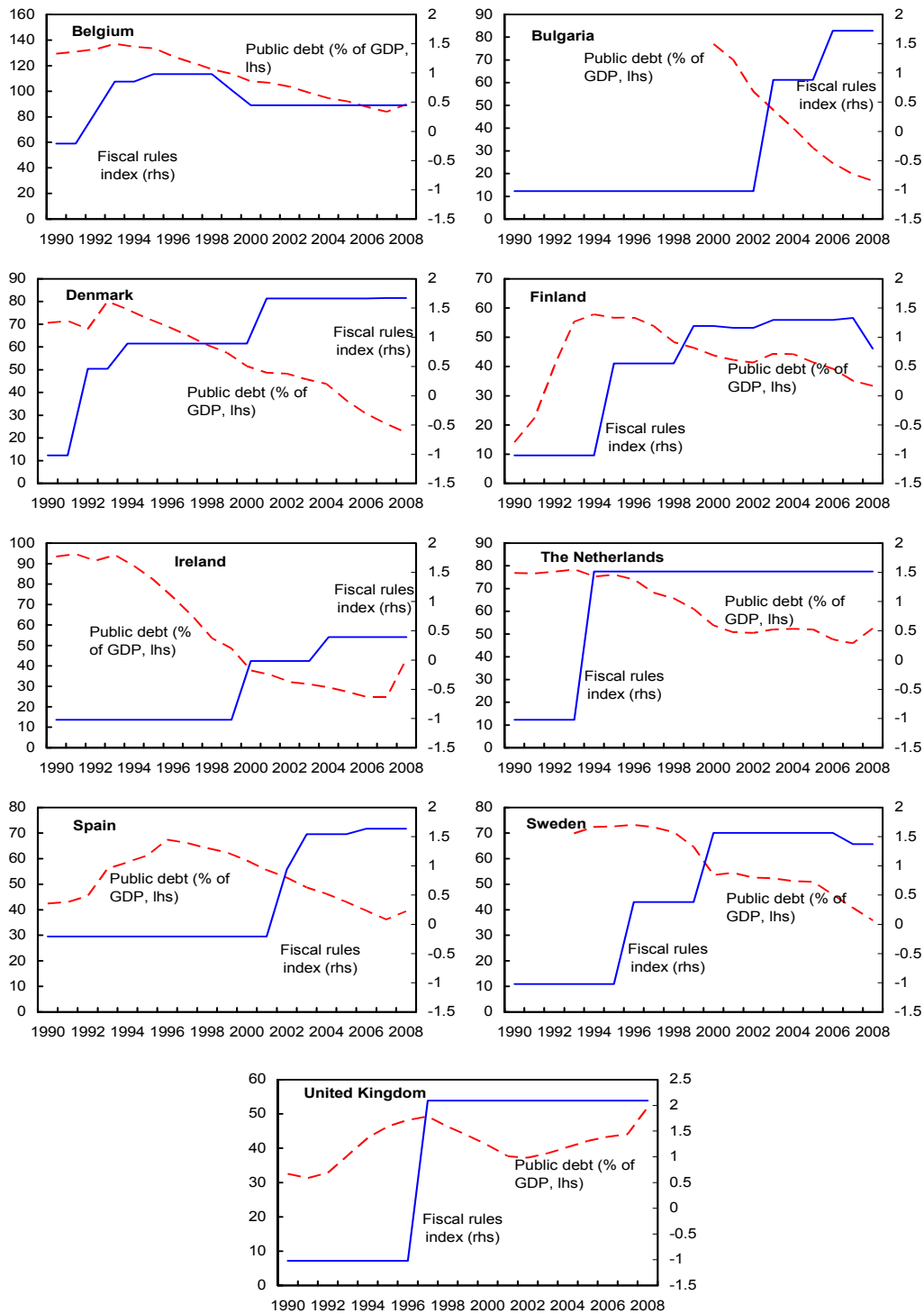
2/ Euro area of the European Union. See below (EU) for fiscal rules. Sanctions apply only to euro-area members.

3/ European Union. EU members are bound to avoid excessive public deficits (defined with reference to a 3 percent of GDP threshold for the general government deficit) and reduce their public debt-to-GDP ratio to below 60 percent of GDP. In addition, they commit to aiming at structural balances close to balance or in surplus (with country-differentiated margins). Sanctions for noncompliance apply only to the members of the euro area.

4/ West African Economic and Monetary Union (WAEMU). It has fiscal convergence criteria, including a balanced budget or better and a public debt no higher than 70 percent of GDP.

5/ Central African Economic and Monetary Community (CEMAC). It has a limit on its deficit and total debt. The basic fiscal balance, defined as total revenue net of grants minus total expenditure net of foreign-financed capital spending, should be in balance or surplus; and the stock of public debt should be kept below 70 percent of GDP.

Appendix Figure I. Selected EU Countries: Fiscal Rules and Public Debt, 1990-2008 1/



Sources: European Commission fiscal governance database (see also European Commission, Public Finances in EMU reports 2006, 2009); World Economic Outlook; and staff calculations.

1/ Fiscal rules index from the European Commission based on five criteria of national fiscal rules: (i) statutory base of the rule, (ii) nature of the body in charge of monitoring the respect of the rule, (iii) nature in charge of enforcement of the rule, (iv) enforcement mechanisms of the rule and (v) media visibility of the rule based on self-reporting by EU Member States. The index was standardized so that the average over the sample (1990-2008) is zero and the standard deviation is one.

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