



## IMF POLICY PAPER

### BUDGET INSTITUTIONS IN G-20 COUNTRIES: AN UPDATE

April 7, 2014

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The Staff Report was issued to the Executive Board for information.

The policy considerations in this paper should be attributed to IMF staff and not to the IMF or its Executive Board. The analysis was prepared by the staff of the Fiscal Affairs Department and has benefited from comments and suggestions by staff from other IMF departments, as well as by Executive Directors.

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**International Monetary Fund**  
**Washington, D.C.**



## BUDGET INSTITUTIONS IN G-20 COUNTRIES: AN UPDATE

### EXECUTIVE SUMMARY

April 7, 2014

The recent crisis left many G-20 countries with significant fiscal consolidation needs. There is evidence that well-designed budget institutions can help countries to plan and deliver successful fiscal adjustments. A 2010 internal IMF study identified ten budget institutions which can support the consolidation process, assessed their strength in each G-20 country, and identified priorities for institutional reform. Following consultations with all G-20 countries and using a revised evaluation framework, this paper: (i) reports on progress in strengthening their budget institutions; (ii) analyzes their impact on post-crisis fiscal performance; and (iii) makes recommendations for further institutional reform.

Budget institutions have been strengthening across the G-20 since 2010, and about one-third of the recommendations of the above evaluation have been addressed by countries in their own reform efforts. Most progress has been seen in establishing fiscal councils and fiscal rules and developing medium-term budget frameworks. Less progress has been made in strengthening institutions that enhance fiscal disclosure or support fiscal policy implementation. Reforms have been most prevalent among advanced countries, especially those in Europe, contributing to a growing gap in institutional strength between advanced and emerging G-20 countries.

G-20 countries with stronger budget institutions overall have tended to plan and deliver more fiscal adjustment in the wake of the crisis. Countries with comprehensive fiscal reporting, forecasting, and risk disclosure seemed to have a better understanding of their post-crisis fiscal position and prospects. Those with more credible medium-term frameworks, performance budgeting systems, and intergovernmental fiscal arrangements were quicker to announce their adjustment plans and better at protecting public investment within those plans. Finally, countries with more unified and disciplined budget processes tended to more effectively implement their plans.

Despite recent progress, there remains considerable scope for institutional reform in G-20 countries. Many countries need to improve their understanding of their fiscal situation through more comprehensive and timely fiscal reporting, more transparent macro-fiscal forecasts, and greater analysis of fiscal risks. The credibility of fiscal adjustment plans could also be supported by better-designed medium-term frameworks, greater use of expenditure reviews, and stronger intergovernmental fiscal coordination. Execution of these plans could be enhanced through more unified annual budgets, a more top-down approach to budget discussions in parliament, and tighter controls over supplementary budgets and multi-year spending commitments.

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## INTRODUCTION

**1. The economic and financial crisis that began in 2008 left many G-20 countries with large and long-term fiscal consolidation requirements.** There are many factors that determine the success or failure of fiscal consolidations. These could include the political context, the macroeconomic environment, the balance of the consolidation effort between expenditure and revenue measures, and the support received from monetary and structural policies.<sup>1</sup>

**2. However, there is also substantial evidence that strong budget institutions can assist in developing and delivering effective fiscal policy adjustments.** In 2010, IMF staff prepared an internal study, which examined the contribution of budget institutions to fiscal adjustment. The study: (i) identified a set of ten budget institutions (Figure 1) which were shown to support the fiscal adjustment process; (ii) evaluated the extent to which those institutions were in place in each G-20 country; and (iii) made a series of general and country-specific recommendations regarding priorities for institutional reform. In this context, budget institutions were defined as the structures, rules, and procedures that govern the formulation, approval, and execution of government budgets. Subsequently, the staff consulted with G-20 country authorities to discuss the methodology, findings, and initial recommendations and learn about their institutional reform plans.

**3. Based on these consultations, this paper takes stock of G-20 countries' progress in strengthening their budget institutions, assesses the extent to which these institutions have supported their fiscal adjustment efforts, and identifies priorities for further institutional reform.** The updated analysis benefits from a revised evaluation framework on the role of budget institutions in supporting fiscal adjustment. In addition to refining the ten budget institutions, two new budget institutions have been incorporated into the evaluation framework with a view to capturing intergovernmental fiscal arrangements and the unity of the annual budget. The paper also provides a more detailed, empirical analysis of the relationship between budget institutions and the success of G-20 countries' fiscal adjustment strategies in the five years since the onset of the crisis. This analysis is undertaken without assigning overall letter grades to each country's institutional arrangements while placing greater emphasis on country-specific factors raised by country authorities.

**4. The paper is structured as follows:**

- Part II discusses refinements to the 2010 study's methodology for assessing the strength of budget institutions following feedback from G-20 country authorities;
- Part III reviews progress in strengthening budget institutions across the G-20 since 2010;

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<sup>1</sup> See Mauro (2011).

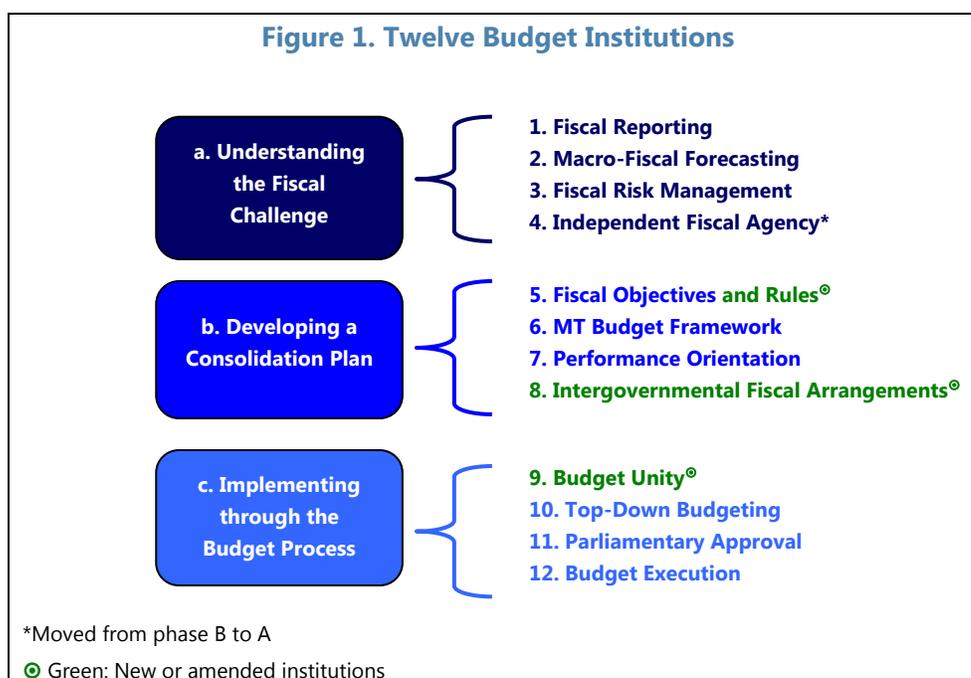
- Part IV assesses the contribution of budget institutions to G-20 countries' fiscal performance since the crisis;
- Part V concludes with a set of recommendations for further strengthening budget institutions in G-20 countries in light of the foregoing analysis;
- Appendix I sets out the revised evaluation framework used to assess the strength of countries' budget institutions and how this differs from the 2010 framework;
- Appendix II describes the methodology for assessing countries' fiscal adjustment performance; and
- A Supplement provides updated summaries of the state of each G-20 country's budget institutions, prepared in consultation with relevant country authorities, which highlight reforms undertaken since 2010 and identifies priorities for further improvement.

## REFINEMENTS TO THE EVALUATION METHODOLOGY

### A. The Original Evaluation Framework: A Summary

**5. While there are many factors that determine the success of countries' efforts to restore their public finances to a sustainable position, there is evidence that strong budgetary institutions can support the fiscal adjustment process.** An earlier review of the theoretical and empirical literature on the relationship between the institutional arrangements for fiscal decision-making and the success of fiscal adjustment identified ten institutions, summarized in Figure 1, which increase the probability of success at three key stages of the adjustment process: (i) understanding the scale and scope of the fiscal challenge; (ii) developing a credible fiscal adjustment plan; and (iii) implementing the plan through the budget process.<sup>2</sup> These institutions and their key design features provided the basis for a 41 question evaluation which assessed the strength of each G-20 country's budget institutions.

<sup>2</sup> These studies covered the contribution of budget institutions to fiscal outcomes in countries with different income levels, constitutional arrangements, and administrative traditions including von Hagen (1992), von Hagen and Harden (1996), Alesina and others (1999), de Haan and Volkerink (1999), and Gleich (2003). The findings were summarized in Olden and others (2012) and have been supported by other recent studies including Mauro (ed.) (2011), Andrews (2013), and Cangiano, Curristine, and Lazare (eds) (2013).



## B. Feedback from G-20 Country Authorities

### 6. Staff consultations with each G-20 country over the past three years on the results of this evaluation yielded the following feedback:

- most countries found the analysis of their institutional strengths and weaknesses to be fair and a useful guide for prioritizing their institutional reform efforts;
- many countries questioned the uniform weighting given to each institution within the framework and called for more analysis of different institution's relative contribution to the fiscal adjustment effort;
- some countries suggested that country-specific factors be better reflected, such as the structure of the political system or the role of the legislature;
- some countries proposed inclusion of other budget institutions relevant to the adjustment process; and
- some countries questioned the value and validity of the overall letter grades assigned to each country's institutional arrangements.

## C. The 2014 Evaluation Framework

### 7. Based on this feedback, this update includes a number of refinements to the budget institution evaluation framework, which are summarized in Figure 1 and Appendix I.

- Two new budget institutions have been added. The first relates to intergovernmental fiscal arrangements. Given the large and growing fiscal importance of sub-national governments in G-20 countries, the institutional arrangements for the coordination of financial decision-making between levels of government are an increasingly important factor in the success of whole of government adjustment strategies. The second concerns the unity of the annual budget. The existence of significant extra-budgetary funds, earmarked or statutory expenditures, and tax expenditures authorized outside the annual budget can complicate and potentially undermine fiscal adjustment plans. The revised evaluation framework therefore includes an assessment of the extent to which the annual budget covers all central government revenue and expenditure.
- The key design features of a number of other institutions have also been refined. In particular: (i) the fiscal objectives and rules institution has been augmented to include questions as to whether fiscal rules account for the economic cycle and whether they include escape clauses; (ii) the evaluation of independent fiscal agencies has been moved from Phase B (Planning) to Phase A (Understanding) to reflect the greater importance of this institution to understanding the fiscal challenge; and (iii) the separation of current versus new policies in budgetary projections has been moved from macroeconomic forecasting to the medium-term budget framework (MTBF) institution to reflect its greater relevance to the planning process.

### 8. Using this revised framework, the twelve budget institutions of each G-20 country are subjected to an updated, systematic evaluation.<sup>3</sup> A detailed list of the evaluation questions is provided in Appendix I. Countries are grouped into three categories (strong, medium, and weak institutions) of roughly equal size (six or seven countries) for analytical purposes based on the evaluation results for each institutions and phase of the adjustment process.<sup>4</sup> This analysis is based on qualitative reviews of each G-20 country's institutional arrangements, including reforms introduced since 2010, the findings of which are summarized in a supplement to this paper.

<sup>3</sup> The twelve budget institutions and their key features have been used to evaluate the strength of each G-20 country's institutional arrangements. Each key feature is translated into a specific evaluation question. The questions have been formulated in such a way that they are factually verifiable, and a country is given a rating of 0 if the criterion is not met; 1 if the criterion is partly met; and 2 if the criterion is fully met. The ratings against each question are then averaged to produce an overall score of the strength of each of the twelve institutions between 0 and 2. See Appendix I for a list of questions and criteria for determining whether they have been "not met," "partly met," or "fully met."

<sup>4</sup> While, as noted in paragraph 12, advanced G-20 countries have stronger overall budget institutions than emerging G-20 countries, the composition of the three groups varies considerably between institutions and adjustment phases, with some emerging countries falling in the "strong institutions" category and some advanced countries falling in the "weak institutions" category.

**9. Based on this evaluation, the relationship between the strength of these institutions and the success of G-20 countries' fiscal adjustment efforts since the crisis is also assessed.**

The contribution of various budget institutions to fiscal performance at each of the three key stages of the consolidation process is assessed based on a set of ten indicators of the success of fiscal adjustment. These indicators of adjustment performance include the share of adjustment need addressed to date, the credibility of economic and fiscal forecasts, the timeliness of consolidation/adjustment planning, and the composition of the adjustment delivered. The list of all ten fiscal adjustment indicators is provided in Box 1 and their calculation is described in more detail in Appendix II.

**10. While this analysis allows some general conclusions to be drawn regarding the link between budget institutions and fiscal performance, some limitations should be acknowledged.** In particular:

- The period under analysis is brief, just three years, and can provide only a snapshot of countries' ongoing institutional reform efforts and post-crisis fiscal performance. Many countries are planning further reforms to their budget institutions which are not captured here. Many countries have also only just embarked upon a sustained period of fiscal adjustment aimed at reducing public debt over time. It is therefore difficult to say anything definitive about the composition, profile, and long-term impact of these adjustment plans. The analysis presented in this paper should thus be seen as preliminary and a first attempt to review reform progress and gauge the impact of budget institutions on post-crisis fiscal performance.
- The sample of countries, 19 in total, is small. This means that the scope for utilizing more sophisticated statistical techniques such as multi-variate regressions or Granger causality tests is limited. While there is ample evidence that budget institutions can help shape fiscal outcomes,<sup>5</sup> the analysis presented in this paper does not necessarily establish causality between the two. The best it can do is point to a series of relationships between the strength of different budget institutions on the one hand and various measures of fiscal performance on the other. It is possible that, in some cases, fiscal outcomes affect the way budget institutions are reformed (e.g., a strong fiscal performance can encourage governments to improve their fiscal reporting). Alternatively, improvements in both fiscal outcomes and budget institutions may, in some cases, be driven by the same underlying political economy factors (e.g., a change in government).

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<sup>5</sup> See Footnote 2.

### Box 1. Fiscal Adjustment Indicators

#### A. UNDERSTANDING THE FISCAL CHALLENGE

1. **Data Revisions:** Revisions to reported general government debt in 2009
2. **Macroeconomic Forecast Errors:** Average absolute difference between one year-ahead forecast and actual GDP growth (2004-12)
3. **Macroeconomic Forecast Bias:** Average difference between one year-ahead forecast and actual GDP growth (2004-12)

#### B. DEVELOPING A CONSOLIDATION PLAN

4. **Fiscal Effort:** Share of illustrative fiscal adjustment need addressed by the government's plan (2010-15)
5. **Timeliness of Adjustment Planning:** Time between the crisis and announcement of consolidation plan
6. **Growth-Friendliness:** Change in public investment as a share of government expenditure (2010-12)
7. **Sub-National Adjustment:** Percent reduction in central vs. sub-national fiscal deficits (2009-11)

#### C. IMPLEMENTING THE CONSOLIDATION PLAN

8. **Plan Implementation:** Share of planned fiscal adjustment delivered (2010-12)
9. **Budget Credibility:** Difference between approved annual budget and actual expenditure (2010-12)
10. **Response to Shocks:** Impact of macroeconomic shocks on fiscal effort and budget execution (2010-12)

## PROGRESS IN REFORMING BUDGET INSTITUTIONS

### A. Overall Institutional Reform Trends

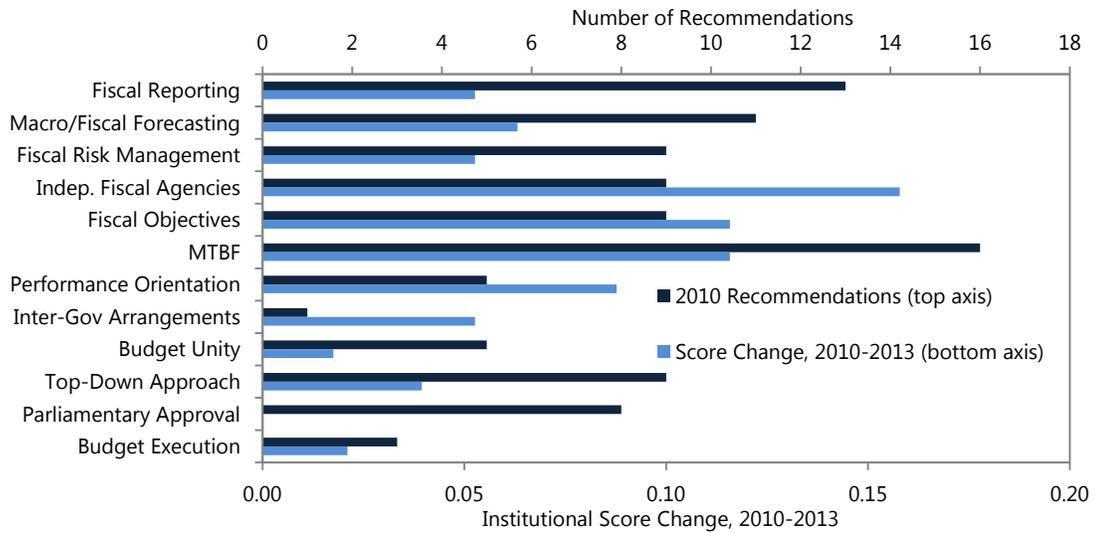
**11. Budget institutions have noticeably strengthened across the G-20 over the last three years, although there remains considerable scope for improvement.** As shown in Figure 2a, the original evaluation identified the need for countries to strengthen their fiscal reporting, macro-fiscal forecasting, and MTBFs in particular to enable them to respond to the fiscal challenges they faced in the wake of the crisis. Institutional changes introduced since then have partly reflected these recommendations, with particular improvement in the areas of independent fiscal agencies, fiscal objectives, and MTBFs. Overall, about a third of the 100 recommendations made in the 2010 evaluation have, to some extent, been addressed by country authorities in their own reform efforts.

**12. While advanced countries, especially those in Europe, have seen the most comprehensive reform efforts, emerging countries have led the way in some areas.** As shown in Figure 2b, advanced countries have generally been more active in reforming their budget institutions than emerging market countries. This reflects, in part, the emphasis that the European Union has placed on improving national budget frameworks among its Member States to safeguard the integrity of the Eurozone in the wake of the recent crisis (Figure 2c). The range of institutional reforms mandated by the EU's Fiscal Compact is discussed in more detail in Box 2. At the same time, some emerging market countries have also made significant improvements in their budget institutions, especially Mexico, South Africa, and China. Indeed, emerging market countries have been more active than advanced countries in strengthening their fiscal risk management, performance budgeting, budget unity, and intergovernmental fiscal arrangements.

**Figure 2. Progress in Strengthening Budget Institutions (Continued)**

There has been a noticeable strengthening of institutions since 2010 particularly in Planning institutions.

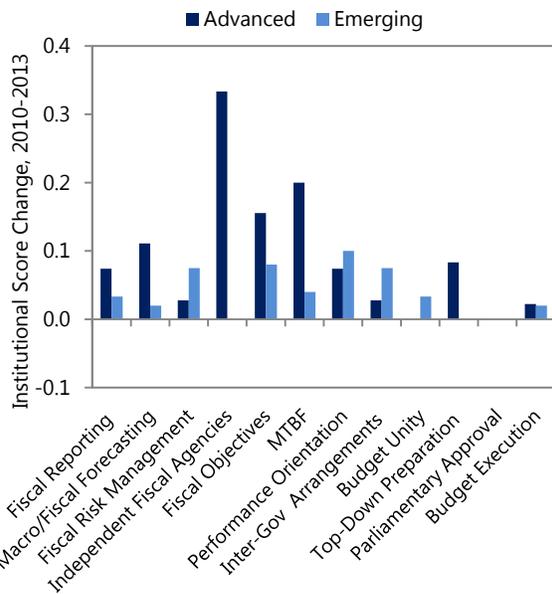
**a. Reforms Recommended vs. Implemented**



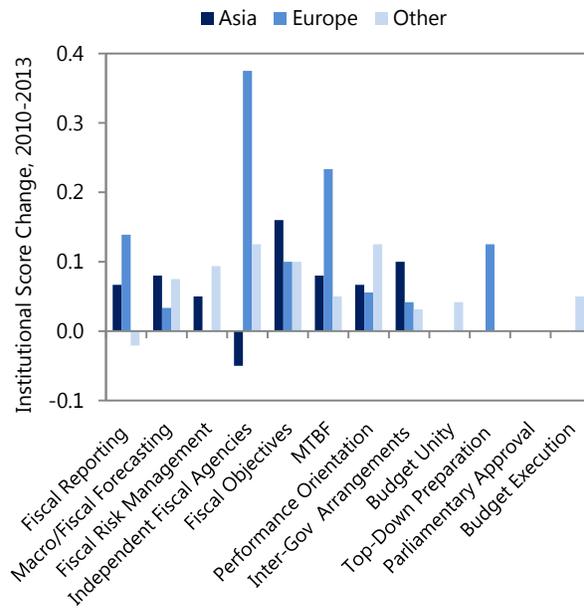
Reforms were more common in advanced economies...

...especially among European countries.

**b. By Income Level**



**c. By Region**

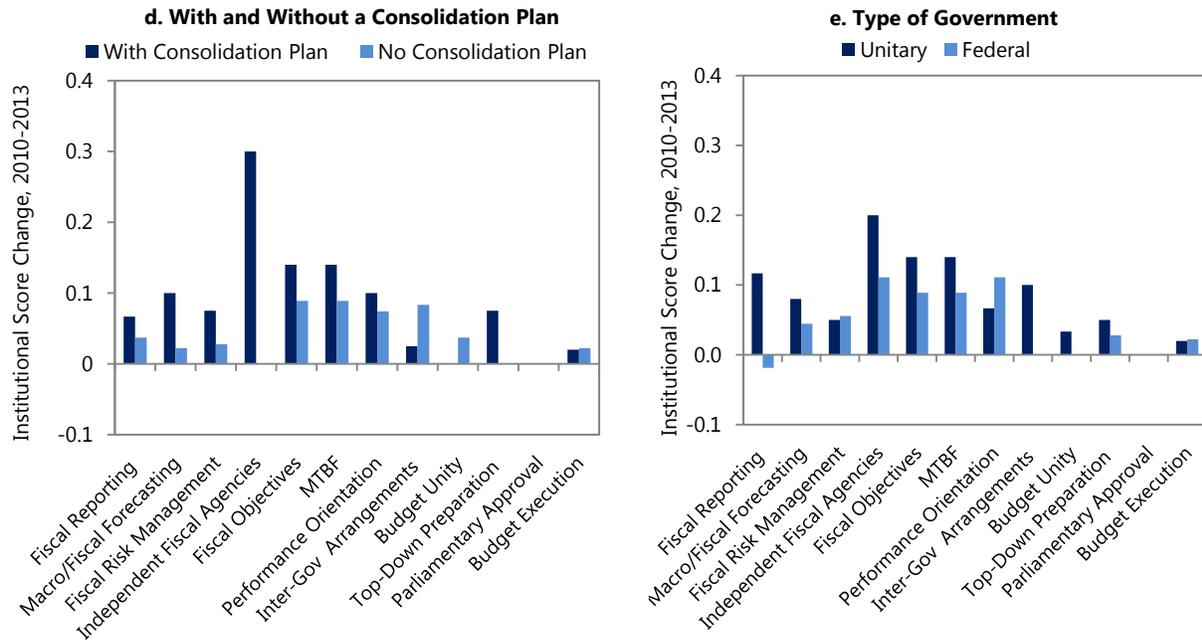


Source: Fund staff estimates.

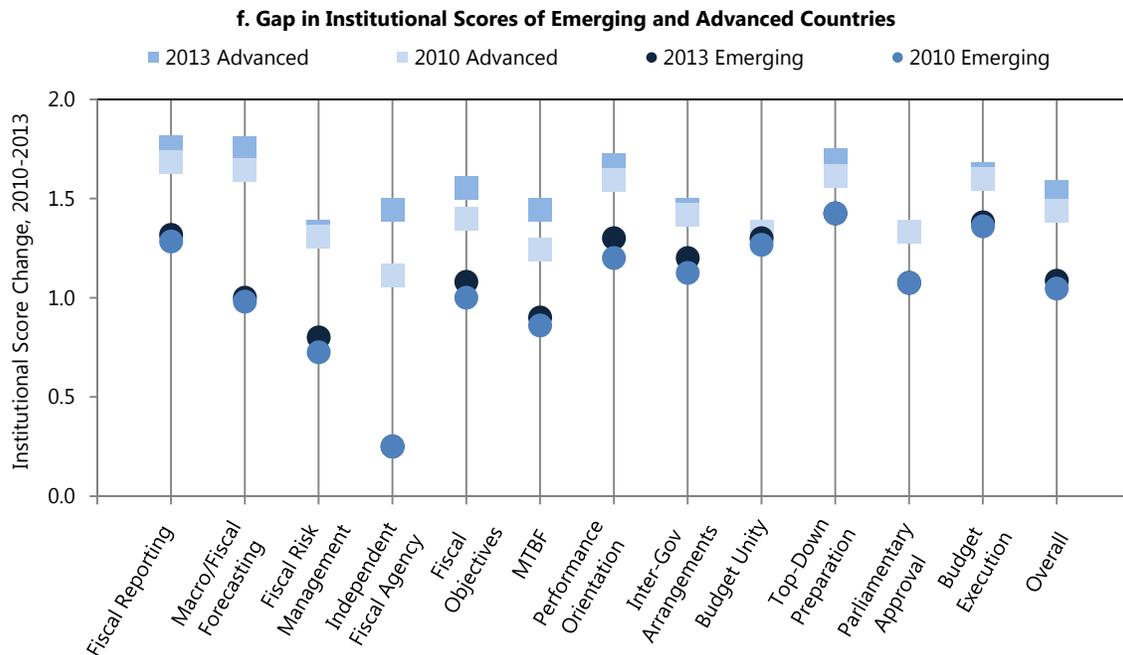
**Figure 2. Progress in Strengthening Budget Institutions (Concluded)**

*Institutional reform was spurred by consolidation need...*

*...and more prevalent in unitary states.*



*The gap in institutional strength between advanced and emerging market economies is growing.*



Source: OECD (2011); national budget documents; and Fund staff estimates.

### Box 2. The European Union's Reforms to Fiscal Governance

The rapid deterioration of the fiscal positions of European countries in the wake of the recent crisis, which at one stage threatened the viability of the Eurozone, has, since 2011, led the EU to introduce a number of reforms to strengthen Member States' fiscal discipline and enforcement of the Stability and Growth Pact (SGP). The SGP requires that general government deficits not exceed 3 percent of GDP and public debt must not exceed 60 percent of GDP. By 2011, 14 of the 17 euro area countries had violated the deficit rule and the crisis had pushed debt to historic highs. To strengthen the fiscal framework underpinning European monetary union, a new Fiscal Compact came into force in January 2013 as part of the Treaty on Stability, Coordination, and Governance in the Economic and Monetary Union. Formally 20 countries (18 euro members plus Denmark and Romania) are party to the Compact which adds to and reinforces the SGP. The Fiscal Compact builds on the earlier "Six Pack" of five new EU regulations and one EU directive designed to strengthen the SGP, which took effect in December 2011. Finally, in February 2013 agreement was reached on the "Two Pack" which added two additional regulations to strengthen surveillance mechanisms for the euro area. The reforms mandated by these instruments include:

**Revised Fiscal Rules:** The Fiscal Compact requires signatories to modernize their fiscal frameworks by giving effect in national legislation to a structural balance budget rule, an automatic correction mechanism to be triggered in the event of deviations from the rule, and an escape clause for exceptional economic circumstances all by January 2014. The structural budget balance rule must limit annual structural deficits to a maximum of 0.5 percent of nominal GDP and ensure convergence towards the country's medium-term budgetary objective (MTO) assessed by the European Commission. Among the G-20, France, Germany, and Italy have all incorporated these provisions in their constitution or legislation. The Fiscal Compact and the "Six Pack" also introduced two additional guidelines to ensure consistency with supranational fiscal rules: a debt reduction rule and an expenditure benchmark. Under the debt reduction rule, countries with debt above the 60 percent of GDP limit are required to continuously reduce their debt levels by at least 1/20<sup>th</sup> of the distance between the current level and 60 percent of GDP until the latter is reached. The expenditure benchmark requires that countries which have reached their MTO keep annual growth of primary expenditure (excluding unemployment benefits) at or below long-term nominal GDP growth.

**Reformed National Budgetary Frameworks:** Recognizing that rules require supporting budget institutions, the "Six Pack" requires improvements to countries' national budgetary frameworks including making medium-term budget frameworks more binding, preparing budgets in a more top-down sequence, and frequent, timely, and comprehensive reporting on general government fiscal developments and risks.

**Improved Surveillance and Monitoring:** The "Two-Pack" requires that a national independent institution either produces or endorses official macroeconomic forecasts and monitors the government's compliance with the fiscal rules. In addition to the existing surveillance mechanism under the SGP, the "Two Pack" introduces a new ex ante procedure. All euro area countries must submit their draft budgets prior to enactment to the European Commission to ensure appropriate integration of euro area policy recommendations. If the Commission finds that a draft budget is not compliant with the SGP, it will issue an opinion to ask for revisions before it is enacted.

**Enhanced Enforcement:** The European Court of Justice can impose a financial penalty (up to 0.1 percent of GDP) if a country fails to properly implement the legislative changes required by the Fiscal Compact. The Compact and "Six Pack" also strengthened the excessive deficit procedure (EDP) for sanctioning non-compliance with the fiscal rules. In cases of non-compliance of a Euro Area Member State with the deficit rule, a recommendation of the Commission is required to be supported by other Euro Area Member States in the European Council, unless a qualified majority votes against it. Fines are imposed progressively starting at 0.2 percent of GDP and can reach 0.5 percent of GDP.

**13. The concentration of institutional reforms among advanced economies likely reflects their more pressing fiscal consolidation needs.** Advanced G-20 economies entered the crisis with stronger budget institutions than emerging markets but also faced larger consolidation needs in the wake of the crisis. As shown in Figure 2d, the pressure to develop and announce a comprehensive and credible fiscal consolidation plan appears to have also been a catalyst for further strengthening of their budget institutions. The relative health of the public finances of emerging markets in the wake of the recent crisis, coupled with country-specific factors, has meant that both pressure for and progress in strengthening their budget institutions has generally been less intense. As a result, as shown in Figure 2f, the gap between the strength of advanced and emerging market countries' budget institutions appears to have grown over the past three years. This gap is a concern, as emerging market countries face increased fiscal vulnerabilities as cyclical conditions worsen and headline balance figures remain significantly higher than pre-crisis levels.<sup>6</sup>

**14. Finally, it is noteworthy that both advanced and emerging countries have so far focused on institutional reforms that are relatively easy to deliver.** For example, it tends to be simpler to establish fiscal councils or legislate for a fiscal rule than to increase the coverage of fiscal reports or strengthen budget execution controls. The latter reforms require sustained and systematic changes in organizational arrangements and human capabilities across government ministries and agencies. Constitutional differences may also help to explain differences in the pace of institutional reforms which appear to have been more extensive in unitary states than in federal ones, as shown in Figure 2e.<sup>7</sup> The remainder of this section discusses in more detail the institutional reform trends at each of the three phases of the adjustment process.

## B. Improving the Understanding of the Fiscal Challenge

**15. Efforts to improve G-20 countries' understanding of their fiscal position and prospects have focused on the establishment of new independent fiscal agencies.** Since 2010, five countries—Australia, France, Italy, South Africa, and the UK—have established new fiscal councils to provide independent oversight of macro-fiscal forecasting, policy, and performance. The idea that well-designed fiscal councils can promote more accurate economic and fiscal forecasting and help improve fiscal discipline is supported by a recent paper<sup>8</sup> as well as the experience of the UK in the wake of the crisis (Box 4).

**16. These enhancements to the scrutiny of the fiscal position and outlook have not been matched by improvements to underlying arrangements for fiscal reporting and forecasting despite developments in international standards (IPSAS, EPSAS, GFS manual).<sup>9</sup>** Only around

<sup>6</sup> See IMF (2013c).

<sup>7</sup> See "Designing a European Fiscal Union: Lessons from the Experience of Fiscal Federations," forthcoming (IMF 2014).

<sup>8</sup> See IMF (2013a).

<sup>9</sup> International Public Sector Accounting Standards, European Public Sector Accounting Standards and Government Financial Statistics Manual 2001.

half of G-20 countries' fiscal statistics are produced by a fully independent statistics agency, and since 2010 only Turkey has taken steps to enhance the integrity of its fiscal statistics by transferring responsibility for their production to the independent Statistics Turkey. While three-quarters of G-20 countries produce fiscal statistics covering the revenues and expenditures of the general government, only half produce a comprehensive balance sheet and only three countries (Australia, Canada, and the UK) produce fiscal reports covering the whole of the public sector. Since 2010 only two countries (Turkey and the UK) have significantly expanded the coverage or scope of their fiscal reports. The most significant improvement in fiscal forecasting has been in the area of fiscal sustainability analysis, with Canada joining the four other G-20 countries which regularly produce long-term fiscal projections and South Africa preparing to do so.

**17. Despite the sizable sovereign financial exposures revealed by the financial crisis, the reporting and management of fiscal risks remains an area of institutional weakness in most G-20 countries.** Only three countries (Australia, Brazil, and Indonesia) provide a comprehensive statement of fiscal risks alongside their budget, while only seven (Australia, Canada, Germany, Italy, Mexico, the UK, and the US) show the fiscal implications of alternative macroeconomic scenarios alongside their main forecasts. Furthermore, only three countries have made significant reforms in this area since 2010: India has introduced new requirements to report on contingent liabilities; Korea requires additional reporting on the risks from state-owned enterprises; and the UK now publishes more extensive analysis of the risks around the official macroeconomic and fiscal forecasts.

### C. Strengthening the Credibility of Fiscal Planning

**18. G-20 countries' efforts to improve the credibility of their medium-term fiscal and budgetary plans have focused mainly on enhancements to their fiscal objectives and MTBFs.** Since 2010, in emerging markets, Russia has implemented a new fiscal rule, and South Africa has introduced a set of qualitative principles to guide fiscal policymaking. A number of advanced countries have looked to improve the design of their existing fiscal rules by adopting so-called "second generation" fiscal rules, discussed in more detail in Box 3, which allow for greater flexibility to accommodate shocks while maintaining the government's commitment to medium and long-term fiscal sustainability. All four European countries (France, Germany, Italy, and the UK) have taken steps to enshrine their fiscal rules in law. Other G-20 countries, including Australia, Canada, Japan, and Korea, have put more clearly specified fiscal policy objectives and/or rules in place without feeling the need to embed them in the legislative framework. Fiscal rules are also increasingly supported by more comprehensive and binding medium-term expenditure frameworks. Since 2010, Indonesia introduced medium-term ministerial budget estimates for the first time while Germany, Italy, and the UK have strengthened their MTBFs by either improving their institutional coverage or introducing stricter multi-year expenditure limits.<sup>10</sup>

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<sup>10</sup> See also World Bank (2013).

**19. Efforts to enhance the performance orientation of budget decision-making have been concentrated in emerging markets.** While many emerging market governments already present their budgets on a program basis, since 2010 a number have implemented reforms designed to link these allocations to performance. Both China and India have established quantitative output and outcome performance indicators for each of their line ministries' expenditure programs. From 2014 annual reporting on the achievements and efficiency of each government program will be a requirement in Russia. By contrast, since 2010 the UK has removed centrally-imposed and monitored performance targets on line ministries, which could make it more difficult to assess the impact of expenditure reductions on public service delivery.

**20. Despite their growing importance, intergovernmental fiscal arrangements have not been a focus of the reform over the last three years.** Among the nine G-20 countries with fiscal objectives covering the general government or wider, only six clearly identify the contribution of each level of government to the targeted balance and debt position in their fiscal plans. Only four countries have taken steps to strengthen the fiscal oversight of their sub-national governments during this period. The Government Accounting Law in Mexico, as amended in 2012, increased oversight of federal funds at the sub-national level by harmonizing accounting and budget codes across all levels of government. Some minor improvements were made to reporting on sub-national finances in Indonesia and Italy and to the monitoring and control of sub-national finances in China.

#### **D. Tightening Controls over Budget Approval and Execution**

**21. Relatively few countries have taken steps to strengthen the institutions that support the implementation of their fiscal strategies.** Of the few reforms initiated in this area since 2010, most have focused on strengthening top-down budgeting, particularly among EU Member States, including France, Germany, and Italy. Only the UK has taken steps to strengthen budget execution controls since 2010 by tightening the rules around the carryover of underspending between years. No G-20 country has introduced reforms which alter the respective roles of the legislature and executive in formulating and approving the annual budget, although the US experience since the crisis has highlighted the potential costs associated with a lack of effective cooperation between branches of government. The lack of reforms to the legislative process may be due to the fact that, by contrast to reforms to administrative arrangements with the executive, reforms that could alter the balance of power between the executive and the legislature require potentially complex negotiations between the two branches and, in some cases, amendments to national constitutions.

### Box 3. Fiscal Rules and the Crisis

Fiscal rules are numerical limits or targets on budgetary aggregates which are intended to impose lasting constraints on fiscal policy and promote fiscal discipline. Rules can be enacted in national legislation, the constitution, international treaties or by a political commitment. It is important that fiscal rules strike the right balance between ensuring long-term credibility and maintaining flexibility to adjust to changing economic conditions.

**Fiscal Rule Trends:** The number of countries with fiscal rules has grown from five in 1990 to 83 in 2013, including 11 G-20 countries. The main types of fiscal rules are deficit rules, debt rules, expenditure rules, and revenue rules. These rules can apply to some or all of central government, general government, or the public sector. Since each type of rule has its limitations, countries increasingly combine fiscal rules so that more than one fiscal objective, for example, fiscal sustainability and stability, can be achieved. The most common combination of rules is a debt and a deficit rule.

**Lessons of the Crisis for Fiscal Rules:** In the decade leading up to the crisis, fiscal rules were not always successful in bringing about fiscal discipline. Despite relatively favorable macroeconomic conditions, advanced country governments ran structural deficits, rules were not enforced, sanctions were not imposed, and deficits limits came to be regarded as acceptable or normal deficits. At the peak of the crisis, most G-20 countries breached at least one of their rules. In response, some suspended their rules (Argentina, India, Russia) or did not enforce them, others extended the date for achieving targets (the Euro Area) or invoked escape clauses (Mexico, UK), and some abandoned them (Turkey). The crisis highlighted the need to make fiscal rules more responsive to the economic cycle and resilient to economic shocks. It also underscored the need for fiscal rules to be part of an integrated fiscal framework with supporting budget institutions which ensure the credibility and transparency of macroeconomic and fiscal data, forecasts, policies, and plans.

**Next Generation of Fiscal Rules:** Fiscal rules have increased in both number and sophistication in the wake of the recent crisis. Since 2010, ten G-20 countries have introduced at least one new fiscal rule. The new generation of fiscal rules explicitly combines sustainability objectives with more flexibility to accommodate cyclical effects and exogenous shocks. Such flexibility can be achieved by expressing rules in structural terms and including well-defined escape clauses which allow governments to temporarily deviate from their stated fiscal objectives in the face of exceptional shocks. In the last three years, France, Germany, Italy, and the UK have all introduced structural budget balance rules in line with EU requirements. Australia, Japan, Russia and the United States have all adopted new expenditure rules. This next generation of rules strikes a better balance between sustainability and flexibility goals than older rules. However, they are also more complex, creating new challenges for implementation, communication, and monitoring. For this reason, many countries that have introduced these more sophisticated rules have also taken steps to improve their fiscal reporting, strengthen their medium-term budget frameworks, and establish independent fiscal agencies charged with evaluating government's fiscal forecasts and performance. The EU's role in promoting these complementary reforms is discussed in Box 2.

Sources: IMF Fiscal Rules Database, Budina and others (2012), and Cangiano, Curristine, and Lazare eds. (2013).

## BUDGET INSTITUTIONS AND FISCAL PERFORMANCE

**22. The relationship between fiscal institutions and performance is complex, causality is difficult to establish, and the strength of institutions is only one of many factors that impact on fiscal performance.** The level of development, macroeconomic environment, political context, and market pressures also play important roles in shaping fiscal outcomes. However, the experience

of G-20 countries since the crisis lends further support to the idea that institutions matter. For analytical purposes in this paper, countries are divided into three groups (strong, medium, and weak) according to the strength of their budget institutions overall and at each phase of the adjustment process.<sup>11</sup> Their relative adjustment performance, both overall and at the three key phases of the adjustment process, is assessed based on the fiscal adjustment indicators described in Appendix II.

## A. Overall Adjustment Performance

**23. Countries with stronger budget institutions overall have tended to plan and deliver more fiscal adjustment.** Figure 3a shows that countries with strong institutions had delivered on average a 2¼ percent of GDP reduction in the general government cyclically-adjusted primary balance between 2010 and 2012 and plan to address 45 percent of their overall illustrative adjustment need by 2015. At around ¾ percent of GDP per year over this period, this is slightly less than the 1 percent average annual fiscal adjustment viewed as appropriate by Fund staff.<sup>12</sup> By contrast, countries with weak institutions delivered cumulatively only ¼ percent of GDP adjustment over the three-year period and plan to address only 10 percent of their overall adjustment need by 2015. The timelines and growth-friendliness of this adjustment and its distribution between central and sub-national government varied across countries and was also a function of the strength of the relevant institutions. The contribution of budget institutions to the success of the adjustment process at each stage is discussed in more detail below.

## B. Understanding the Fiscal Challenge

**24. Countries with stronger “understanding” institutions<sup>13</sup> had a better grasp of their fiscal position at the start of the crisis.** The 2012 paper on *Fiscal Transparency, Accountability, and Risk*<sup>14</sup> highlighted the role that fiscal transparency failures played in the deterioration of governments’ fiscal positions in the immediate aftermath of the crisis. The role that robust fiscal disclosure arrangements have played in supporting the credibility of countries’ efforts to consolidate their fiscal position in the wake of the crisis can be seen Figure 3b which shows that G-20 countries with strong institutions in these areas saw the smallest absolute revisions to the level of general government debt in 2009. However, the relationship between institutions and performance is not as clear cut as in other areas as countries with weak institutions also saw relatively small revisions. This

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<sup>11</sup> While, as noted in paragraph 11, advanced G-20 countries generally have stronger overall budget institutions than emerging G-20 countries, for some of the individual phases and institutions, there are emerging countries in the “Strong Institutions” group and advanced countries in the “Weak Institutions” group.

<sup>12</sup> See IMF (2013b); and the IMF blog “Ten Commandments for Fiscal Adjustment in Advanced Economies,” <http://blog-imfdirect.imf.org/2010/06/24/ten-commandments-for-fiscal-adjustment-in-advanced-economies/>

<sup>13</sup> These comprise fiscal reporting, macro-fiscal forecasting, fiscal risk management, and independent fiscal agencies.

<sup>14</sup> IMF (2012).

may be due to the fact that many countries with weak fiscal reporting institutions do not routinely revise their initially reported fiscal data to reflect new information or changes in statistical methodologies.

**25. Stronger understanding institutions were also associated with more accurate macroeconomic forecasts.** Figure 3c shows that between 2004 and 2012 the average absolute year-ahead forecast error for real GDP was 1½ percent of GDP for countries with strong institutions, compared to 2½ percent for countries with weak institutions.<sup>15</sup> As discussed in Box 4, in the UK the new independent fiscal council has played an important role in improving forecasting performance. It is, however, notable that while countries with strong understanding institutions had more *accurate* GDP forecasts, they also had more *optimistic* GDP forecasts than those with weaker institutions. This suggests that the institutional reforms in this area have not yet been fully effective in addressing the upward bias in official macroeconomic forecasts.

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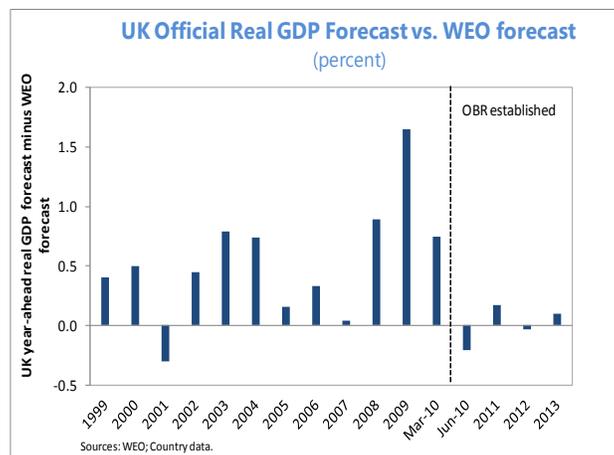
<sup>15</sup>Lower forecasting accuracy in the countries with weaker institutions may also be, in part, attributable to higher levels of macroeconomic volatility in these countries.

#### Box 4. The UK's New Office for Budget Responsibility

The UK established a new fiscal council—the Office for Budget Responsibility (OBR)—in 2010 to address the perceived optimism bias in the macroeconomic and fiscal forecasts produced by previous UK administrations. Like many other fiscal councils, the OBR is tasked with assessing the government's progress in achieving fiscal targets, analyzing long-term fiscal sustainability, and scrutinizing the government's costings of tax and welfare policies. However, unlike other councils, the OBR also produces the official macroeconomic and fiscal forecasts used by the government in setting fiscal policy and budgets, a mandate shared only by the Dutch Central Planning Bureau. Other fiscal councils may produce their own forecasts, but these are only for the purposes of comparison with the government's official projections.

A clear benefit of the introduction of the OBR has been greater forecast transparency. The OBR's forecasts provide greater detail than previous official UK forecasts, including on the economic drivers of revenue and expenditure and the impact of new policies. It also provides extensive risk analysis including sensitivity analysis, alternative macroeconomic and fiscal scenarios, and forecast fan charts. This transparency widens public understanding of the fiscal position and should bolster the credibility of the forecasts.

After only three years in operation, it is too early to fully assess the OBR's forecast performance relative to the past, but early signs are encouraging. Under previous administrations, the UK government's forecasts were perceived to be consistently more optimistic than independent forecasters suggesting an *ex ante* optimism bias. The chart below compares the UK's official GDP growth forecasts with those in the IMF's *World Economic Outlook* (WEO). Before the OBR, the UK government's forecasts had been more optimistic than the WEO's in every year except one since 1999. However, the OBR's forecasts since 2010 have been less optimistic than the WEO in two years out of last four, suggesting *ex ante* forecast bias has been reduced. Moreover, the OBR's own analysis of its forecast accuracy shows that its fiscal forecasts have on average been more accurate than those produced by the UK Government over the previous twenty years.<sup>1</sup>

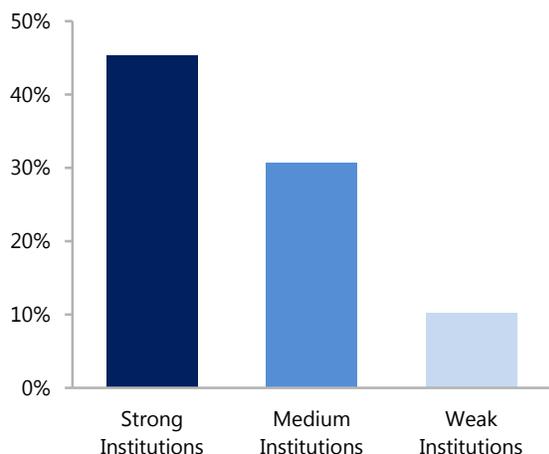


<sup>1</sup> Office for Budget Responsibility. Forecast Evaluation Report 2013, Annex B, October 2013.

**Figure 3. Fiscal Performance by Strength of Institutions (Continued)**

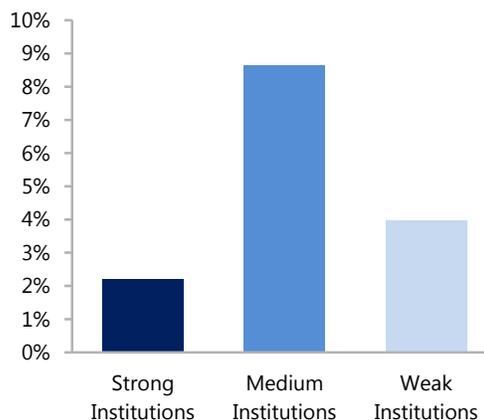
*Countries with stronger institutions overall have addressed more of their adjustment need.*

**a. Share of Adjustment Need Addressed**  
(2010-2015, Percent of Adjustment Need Identified)  
Institutional Scores: All



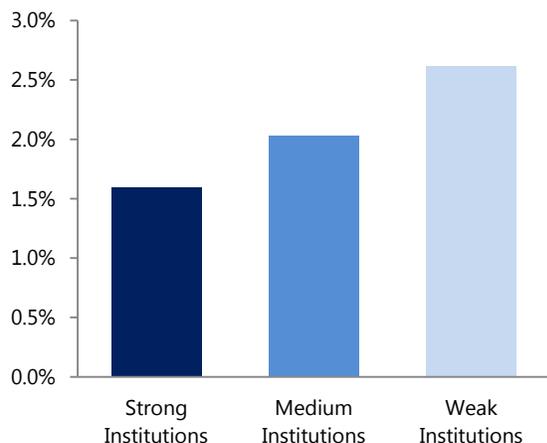
*Relationship between Understanding institutions and revisions to fiscal data is complex*

**b. Absolute Revision to 2009 General Government Debt**  
(Percent of GDP)  
Institutional Scores: Understanding



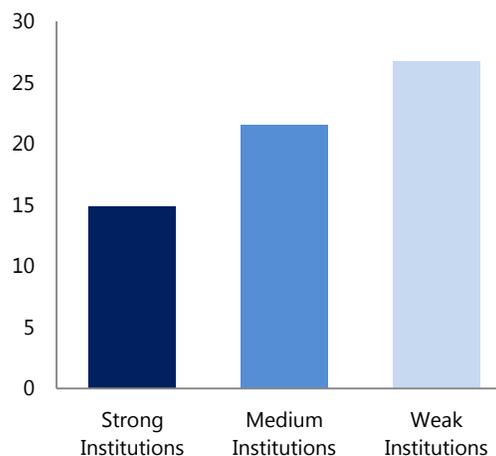
*Countries with stronger Understanding institutions had more credible economic forecasts*

**c. Average Absolute Year-Ahead GDP Forecast Error**  
(2004-2012, Percent)  
Institutional Scores: Understanding



*Countries with stronger Planning institutions were quicker to develop and announce their fiscal exit strategies*

**d. Timeliness of Consolidation Plans\***  
(Months b/w Crisis & Plan Announcement)  
Institutional Scores: Planning



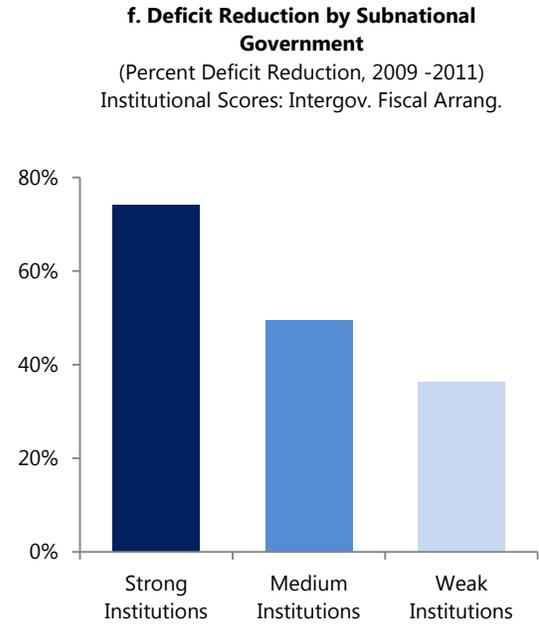
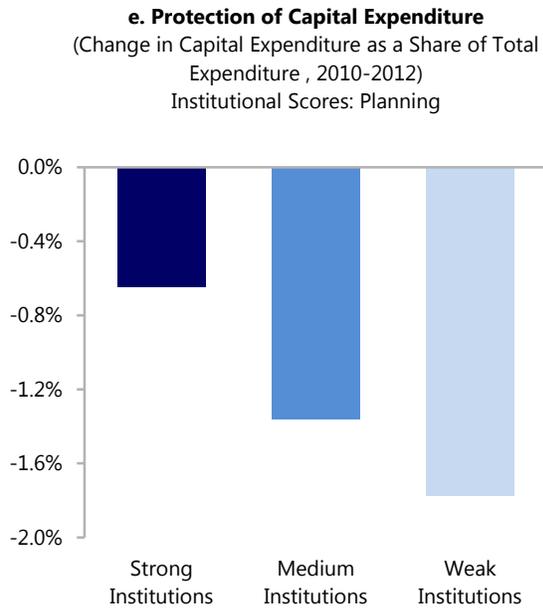
\*Months since January 2009.

Sources: OECD (2011); national documents; Fiscal Monitor; WEO; and Fund staff estimates.

**Figure 3. Fiscal Performance by Strength of Institutions (Concluded)**

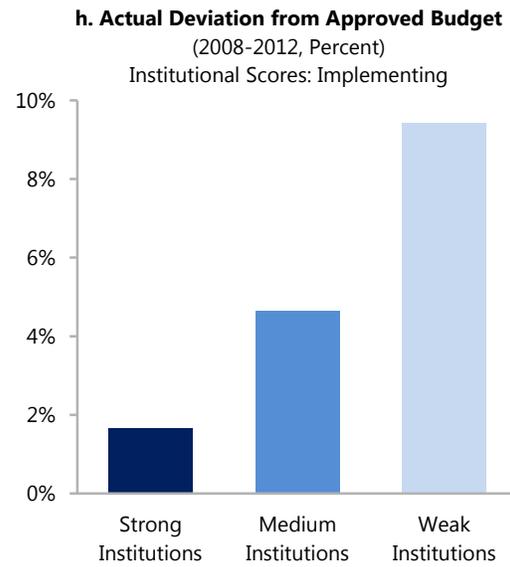
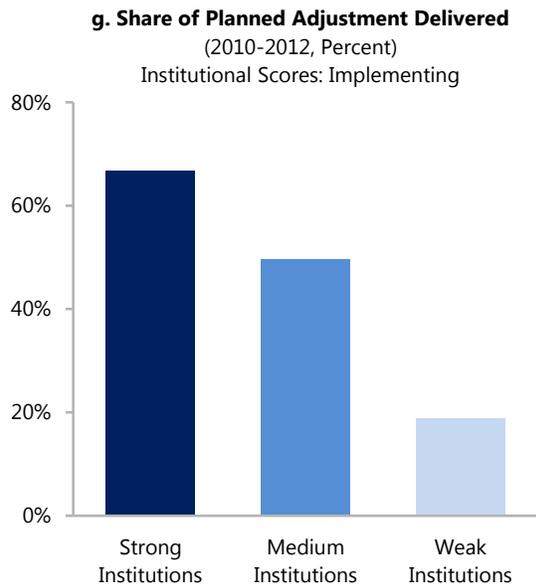
*Countries with stronger Planning institutions tended to protect public investment during consolidation*

*Countries with stronger Intergovernmental Fiscal Arrangements saw bigger falls in sub-national deficits*



*Stronger Implementing institutions were associated with better delivery of planned fiscal adjustment...*

*...due in part to better adherence to approved annual budgets.*



Source: IMF WEO; MAP Data; National documents; and Fund staff estimates.

## C. Developing a Credible Adjustment Plan

**26. Countries with stronger planning institutions<sup>16</sup> have generally been quicker in formulating and adopting comprehensive fiscal adjustment strategies.** As early as September 2009, G-20 countries committed themselves to the preparation of fiscal exit strategies designed to restore their public finances to sustainability over the medium term.<sup>17</sup> As shown in Figure 3d, countries with strong planning institutions developed and presented comprehensive medium-term consolidation plans within 15 months of January 2009 while those with weak institutions took an average of 27 months to publish their plans.

**27. Countries with stronger planning institutions have also tended to protect public investment spending to a greater degree during the fiscal consolidation process.** In periods where fiscal consolidation is required, capital expenditure can be a tempting target given the limited immediate social or political impact from delaying or cancelling public investment projects relative to other expenditure items such as wages, benefits, or pensions.<sup>18</sup> However, cutting public investment in times of consolidation may have a negative impact on medium-term growth prospects.<sup>19</sup> While most G-20 countries reduced the share of public investment in total expenditure over the last three years, as shown in Figure 3e, those with strong planning institutions have seen the smallest reduction in this share. One reason for this could be that planning institutions such as MTBFs help draw attention to the unsustainability of adjustment strategies that rely on deferring or cutting investments rather than tackling cost drivers on the recurrent side of the budget.

**28. Countries with strong intergovernmental fiscal arrangements have seen the largest reductions in sub-national deficits, which were not always matched at the central level.** Countries with strong institutions for fiscal oversight of sub-national administrations saw an almost 75 percent reduction in local deficits while those with weak institutions saw only a 36 percent reduction between 2009 and 2011 (Figure 3f). At the same time, there was no clear relationship between the distribution of the adjustment burden between central and sub-national levels of government and the strength of intergovernmental fiscal arrangements, with sub-national government delivering a proportionally larger share of the overall reduction in the general government deficit than central government in most G-20 countries.<sup>20</sup> Brazil's efforts to strengthen the institutional arrangements for fiscal cooperation between Federal, State, and Local governments following a succession of sub-national debt crisis in the 1980s and 1990s is discussed in Box 5.

<sup>16</sup> These comprise fiscal objectives and rules, medium-term budget frameworks, performance orientation, and intergovernmental fiscal arrangements.

<sup>17</sup> See paragraph 10 of the G-20 Pittsburgh Summit Communiqué.

<sup>18</sup> See, for example, Cangiano, Currstine, and Lazare (2013), and IMF (2013d).

<sup>19</sup> Baldacci, Gupta, and Mulas-Granados (2013).

<sup>20</sup> This may be partly attributable to the fact that while many national governments suspended or abandoned national fiscal rules following the crisis, rules concerning sub-national deficits and debts often remained in force. It may also be the result of the central government attempting to shift the burden of adjustment towards sub-national levels of government.

### Box 5. Brazil's Intergovernmental Fiscal Arrangements

Brazil's 1988 Federal Constitution grants sub-national governments (SNGs)—26 States, a Federal District and over 5,500 Municipalities—political, administrative, and financial autonomy. The constitution and subsequent legislation delegated key fiscal responsibilities to SNGs and set out rules for increasing revenue sharing, the main source of intergovernmental transfers.

During the 1980s and 1990s, Brazil experienced several SNG debt crises resulting in the federal government providing five bailout operations between 1983 and 1995. In 1997-98, the federal government negotiated debt restructuring agreements with 25 states. These agreements established repayment programs and made financial aid conditional on accepting fiscal adjustment programs and compliance with fiscal targets.

In reaction to these crises, the Brazilian government transformed its intergovernmental fiscal arrangements. Over the last decade, the new arrangements have successfully contributed to promoting fiscal discipline at the SNG level. The current arrangements have two main pillars (i) the laws and procedures introduced under the states' fiscal restructuring and adjustment program; and (ii) the 2000 Fiscal Responsibility Law (FRL). The fiscal restructuring programs are established for three years and revised annually. Each state government negotiates with the Federal Ministry of Finance on six main fiscal targets and commitments. There is monthly monitoring and the Federal Ministry of Finance conducts an annual assessment. Penalties can be imposed for failure to meet the debt and/or deficit targets and include prohibition on new borrowing and fines.

The 2000 FRL was introduced following the Federal government's renegotiation of State debts. Based on the law the Federal Senate established maximum limits on the level of debt for States (twice its annual net current revenue) and for municipalities (1.2 times its annual net current revenue). In addition, the FRL establishes maximum limits on personnel expenditure (60 percent of net current revenues for both states and municipalities). The law also includes extensive provisions for monitoring and reporting on budget execution. There are penalties for failure to provide fiscal reports in a timely manner or breaching the requirements of the law. These can include institutional and/or personal sanctions such as fines, being refused access to banking credit, incarceration for the officials responsible, or prohibitions on political leaders from running for election.

## D. Implementing the Adjustment Plan

**29. Strong implementing institutions<sup>21</sup> seem to have helped G-20 countries to stick to their adjustment plans.** Figure 3g shows that countries with strong institutions in these areas have delivered around two-thirds of the adjustment envisaged in their original plans while countries with weak institutions have delivered less than one-fifth. Part of this success can be attributed to the fact that countries with strong implementing institutions faced less slippage against their annual budgets. As shown in Figure 3h, on average countries with weak institutions for preparation, approval, and execution of their budgets overspent against their budgets by almost 10 percent between 2010 and 2013 while countries with relatively strong institutions overspent their annual budgets by less than 2 percent on average. Another part of the explanation has to do with how countries with relatively strong institutions responded to the inevitable shocks to their initial fiscal adjustment plan, a topic discussed further below.

<sup>21</sup> These comprise budget unity, top-down budgeting, parliamentary approval, and budget execution.

**30. While most G-20 countries' consolidation plans were blown off course by adverse macroeconomic shocks during implementation, how they reacted was partly a function of their budget institutions.** For the ten G-20 countries where macroeconomic developments turned out worse than expected between 2010-12, Figures 4a and 4b decompose the unexpected increase in net debt into four components: (i) revisions to the starting fiscal position in 2010; (ii) impact of the macroeconomic shock on revenue and spending; (iii) change in fiscal effort in the wake of the shock; (iii) over/under execution of the annual budget; and (iv) other factors. This analysis highlights two sets of experiences in countries that faced adverse shocks to their fiscal plans:

- Countries with stronger institutions which experienced a negative shock to their macroeconomic prospects tended to respond to this shock with actions designed to offset the shock and maintain their original fiscal adjustment plans. These actions took the form of additional fiscal effort and under-execution of approved budgets. As a result their net debt in 2012 was on average close to their original plans, despite the weaker-than-forecast macroeconomic position.
- A second group of countries with relatively weak institutions which experienced a negative shock to both their starting debt position in 2010 and their macroeconomic prospects generally did not attempt to counteract these adverse shocks through additional fiscal effort. Moreover, this group of countries also tended to overspend against their approved budgets. This meant that actual general government net debt-ratio in 2012 was nearly 6 percent of GDP higher on average than envisaged in their original adjustment plan.

**31. This experience underscores the need for countries' budget institutions to strike a balance between multi-year discipline and near-term flexibility in the face of temporary shocks.** Overall, durable institutional arrangements tend to combine commitment to a medium-term fiscal objective (to maintain fiscal credibility and reduce sovereign risk) with mechanisms which allow for some countercyclical response to shocks (to safeguard macroeconomic stability and protect vulnerable social groups).<sup>22</sup> For example:

- Second generation fiscal rules tend to be expressed in structural terms which enable governments to pursue countercyclical fiscal policy without undermining their commitment to medium-term fiscal sustainability. These rules also tend to include escape clauses which allow governments to temporarily deviate from their stated fiscal objectives in the face of exceptional shocks which cannot be accommodated through prudent fiscal policy adjustments.
- Medium-term budget frameworks often exclude cyclically-sensitive expenditure items, such as interest expenses and unemployment benefits, from multi-year spending ceilings to allow full operation of the automatic stabilizers on the expenditure side of the budget.
- Annual budgets typically set aside an unallocated contingency reserve which can be used to fund unanticipated spending pressures without recourse to a supplementary budget.

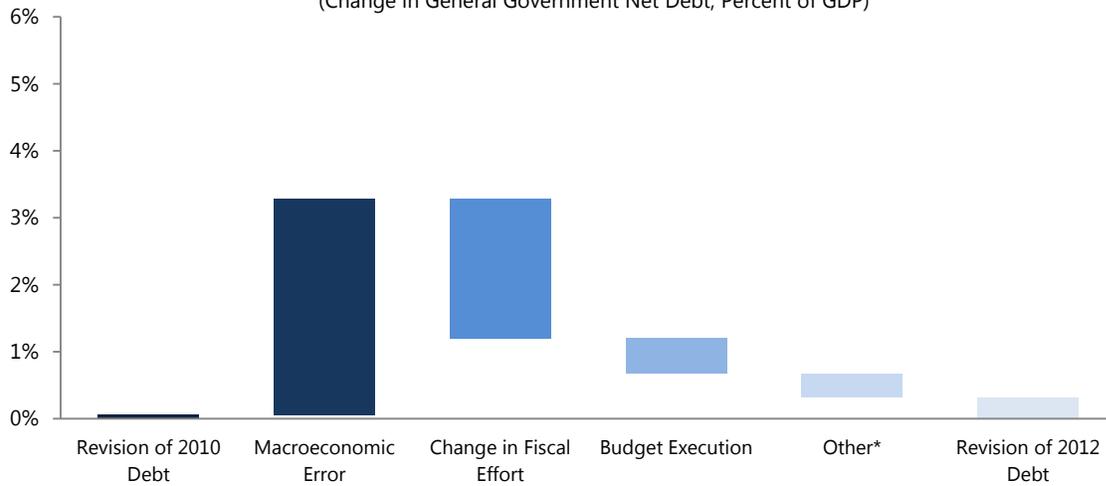
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<sup>22</sup> IMF (2013d).

**Figure 4. Strength of Institutions and Response to Shocks**

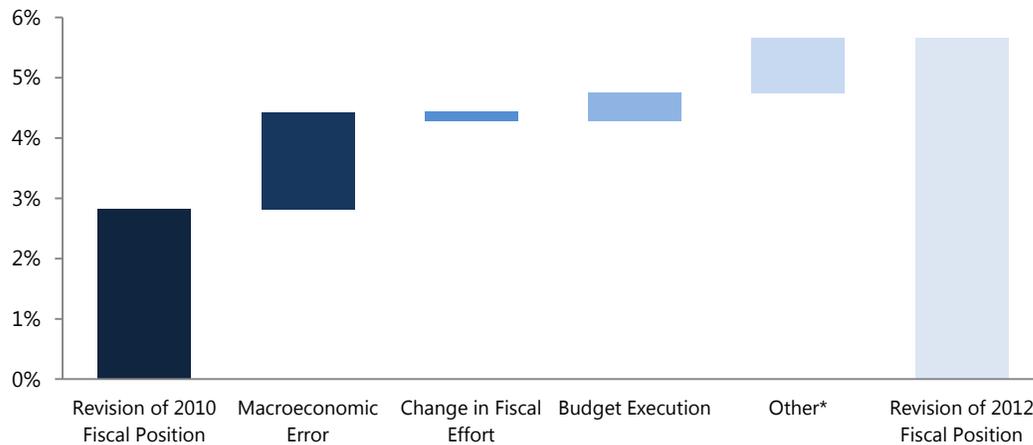
Many adjustment plans were hit by macro shocks, but countries with stronger institutions compensated with additional fiscal effort and under-execution of approved budgets...

**a. Negative Macro Shock and Strong Institutions**  
(Change in General Government Net Debt, Percent of GDP)



...while countries with weaker institutions were hit by revisions to their starting debt levels and macro shocks but failed to compensate with additional fiscal effort and overspent against approved budgets.

**B. Negative Macro Shock and Weak Institutions**  
(Change in General Government Net Debt, Percent GDP)



\*Residual forecast error in net debt not explained by other factors.

Source: IMF WEO.

## PRIORITIES FOR FURTHER INSTITUTIONAL REFORM

**32. Despite significant progress since the crisis, there remain significant weaknesses in budget institutions across G-20 countries.** Strengthening institutional arrangements in these areas will be critical to supporting the fiscal consolidation efforts underway in advanced economies and to ensuring emerging market countries are equipped to weather the consequences any potential fiscal storms on the horizon. The country case studies in Supplement I include recommendations for further institutional reform in each G-20 country based on their specific country circumstances. However, the foregoing analysis of institutional reform trends and adjustment performance underscores the following priorities for further institutional reform across the G-20 (see Table 1 on the main reform themes for advanced and emerging G-20 countries).

**33. Fiscal disclosure has improved since the crisis, but many G-20 countries still do not have a complete and reliable picture of their fiscal position and prospects.** As a result, many G-20 countries saw their fiscal adjustment plans blown off course by revisions to outturn or forecast data. Reforms in several areas are critical to ensuring that G-20 countries have a comprehensive understanding of the financial position of the public sector.

- While most advanced G-20 countries regularly publish financial data covering the general government, the coverage of their fiscal reports needs to be expanded to consolidate public corporations, especially those engaged in quasi-fiscal activity. Emerging market countries need to expand the coverage of their fiscal reports to encompass the entire general government, publish monthly fiscal statistics within one month and annual accounts within six months, and ensure that they are validated by independent statistics agencies and supreme audit institutions respectively.
- Newly established fiscal councils in advanced economies have focused greater attention on the credibility of official macroeconomic and fiscal forecasts. However, independent scrutiny of fiscal forecasts remains the exception among emerging markets and more can be done to improve the frequency, transparency, and time horizon of the forecasts themselves.
- Both advanced and emerging market countries need to boost their fiscal risk management capacity. Emerging markets need to explore the fiscal implications of alternative macroeconomic scenarios, while all G-20 countries need to improve the disclosure, analysis, and management of contingent liabilities and other specific fiscal risks.

**34. Fiscal adjustment plans are increasingly underpinned by comprehensive medium-term fiscal and budgetary frameworks, but these need to be supported by mechanisms which combine multi-year discipline with responsiveness to shocks.** Countries with sound institutional frameworks for multi-year fiscal and budget planning have generally been quicker in formulating and adopting comprehensive fiscal adjustment strategies and better at protecting public investment during the consolidation process. Enhancing the credibility of these plans going forward will require reforms in a number of areas.

- While most G-20 countries now have precise and time-bound fiscal rules or objectives in place, both advanced and emerging countries need to improve the design of these rules or objectives to ensure they allow for the operation of automatic stabilizers and include clearly defined escape clauses to deal with exceptional exogenous shocks that cannot be accommodated through prudent fiscal policy adjustments.
- The MTBFs underpinning these fiscal objectives have become more widespread and detailed over the past three years. However, their disciplining effects would be enhanced if their coverage was expanded to include all discretionary, non-cyclical central government expenditure and if they imposed restrictions on the future path of that expenditure through the inclusion of binding medium-term aggregate and annual sectoral expenditure ceilings.<sup>23</sup>
- Program and performance budgeting are now the norm in both advanced and emerging G-20 countries. However, countries need to make more systematic use of expenditure reviews to ensure that information on the efficiency and effectiveness of expenditure programs actually informs decisions about their future budgetary allocations.
- While the scope of fiscal rules, especially in advanced countries, has in many cases been extended to general government, such rules need to be supported by more effective planning, coordination, and enforcement mechanisms between the different levels of government.

**35. While procedures for preparing and executing annual budgets are relatively strong across G-20 countries, more can be done to improve budget coverage, engage legislatures, and limit the scope for budget overruns.** Since the crisis, countries with more comprehensive and top-down approaches to the formulation and approval of their annual budget have seen much less slippage in the implementation of their fiscal adjustment plans than those with more fragmented and bottom-up budget processes. Further reducing the scope for slippage against fiscal plans and budgets will require efforts in several areas.

- Fragmentation of the budget remains a considerable problem, especially in emerging market countries, and there is a need to eliminate extra-budgetary funds and reduce the size of mandatory and earmarked expenditures.
- Most G-20 countries now take a top-down approach to budget preparation within government. However, further effort is needed to ensure that all major fiscal decisions are taken as part of the annual budget process and clearly reflected in the budget documentation.
- By contrast, the sequence of budget debates and voting continues to follow a bottom-up approach in most G-20 legislatures. There remains a need to modernize parliamentary procedures so as to give lawmakers a greater opportunity to scrutinize the government's overall

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<sup>23</sup> See Chapter 4 of Cangiano, Currstine, and Lazare (eds) (2013), and Ljungman (2009) for a discussion of the benefits of and design choices involved in setting binding multi-year expenditure ceilings.

fiscal strategy and a greater obligation to respect that strategy when approving the annual budget. This could be achieved through the adoption of two-stage budget approval processes, whereby the legislature decides on the aggregate level of revenue and expenditure in an initial budget orientation debate before going on to debate and approve detailed appropriations for each ministry or program.

- While budget execution controls are generally strong across the G-20, countries need to tighten up rules around supplementary budgets, put in place larger and better managed contingency reserves, and establish firmer controls over multi-year commitments.

**36. Institutional reforms in the above areas need to be coordinated across the budgeting cycle and between branches and levels of government to maximize their impact on fiscal decision-making and performance.** Budgeting is, by its very nature, a complex process in any country. The impact of reform at any one stage of the process on fiscal behavior depends on the integrity of the system as a whole. Efforts to strengthen budget institutions in G-20 countries in the wake of the recent crisis have, in many cases, been pursued in a piecemeal manner which has, in some cases, reduced their potential impact. Going forward, these countries should develop more systematic and sustained institutional reform programs aimed at addressing the key weaknesses at each phase of the fiscal policymaking process.

**Table 1. Strengthening G-20 Budget Institutions: Main Reform Themes**

INSTITUTION	RECOMMENDATION	
	Advanced G-20 Countries	Emerging G-20 Countries
<b>a. Understanding the Fiscal Challenge</b>		
Fiscal reporting	Extend the coverage of fiscal statistics and accounts to cover the public sector.	Extend the coverage of fiscal statistics to cover general government and in the long run the public sector. Establish independent fiscal agencies producing statistics following international guidelines.
Macro-fiscal forecasting		Develop a mid-year forecast update and an ex-post comparison of previous forecasts and outturn. Produce long-term fiscal projections.
Fiscal risk management	Improve reporting on specific fiscal risks including contingent liabilities and financial asset holdings.	Expand the analysis of fiscal risks including through analyzing the fiscal implications of alternative macroeconomic forecasts.
Independent fiscal agency		Establish independent fiscal agencies to evaluate fiscal performance, and to assess or, where appropriate, produce the official macroeconomic and fiscal forecasts.
<b>b. Developing a Credible Adjustment Plan</b>		
Fiscal objectives & rules	Establish fiscal rules which accommodate the business cycle and include transparent and credible escape clauses.	
Medium-term budget framework	Establish binding multi-year restrictions on aggregate expenditure which cover the bulk of discretionary central government expenditure.	Set out medium-term sectoral priorities for expenditure. Separately identify the fiscal impact of current and new policies.
Performance orientation		Introduce comprehensive reviews of sectoral spending allocations on a regular basis.
Intergovernmental financial arrangements	Strengthen coordination mechanisms between different levels of government to support the enforcement of fiscal rules.	Ensure that fiscal objectives encompass all levels of government. Extend medium-term general government projections to include an explanation of the contribution of each layer of government to the government fiscal targets.
<b>c. Implementing the Adjustment Plan</b>		
Budget unity	Ensure the annual budget covers all of central government. Mandatory and earmarked expenditure should be reviewed on a regular basis with respect to their effectiveness and long-term sustainability.	
Top-down budgeting	Ensure that all revenue and expenditure decisions are taken as part of the annual budget preparation process within the executive.	
Parliamentary approval	Ensure that the annual budget is approved by Parliament in a top-down sequence. Introduce (self-imposed) limits on the legislature's right to amend the government's draft budget.	Ensure that the annual budget is approved by Parliament in a top-down sequence. Introduce a budget debate allowing legislators to endorse the government's fiscal strategy. Introduce (self-imposed) limits on the legislature's right to amend the government's draft budget.
Budget execution	Introduce robust and credible restrictions on overspending during the budget execution stage, including firmer controls over multi-year commitments.	

## Appendix I. Budget Institutions Evaluation Framework

The original 2010 evaluation framework was based on a comprehensive review of the empirical literature on the relationship between the institutional arrangements for fiscal decision-making and the success of fiscal adjustment. Based on this review of the evidence, the paper identified ten institutions which have been shown to increase the probability of consolidation success at three key stages of the adjustment process: (i) understanding the fiscal challenge; (ii) developing a credible fiscal consolidation plan; and (iii) implementing the consolidation strategy. These ten institutions, and their key design features, provided a framework for evaluating the strength of each G-20 country's institutional arrangements. A list of the 41 questions used in the evaluation and criteria to assess them was subsequently applied to other country groups and published in Olden and others (2012).

These questions and criteria have been developed based on findings in the literature and IMF research. They aim to benchmark countries' institutions against the most advanced budgetary practices and procedures. Given that these evaluations are desk exercises, they focus more on formal institutions. This focus gives an inherent advantage to those countries that codify budget practices through transparent mechanisms, such as organic budget laws, parliamentary standing orders, or published budget regulations over those that rely on established practices or informal "rules of the game."

This paper adds a further two institutions (intergovernmental fiscal arrangements and budget unity) to the evaluation framework and refines the design features of several others. The main changes are: (i) the fiscal objectives and rules institution has been augmented to include questions as to whether fiscal rules account for the economic cycle and whether they include escape clauses; (ii) the evaluation of independent fiscal agencies has been moved from Phase B to Phase A to reflect the greater importance of this institution to understanding the fiscal challenge; and (iii) the separation of current versus new policies in budgetary projections has been moved from macroeconomic forecasting to the medium-term budget framework (MTBF) institution to reflect its greater relevance to the consolidation planning process.

The revised set of twelve institutions, evaluation questions, and criteria for scoring each response is provided below. A country is given a rating of 0 if the criterion is not met; 1 if the criterion is partly met; and 2 if the criterion is fully met. The ratings against each question are then averaged to produce an overall score of the strength of each of the twelve institutions between 0 and 2.

Countries are categorized into one of three groups (strong, medium, and weak) based on their average score overall and for their average score for the four institutions associated with each of the three key phases of the adjustment cycle: (i) understanding the fiscal challenge; (ii) developing a credible fiscal plan; and (iii) implementing the fiscal plan through the budget process. Countries that scored in the top third overall were considered "strong," countries that scored in the middle third of all scores were considered "medium," and countries that scored in the bottom third of all scores were considered "weak."

## A. Understanding the Fiscal Challenge

### 1. Comprehensive, Timely, and Credible Fiscal Reporting

- a. Do the central government annual financial statements consolidate all central government entities? **Criteria:** Not met=no annual financial statements are produced; Partly met=annual financial statements cover only the budget; Fully met=annual financial statements cover all of central government.
- b. Do central government annual financial statements include assets and liabilities? **Criteria:** Not met=no balance sheet is produced; Partly met=a balance sheet is produced but not all assets or liabilities are included; Fully met=a comprehensive balance sheet, which includes nonfinancial as well as financial assets, is prepared.
- c. Are financial statements audited by an independent supreme audit institution? Does the auditor certify whether the statements represent a true and fair view of the government's overall financial position? **Criteria:** Not met=no external audit is publicly available; Partly met=there is a published audit but the external auditor does not issue an overall opinion as to whether the statements represent a true and fair view of the government's financial position; Fully met=there is a published external audit in which the auditor gives an opinion as to whether the accounts represent a true and fair view of the government's financial position.
- d. Are annual financial statements published and audited in a timely manner? **Criteria:** Not met=financial statements are published more than six months after the end of the financial year; Partly met= financial statements are published within six months OR audited within nine months of the end of the financial year; Fully met=financial statements are published and audited within six months of the end of the financial year.
- e. Are government financial statistics comprehensive? **Criteria:** Not met=government financial statistics are not produced or cover only central government; Partly met=government financial statistics for central and general government are produced; Fully met=government financial statistics for the whole of the public sector are produced.
- f. Are government financial statistics produced by an independent statistics office consistent with an international standard? **Criteria:** Not met=neither; Partly met=government financial statistics are produced by an independent office or in line with an international standard, but not both; Fully met=government financial statistics are produced by an independent office and in line with SNA93, ESA95, or GFS2001.

### 2. Robust Macroeconomic and Fiscal Forecasting

- a. Does the government publish macroeconomic forecasts in the budget documents? **Criteria:** Not met=no annual or medium-term macro projections are published; Partly met=the government publishes annual (one-year ahead) macro projections; Fully met=medium-term macro projections are published in or alongside the budget documents.

b. Does the government publish forecasts of all major fiscal aggregates (e.g., revenues, expenditures, balance, debt) inclusive of all major economic assumptions (e.g. GDP, inflation, exchange rate, oil price, unemployment)? **Criteria:** Not met=no annual or medium-term projections are published or they are published without assumptions; Partly met=one-year ahead fiscal projections are published with assumptions; Fully met=medium-term fiscal projections and assumptions are published.

c. Is there a mid-year budget update? **Criteria:** Not met=There is no requirement that the government publish an update half-way through the budget year, with updated projections of key fiscal variables. Partly met=the government publishes a mid-year budget update with projections for expected revenue, expenditure and balance, but only covering the budget year. Fully met=the government publishes a mid-year update with projections of key fiscal variables for the budget year and over the medium term.

d. Is there a regular quality control through ex post comparison of previous forecasts with actual outturn of key macroeconomic and fiscal aggregates? **Criteria:** Not met=there is no ex post comparison of the government's macroeconomic or fiscal forecasts. Partly met=there are ex post comparisons of either macroeconomic or fiscal forecasts with the outturn. Fully met=there are comparisons of both the government's macroeconomic and fiscal forecasts with the outturn.

e. Are long-term fiscal projections (i.e., for at least 20 years) prepared by government and published at least every three years? If yes, do they include the impact of demographic factors? Do they look at a range of demographic scenarios? Do they also look at other factors (e.g., health care costs) affecting long-term fiscal sustainability)? **Criteria:** Not met=no long-term projections published or published infrequently (at intervals exceeding three years); Partly met=government publishes long-term budgetary projections at least every three years, but only on the basis of demographic variables; Fully met=comprehensive long-term fiscal sustainability reports are prepared at least every three years, and look at either a range of demographic scenarios or utilize one or more additional factors (e.g., health care costs, climate change, etc.).

### 3. Fiscal Risk Management

a. Are the main fiscal risks (macro-fiscal, guarantees, international commitments, social commitments, public-private partnerships, and legal claims) discussed and quantified in the budget documents? **Criteria:** Not met=fiscal risks are not discussed in the budget documents; Partly met=there is some discussion of fiscal risks in budget documents; Fully met=budget documentation includes a comprehensive and quantified fiscal risk statement.

b. Are new contingent liabilities subject to parliamentary approval? **Criteria:** Not met=parliamentary approval is not sought for new contingent liabilities; Partly met=parliamentary approval is sought for new guarantees only; Fully met=parliamentary approval is sought for new guarantees and other significant, predictable and quantifiable contingent liabilities.

c. Are alternative medium-term budget scenarios presented in the annual budget documents? **Criteria:** Not met=no alternative medium-term scenarios are discussed; Partly met=alternative medium term macroeconomic scenarios are discussed but their consequences for the major fiscal aggregates are not presented; Fully met=alternative medium-term scenarios and their implications for the main fiscal aggregates are presented as part of the annual budget documentation.

d. Are the risks associated with government assets examined at the same time as those relating to government debt and other liabilities? **Criteria:** Not met=the government does not prepare a medium-term debt management strategy, nor assesses the risks associated with government assets; Partly met=the government prepares a medium-term debt management strategy, including analysis of debt-related risks, but does not include asset-related risks; Fully met=the government publishes a medium-term debt management strategy, including analysis of debt-related risks and risks from government assets.

#### 4. Independent Fiscal Agencies

a. Is there an independent agency responsible for preparing macroeconomic and fiscal forecasts that provide the public with alternative projections to those in the draft budget (or at least examines the assumptions on which the government's projections are based)? **Criteria:** Not met=no independent projections are prepared and assumptions are not scrutinized; Partly met=an independent agency prepares either macroeconomic forecasts or fiscal forecasts, or at least examines the assumptions on which the government's projections are based; Fully met=an independent agency prepares both macroeconomic and fiscal forecasts.

b. Is there an independent agency charged with evaluating the government's ex ante fiscal objective and/or fiscal policy? **Criteria:** Not met=no independent evaluation of the government's fiscal objectives and/or policy; Partly met=an independent agency evaluates the government's fiscal objective and/or policy, but its advice is confidential to the executive; Fully met=an independent agency evaluates the government's fiscal objective and/or policy, and its advice is published.

c. Is there a regular quality control through ex ante comparison with other forecasting institutions of the macroeconomic assumptions underpinning the budget? **Criteria:** Not met=there is no ex ante comparison of the government's macroeconomic or fiscal forecasts with other forecasting institutions; Partly met=There are ex ante comparisons of either macroeconomic or fiscal forecasts with other forecasting institutions. Fully Met=There are ex ante comparisons of both the government's macroeconomic and fiscal forecasts with those of other forecasters.

d. Is there an independent agency charged with evaluating the government's ex post performance against its fiscal objectives? **Criteria:** Not met=no independent ex post evaluation of government fiscal performance; Partly met=an independent agency evaluates the government's ex post fiscal performance, but its views is regarded as advisory only; Fully met=there is an independent agency that is charged with providing an authoritative evaluation (i.e., one that requires follow-up) of the government's performance against its fiscal targets, objectives or rules.

## B. Developing a Credible Fiscal Plan

### 5. Clear and Transparent Medium-Term Fiscal Objectives

- a. Is there a precise and time-bound medium-term fiscal objective? **Criteria:** Not met=neither the precise value nor the time period for the fiscal target is specified (alternatively, medium-term fiscal objectives are not disclosed); Partly met=either the precise value or time-period is specified; Fully met=both the precise value and time period are specified.
- b. Does the government routinely report on performance against its fiscal objectives? **Criteria:** Not met=there is no reporting against the government's fiscal objectives; Partly met=there is periodic, ad hoc reporting of the government's performance against its fiscal objectives; Fully met=the government reports performance against its fiscal objectives at least annually.
- c. Are the fiscal objectives expressed in terms of a permanent numerical fiscal rule? **Criteria:** Not met=there is no fiscal rule or it frequently changes; Partly met=a fiscal rule exists and has been stable over the past three years; Fully met= the fiscal rule has been enshrined in law.
- d. Is there an adequate escape clause for the fiscal rule framework? **Criteria:** Not met=exceptions to the fiscal rule take place, but are not allowed by the legal framework; Partly met=exceptions to the fiscal rule framework take place on the basis of an escape clause which allows for considerable discretion; Fully met=exceptions to the fiscal rule are tightly defined by law and require approval by parliament.
- e. Do fiscal rules accommodate the business cycle? **Criteria:** Not met=the fiscal rule framework in place does not seem linked to this objective; Partly met=implementation of the fiscal rule framework is designed to avoid pro-cyclicality (for example, by using a safety margin in targeting); Fully met=the fiscal rule framework is explicitly designed to accommodate the impact of the business cycle?

### 6. Medium-term Budget Framework

- a. Is the annual budget prepared within a set of medium-term revenue and expenditure projections? **Criteria:** Not met=there are no medium-term estimates of revenue or expenditure in the budget documentation; Partly met=budget documentation includes multi-year estimates for the main categories of revenue and expenditure; Fully met=budget documentation includes multi-year estimates for each major revenue category and medium-term costings of expenditure by sector, ministry or program.
- b. Are there binding multi-year restrictions on aggregate expenditure? **Criteria:** Not met=there are no multi-year objectives or restrictions on aggregate expenditure; Partly met=there is an explicit multi-year objective for aggregate expenditure but it applies only to the forecast (which can subsequently be revised); Fully met=there is a binding multi-year restriction on the outturn for aggregate expenditure and the spending ceilings remain fixed for at least two years.

- c. Does the government provide a clear and consistent statement of its medium-term ministerial, sectoral or programmatic priorities within the ceiling on total expenditure? **Criteria:** Not met=detailed medium-term expenditure estimates are mechanistic projections that do not reflect announced sectoral priorities; Partly met=detailed medium-term expenditure estimates reflect the government sectoral priorities but there is no reconciliation of changes in sectoral allocations from year to year; Fully met=the government provides detailed medium-term sectoral expenditure estimates with a full explanation of any changes from year to year.
- d. Do multi-year expenditure ceilings cover the majority of central government expenditure? **Criteria:** Not met=there are no multi-year expenditure ceilings or they cover less than 50 percent of central government expenditure; Partly met=the medium-term expenditure ceilings cover more than 50 percent of central government expenditure; Fully met=the medium-term expenditure ceilings cover more than 75 percent of central government expenditure.
- e. Do fiscal projections separately identify the impact of current versus new policies (revenue and expenditure measures)? **Criteria:** Not met=no; Partly met=for some but not all new revenue and expenditure measures or no consolidated presentation of fiscal impact of new policies; Fully met=budget documents present a consolidated summary of the fiscal impact of all proposed new revenue and expenditure measures.

## 7. Performance-Orientation of the Budget

- a. Does the annual budget include a program classification? Are programs the basis for legislative appropriation of expenditure? **Criteria:** Not met=the annual budget document does not include a program classification; Partly met=the annual budget document includes a program classification for information but this is not the basis for legislative appropriation; Fully met=the annual budget documentation includes program classification and this is the basis for legislative appropriation.
- b. Are there objectives and targets associated with each major expenditure program? Is the achievement of performance objectives and targets monitored at least annually? **Criteria:** Not met=there are no performance objectives or targets for expenditure; Partly met=performance targets or objectives are established but not systematically monitored; Fully met=performance targets and objectives are set with systematic reporting on progress on at least an annual basis.
- c. Are there comprehensive sector reviews on a regular basis? **Criteria:** Not met=expenditure reviews are not part of the budget process; Partly met=expenditure reviews are infrequent or incomplete (rolling reviews are not complete or comprehensive reviews are ad hoc and/or happen more than every three years); Fully met=all expenditure programs are systematically reviewed on either a comprehensive (at least once every three years) or rolling basis (at least 20 percent per year).

## 8. Intergovernmental Financial Arrangements

- a. Are medium-term general government projections prepared with an explanation of the contributions of each sector/level of government to total, balance and debt? **Criteria:** Not met=there is only a year-ahead forecast or a medium-term forecast of the budget or the central or federal government. Partly met=while there is a medium-term projection of the general government or public sector, this forecast is not broken down into the respective contribution of individual sectors/level of government (budget, social security funds, extra-budgetary funds, local government and state-owned enterprises. Fully met=medium-term projections of key fiscal variables are decomposed into the contribution of individual sectors/levels of government.
- b. Is (are) the fiscal objective(s) comprehensive in scope? **Criteria:** Not met=the fiscal objective covers only the central government budget (or no objective); Partly met=the fiscal objectives covers the entire central government sector, inclusive of extra-budgetary activities controlled by central government; Fully met=covers the general government sector or the public sector.
- c. Are sub-national governments subject to clear fiscal rules and centralized enforcement mechanisms? **Criteria:** Not met=there are no fiscal rules for sub-national governments; Partly met=there are fiscal rules for sub-national governments but no centralized sanctions or enforcement mechanisms; Fully met=there are fiscal rules for sub-national governments and centralized sanctions or enforcement mechanisms in the event of non-compliance.
- d. Are there mechanisms to coordinate fiscal policy among layers of government? **Criteria:** Not met=central or federal government has no interaction with sub-national government on fiscal policy; Partly met=central or federal government has regular information exchange on fiscal policy with sub-national government; Fully met=there is a legal framework for coordinating and sharing the burden of fiscal policy between layers of government.

## C. Implementing the Fiscal Strategy through the Budget Process

### 9. Budget Unity

- a. Does the central government budget cover a majority of central government expenditure? **Criteria:** Not met=the budget, unemployment and social security funds or spending cover less than 80 percent of central government expenditure; Partly met=the budget, unemployment and social security funds or spending cover more than 80 but less than 90 percent of central government expenditure; Fully met=the budget, unemployment and social security funds or spending cover more than 90 percent of central government expenditure.
- b. Is all central government budget expenditure authorized annually? **Criteria:** Not met=more than 40 percent of the budget spending is authorized by standing appropriations or separate legislation, not requiring annual approval by parliament (e.g. interest payments or fees to international organizations); Partly met=less than 40 percent, but more than 10 percent, of the budget spending is authorized by standing appropriations or separate legislation, not requiring

annual approval by parliament; Fully met=more than 90 percent of the budget spending requires annual authorization by parliament.

c. Are major tax expenditures quantified and published, e.g. in the annual budget? Is there a mechanism for controlling the size of tax expenditures? **Criteria:** Not met=there is no quantification of tax expenditures and no control on their size; Partly met=there is an annual quantification of tax expenditures but no control on their size; Fully met=there is quantification and annual reporting of all major tax expenditures, and a control on their size.

## 10. Top-Down Approach to Budget Preparation

a. Is a limit on annual aggregate expenditure and the allocation to broad sectors or to ministries approved by the government before the discussion (within the executive) of the detailed allocations for spending? **Criteria:** Not met=ex ante limits on annual spending are not agreed at an early stage of budget preparation within the executive; Partly met=ex ante limits on aggregate expenditures (but not for sectors/ministries) are agreed at an early stage of budget preparation within the executive; Fully met=ex ante limits on both aggregate and sectoral/ministerial spending are agreed at an early stage of budget preparation and prior to receipt of budget submissions from line ministries.

b. Are aggregate limits and sector or ministry allocations respected in the preparation of the budget within the executive? **Criteria:** Not met=ex ante ceilings are not respected; Partly met=ex ante ceilings are sometimes respected; Fully met=ex ante ceilings are almost always respected.

c. Are earmarking of revenue to budgetary expenditure relatively limited? **Criteria:** Not met=central government revenue earmarking exceed 30 percent of total central government expenditure; Partly met=central government revenue earmarking are between 10 and 30 percent of central government expenditure; Fully met=revenue earmarking are less than 10 percent of central government expenditure.

d. Are all major revenue or expenditure decisions taken as part of the annual budget preparation processes within the executive? **Criteria:** Not met=major revenue or expenditure decisions are often taken outside the annual budget preparation processes; Partly met=major revenue and expenditure decisions are sometimes taken outside the annual budget preparation processes; Fully met=major revenue and expenditure decisions are seldom taken outside the annual budget preparation processes and supplementary budgets are rare and/or limited in size (less than 3 percent of the budget).

## 11. Constraints on Parliamentary Budget Approval

a. Do institutional arrangements ensure ownership of the medium-term fiscal strategy by the parliament? **Criteria:** Not met=there is no separate budget orientation debate and parliament does not endorse a medium-term fiscal target or objective; Partly met=there is either a separate budget orientation debate or parliament endorses a medium-term fiscal target or objective strategy, but not

both; Fully met=there is a separate budget orientation debate and parliament explicitly endorses a medium-term fiscal target or objective.

b. Are there (self-imposed) limits on the legislature's right to amend the government's draft budget? **Criteria:** Not met= there are no limits on the right of parliament to amend the government's draft budget; Partly met=parliament can introduce fiscally neutral amendments to the budget; Fully met=parliament can change the composition of expenditures, but not increase the proposed budget deficit, nor total expenditures (alternatively, parliament must approve the government's proposed budget, without any modification).

c. Is the annual budget approved in a top-down sequence, i.e., does parliament first approve budget aggregates (total revenues, total expenditures, the fiscal balance and/or (net) borrowing) before it approves detailed spending? **Criteria:** Not met=parliament does not first approve the budget aggregates before voting on detailed spending; Partly met=parliament first approves the budget aggregates, but subsequent changes in budget aggregates are still possible; Fully met=parliament first approves the budget aggregates, then votes on the detailed expenditures within the approved top down constraints on total spending and revenue.

d. Is the budget approved in a timely manner? **Criteria:** Not met=there are no clear rules regarding the timing of final approval of the budget; Partly met=there is a legal requirement that the budget be approved within three months after the start of the fiscal year; Fully met=there is a legal requirement that a budget is approved before the start of the fiscal year.

## 12. Constrained Flexibility in Budget Execution

a. Are there restrictions on overspending during the execution of the annual budget? **Criteria:** Not met=the government is not required to go back to parliament before the end of the current fiscal year when spending exceeds annual appropriations; Partly met=the government is required to submit a supplementary budget to parliament if total spending exceeds annual appropriations; Fully met=in case of overspending against the total annual appropriations, the government is required to submit a supplementary budget showing how overspending of total expenditure will be offset through reductions in other appropriations.

b. Are there restrictions on appropriations that are carried over from one year to the next? **Criteria:** Not met=there are no restrictions on carried-over appropriations; Partly met=there are restrictions on the types of expenditure subject to carry-over of appropriation, but no limit on the size of carried-over balances into subsequent years or draw-down of previously carried-over balances; Fully met=carry-over is not permitted or the government imposes a ceiling on the size of annual carry-over or on draw-down of previously carried-over balances.

c. Are there reserves or other arrangements for spending on unforeseen contingencies, with clear rules for spending from the reserve? **Criteria:** Not met=no reserves or contingency arrangements are in place; Partly met=there are reserves or contingency arrangements for specific

expenditure categories; Fully met=there is a sizeable general contingency reserve (e.g., 1 to 3 percent of total expenditure) in the annual budget, with clear rules for accessing the reserve.

d. Is the finance minister (the executive) mandated to defer or cut expenditure, i.e., not fully implement the approved budget? **Criteria:** Not met=expenditures cannot be deferred or cut without prior approval of parliament; Partly met=expenditures can be deferred or cut, without prior approval of parliament, up to a certain limit; Fully met=budget appropriations can be deferred or cut by the executive, without limit.

e. Are there limits or controls on a line ministry's ability to enter into multi-annual expenditure commitments? **Criteria:** Not met=there are no limits or controls on multi-annual expenditure commitments by line ministries; Partly met=there are limits or controls on some categories of multi-annual expenditure commitments by line ministries; Fully met=there are comprehensive limits or controls on all types of multi-annual expenditure commitments by line ministries.

## Appendix II. Assessing Fiscal Adjustment Performance

To assess the linkages between the strength of G-20 countries' budget institutions and the success of their fiscal adjustment efforts since the crisis, it is also necessary to develop a set of quantitative indicators of consolidation success. The indicators used in this study are grouped into three key stages of the fiscal adjustment process to which they relate: (i) understanding the fiscal challenge; (ii) developing a credible fiscal plan; and (iii) implementing the fiscal strategy through the budget process. Unless otherwise indicated, these indicators are measures over the three years from 2010-12. Each indicator's results are averaged for strong, medium, and weak country groups (determined in accordance with Appendix I) and used in the charts found in Section IV. The remainder of this appendix provides a description, methodology, and source for each of the ten fiscal adjustment indicators used in this paper.

### A. Understanding the Fiscal Challenge

The three indicators for the Understanding stage assess the extent to which countries had a clear and reliable picture of their fiscal position and prospects when formulating their post-crisis fiscal adjustment plans.

#### 1. Data Revisions

**Description:** Data revisions are the size of revisions made to reported general government debt in 2009. This indicator serves as a proxy for initial accuracy in estimating fiscal position, and accountability when reporting errors.

**Methodology:** The revision of 2009 debt was calculated by taking the difference between 2009 and 2013 estimates of net debt at the end of 2009. The data is featured in Figure 3b, which shows absolute revisions to the debt to GDP ratio for countries that are strong, medium, or weak in Understanding institutional scores.

**Source:** IMF WEO.

#### 2. Macroeconomic Forecast Errors

**Description:** Macroeconomic forecast errors are the average absolute year-ahead forecast error for real GDP growth from 2004 to 2012.

**Methodology:** The absolute forecast errors were calculated for each year from 2004 to 2012 and then averaged over that time period. Forecast errors were calculated by taking the difference between actual and year-ahead forecast of real GDP growth....

...using the following equation:

$$\text{Forecast error} = \text{Actual value} - \text{Forecasted value}$$

Actual real GDP growth is defined as the value that is reported at least one year after the year of occurrence, i.e., the value reported for year  $t$  in year  $t + 1$  or later. The year-ahead forecast is defined as the forecast made in the year prior to the year of occurrence, i.e., the value made for year  $t$  in year  $t - 1$ .

Macroeconomic forecast error data is featured in Figure 3c, in which forecast errors are averaged for countries with strong, medium, or weak scores in the Understanding stage.

**Source:** National budget documents and IMF Mutual Assessment Process (MAP) data.

### 3. Macro Forecast Bias

**Description:** Macroeconomic forecast bias is the direction of macroeconomic forecast error and demonstrates whether countries overestimated or underestimated their real GDP growth in the 2004 to 2012 time period.

**Methodology:** Macroeconomic forecast bias is determined by the sign of the forecast error, which was calculated by taking the difference between actual and forecasted real GDP growth error.

The following equation was used to calculate forecast error:

$$\text{Forecast error} = \text{Actual value} - \text{Forecasted value}$$

A positive forecast error resulting from the equation above means that the actual value of real GDP growth was higher than the forecasted value, implying that the country underestimated their GDP growth. From this, we can infer that the country was being overly pessimistic in their macroeconomic outlook. Similarly, a negative forecast error resulting from the equation above means that the actual value of real GDP growth was higher than the forecasted value, implying that the country overestimated their GDP growth. From this, we can infer that the country was being overly optimistic in their macroeconomic outlook.

**Source:** National budget documents and IMF MAP data.

## B. Developing a Credible Adjustment Plan

The four indicators for the Planning stage evaluate the extent to which countries' medium-term fiscal plans are consistent with independently assessed long-term adjustment needs, developed and

announced in a timely manner, protect growth-friendly investment expenditure, and are coordinated between national and sub-national levels of government.

#### 4. Fiscal Effort

**Description:** Fiscal effort is defined as the share of total illustrative fiscal adjustment need addressed by the government in the 2010 to 2015 time period. This measures the extent to which the country has taken steps to address its fiscal adjustment needs.

**Methodology:** Share of adjustment need addressed was determined by the amount of delivered and planned adjustment, defined as a change in the cyclically adjustment primary balance, as identified in the Fiscal Monitor. Delivered adjustment was the amount of fiscal adjustment the country has already implemented from 2010 to 2012. Planned adjustment was the amount of fiscal adjustment the country is forecast to implement from 2013 to 2015. To determine the country's total planned adjustment, delivered and planned adjustment needs were added together.

The total adjustment was then compared with the total illustrative adjustment need consistent with the April 2013 Fiscal Monitor, taking into account also the increase in age-related spending.

The average share of adjustment need addressed was calculated for countries with strong, medium, or weak Overall scores and is shown in Figure 3a.

**Source:** The April 2013 IMF Fiscal Monitor.

#### 5. Timeliness of Adjustment Planning

**Description:** Timeliness of adjustment planning is the amount of time that elapsed between the start of the financial crisis and announcement of a fiscal adjustment plan.

**Methodology:** The announcement of a fiscal adjustment plan was determined by the first mention of a fiscal adjustment plan or stimulus in any major publication, such as international reports, national budget documents, or national newspapers. The time difference between the start of the financial crisis, which is defined in this study as January 2009, and the month of the announcement was calculated for each country to show the speed with which they reacted to a large macroeconomic shock.

The average timeliness of adjustment planning was calculated for countries with strong, medium, or weak scores in the Planning stage and is shown in Figure 3d.

**Source:** National budget documents, national newspapers, and the April 2013 IMF Fiscal Monitor.

## 6. Growth-Friendliness

**Description:** Growth-friendliness is defined as the change in capital investment as a share of government expenditure in 2010 to 2012.

**Methodology:** To assess how prioritized or protected capital expenditures were in countries fiscal plans, capital expenditure was calculated as a share of total expenditure for years 2009 and 2012. The difference between these percentages was calculated to assess share of public investment before and after the financial crisis.

The change in the share of capital expenditure in total expenditure is averaged for countries with strong, medium, or weak scores in the Planning stage and is shown in Figure 3e.

**Source:** IMF WEO.

## 7. Sub-National Adjustment

**Description:** Sub-national government adjustment is defined as the change in the overall sub-national deficit from 2009 to 2011.

**Methodology:** Sub-national deficit reduction was calculated by taking the difference between the sub-national government deficit in 2009 and in 2011.

The total deficit reduction was averaged for countries with strong, medium, or weak scores in the Intergovernmental Financial Arrangements indicator, which is in the Planning stage. The results are shown in Figure 3f.

**Source:** IMF Government Finance Statistics.

## C. Implementing the Fiscal Strategy

The three indicators for the Implementing stage assess the extent to which countries' adhered to their medium-term objectives for the fiscal balance and the annual limit on expenditure set by their budget, and how they responded to macroeconomic shocks along the way.

### 8. Plan Implementation

**Description:** Plan implementation is determined by the share of planned fiscal adjustment that is delivered (i.e., realized) in the 2010 to 2012 period.

**Methodology:** Planned fiscal adjustment was calculated by taking the difference between forecasted 2012 general government balance and actual 2010 general government balance. Delivered fiscal adjustment was calculated by taking the difference between actual 2012 general government balance and actual 2010 general government balance. If 2012 balance was less than 2010 balance, then the country was defined as having not enacted any fiscal adjustment and actual fiscal adjustment was counted as zero.

The share of planned fiscal adjustment that is delivered was determined by taking delivered fiscal adjustment as a share of planned adjustment. If delivered adjustment was greater than planned adjustment, the country was counted as having completed their fiscal adjustment plan (i.e., share of planned fiscal adjustment that is delivered is counted as 100 percent).

The percentages were averaged for countries that scored strong, medium, or weak in the Implementing stage and are shown in Figure 3g.

**Sources:** Overall balance values used to calculate planned fiscal adjustment are taken from the September 2010 data of the IMF G-20 Mutual Assessment Process. Overall balance values used to calculate delivered fiscal adjustment are taken from the IMF WEO.

## 9. Budget Credibility

**Description:** Budget credibility is defined as the difference between the approved annual budget and actual expenditure from 2010 to 2012.

**Methodology:** Budget credibility, or budget execution, depends on how closely actual expenditure adheres to the approved budget. The approved annual is taken from each country's annual budget document, as approved by the legislature. Actual expenditure is the amount of expenditure the country actually spent, and is also found in each country's budget documentation for the subsequent year. If either value is not included in the budget document or the budget document cannot be found, they are taken from IMF MAP data.

Budget credibility was calculated by taking the absolute deviation of the actual expenditure from the approved budget for years 2010 through 2012. These percentages were then averaged over that time period for each country, and then averaged again for groups of countries that were strong, medium, or weak in the Implementing stage. Budget credibility is shown in Figure 3h.

**Source:** National budget documents and IMF MAP data.

## 10. Response to Shocks

**Description:** Response to shocks is defined by the impact that macroeconomic shocks had on fiscal effort and budget execution of each country in the 2010 – 2012 time period.

**Methodology:** Response to shocks was determined by several factors: revision of 2010 debt, macroeconomic error, change in fiscal effort, budget execution, and other residual forecast errors in net debt that were not explained by other factors.

*Revision of 2010 debt:* The revision of 2010 debt was calculated by taking the difference between planned and actual cyclically adjusted balance in 2009 as a share of 2012 GDP. The same difference was calculated between planned and actual net debt in 2009 as a share of 2012 GDP. The sum of these two percentages indicates the error in estimating fiscal position.

*Macroeconomic error:* Macroeconomic error was calculated as the sum of the change in debt, difference in GDP growth, and knowledge of the macroeconomic cycle. Change in debt was defined as the difference between planned and actual debt in 2012 as a percent of GDP. Difference in GDP growth took into account the difference between planned and actual GDP growth, as well as planned and actual cyclically adjusted balance. The difference between planned and actual cyclical balance was used as a proxy for a country's knowledge of the macroeconomic cycle.

*Change in fiscal effort:* Fiscal policy was calculated by determining the change in cyclically adjusted balance as a percent of GDP in from 2009 to 2012.

*Budget execution:* Budget execution, relates to the budget credibility or the difference between forecast and actual expenditure over the three year period 2010-12.

*Categorization of strong and weak countries:* Unlike all the other indicators which are averaged for countries that are scored strong, medium, or weak in institutional strength, this indicator groups those countries which faced worse than expected economic conditions into only strong and weak categories. Strong countries are defined as countries that scored above the median overall rating for all budget institutions. Weak countries are defined as those that score below the median overall rating for all budget institutions.

Response to shocks is featured in Figure 4a and 4b, which show strong and weak institutions, respectively.

**Source:** IMF WEO.

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