WP/18/68

# IMF Working Paper

## Independent Fiscal Councils: Recent Trends and Performance

Roel Beetsma, Xavier Debrun, Xiangming Fang, Young Kim,
Victor Lledó, Samba Mbaye, Xiaoxiao Zhang

INTERNATIONAL MONETARY FUND

 WP/18/68

**IMF Working Paper**

Fiscal Affairs and Research Departments

# Independent Fiscal Councils: Recent Trends and Performance

Prepared by Roel Beetsma, Xavier Debrun, Xiangming Fang, Young Kim, Victor Lledó, Samba Mbaye, and Xiaoxiao Zhang[1]

Authorized for distribution by Jonathan D. Ostry and Catherine Pattillo

March 2018



## Abstract

Countries increasingly rely on independent fiscal councils to constrain policymakers' discretion and curb the bias towards excessive deficits and pro-cyclical policies. Since fiscal councils are often recent and heterogeneous across countries, assessing their impact is challenging. Using the latest (2016) vintage of the IMF Fiscal Council Dataset, we focus on two tasks expected to strengthen fiscal performance: the preparation or assessment of forecasts, and the monitoring of compliance with fiscal rules. Tentative econometric evidence suggests that the presence of a fiscal council is associated with more accurate and possibly less optimistic fiscal forecasts, as well as greater compliance with fiscal rules.

JEL Classification Numbers: E61, E62, H11, H62

Keywords: independent fiscal councils, fiscal rule compliance, fiscal forecasts.

Authors' E-Mail Addresses: R.M.W.J.Beetsma@uva.nl; xdebrun@imf.org; xfang@imf.org; ykim6@imf.org; vlledo@imf.org, smbaye@imf.org; xzhang3@imf.org;

[1] The paper has benefitted from useful comments by participants at the conference on "Fiscal Frameworks in Europe: Background and Perspectives" in Copenhagen on June 1st and 2nd, 2017, and the IMF - Fiscal Affairs Department weekly seminar series. Without implications, we are particularly grateful to Michael Bergman, Luc Eyraud, Vitor Gaspar, Lars Jonung, Martin Larch, Paolo Mauro, Wolfgang Reuter, Abdel Senhadji, Teresa Ter-Minassian, David Vines, and Charles Wyplosz. Sungwook Yoon provided valuable inputs at an early stage of this project. Wolfgang Reuter kindly shared data on compliance with fiscal rules.

Contents

## I. INTRODUCTION

In a perfect world of fully informed policymakers solely motivated by social welfare maximization, complete discretion enables them to optimally respond to changing circumstances at any time. In the real world, however, information asymmetries are pervasive, time-inconsistency looms large, and policy behavior is shaped by other considerations than pure social welfare. Hence, even the best designed democratic systems require institutional constraints on policy discretion to complement democratic controls and prevent undesirable policy outcomes. The delegation of monetary policy to politically independent but accountable experts can be interpreted along these lines (Thomson, 1981); as can be more recent efforts to tie the hands of fiscal policymakers with numerical rules expressed in terms of deficit caps, public debt limits, and expenditure ceilings (Kopits and Symansky, 1998).

Even though constrained discretion is a broadly accepted regime governing most public policy choices, the inherently political nature of the public purse can, more than in any other area, undermine the effectiveness of formal constraints, including fiscal rules. While many countries subject fiscal decisions to formal policy rules (Lledó and others, 2017), weak compliance and widespread attempts to flout these rules have raised doubts about their effectiveness (Reuter, 2015). In the European Union (EU), this led to repeated attempts to make the rules nimbler and more resilient while simultaneously beefing up enforcement. The result is an inextricably complex fiscal framework (Debrun and Jonung, 2017; Eyraud and others, 2018). Not surprisingly, EU member states have been at the forefront of introducing new institutional mechanisms, in the form of independent fiscal councils (IFC), to better anchor future fiscal decisions in sustainable fiscal trajectories.

At the most basic level, IFCs are non-partisan, technical bodies entrusted with a public finance watchdog role (IMF, 2013; Kopits, 2013; and the contributions in Beetsma and Debrun, 2018). Their analyses and assessments of fiscal policy help clear the smokescreens (intentional or not) often surrounding the public debate about government budgets, including the adequacy of the fiscal stance and the sustainability of public finances. In principle, better-informed voters can more easily reward good policies and sanction bad ones, leading to stronger outcomes on average (Beetsma, Debrun and Sloof, 2017). Thus, instead of tying policymakers' hands, IFCs are expected to raise the reputational and political costs of financially irresponsible choices. This watchdog role is common to all fiscal councils; and the hope is that the barking will be loud enough to raise the odds of sustainable policies (see Debrun, Gérard and Harris, 2017). Beyond that role, fiscal councils increasingly provide direct inputs to the budget process through the assessment or provision of macroeconomic and budgetary forecasts, formal interactions with key stakeholders, and monitoring compliance with fiscal policy rules.

The rise of independent fiscal councils extends beyond Europe, with prominent institutions operating in Asia, Africa, and the Western Hemisphere. However, because most IFCs are

recent and vary substantially in terms of their remit, resources and tasks across countries, the "treatment effect" of adopting such an institution is particularly challenging to capture. Yet, as more countries envisage establishing an IFC, evidence about their effectiveness is in high demand. This paper aims at addressing such demand and draws key lessons from the most recent data.

Our analysis focuses on two specific tasks expected to improve fiscal performance: the preparation or assessment of macroeconomic and budgetary forecasts and the monitoring of compliance with fiscal rules. The econometric part of our paper extends IMF (2013) and Debrun and Kinda (2017) looking at the potential impact of IFCs on forecasting and Reuter (2017) with respect to the IFCs' role in fostering rule compliance. It does so using the 2016 vintage of the IMF Fiscal Council Dataset and a panel fixed-effect approach that tries to address concerns about self-selection. Although it remains a first pass at the data, our econometric analysis first suggests that the presence of a fiscal council may be associated with more accurate budgetary forecasts. Second, IFCs also appear to foster compliance with fiscal policy rules.

After a brief description of the diverse population of fiscal councils around the globe, Section III develops the econometric analysis, while Section IV draws policy implications.

## II. THE FISCAL COUNCIL DATASET

### A. Background

The deep fiscal scars left by the Global Financial Crisis of 2007–08 shook confidence in public debt sustainability. Faced with mixed records about the effectiveness of numerical fiscal rules, many governments established IFCs to further strengthen the institutional framework shaping fiscal policy and boost the credibility of their commitment to meet their obligations in full. In the EU, the momentum in favor of IFCs was centrally coordinated: EU law mandated member states to task independent bodies to produce or assess the forecasts underlying budget preparation and to monitor the compliance with fiscal rules. Although the rise of IFCs is less dramatic beyond Europe, they have effectively become part of good-practice fiscal frameworks. In that context, understanding what makes certain IFCs more effective than others is essential to develop relevant and consistent policy based on concrete evidence.

In 2014, the IMF published the first fiscal council dataset covering its membership (Debrun and Kinda, 2017).[2] The dataset compiled detailed information on the mandate, tasks and institutional features of 29 IFCs. The dataset covers institutions consistent with the main OECD's Principles for Independent Fiscal Institutions (von Trapp, Lienert and Wehner,

[2] Earlier initiatives include the European Union (EU) Commission's database of independent fiscal institutions last updated in 2013 and covering only EU members.

2016). Councils in the dataset must also be functional and visible as evidenced by a regularly updated website and other forms of public communication and media presence. The latest vintage used in this paper comprises 15 new IFCs that were operational as of end-2016, while 5 IFCs from the original dataset were removed, because they did not appear to fulfill the criteria for inclusion in the Dataset (see Debrun, Zhang and Lledó, 2017, and Appendix A).

Unlike independent central banks (which feature broadly similar characteristics across countries), the population of fiscal councils is by nature more heterogeneous. The IMF dataset characterizes four institutional dimensions of IFCs likely to matter for their effectiveness: (i) remit or mandate, (ii) tasks and instruments, (iii) independence and accountability, and (iv) financial and human resources.

It is also useful to split the sample along three criteria that may shape IFCs' influence on budget outcomes (Table 1). The first criterion is longevity, the presumption being that, unlike newcomers, longer serving institutions have likely established some reputation. The cut-off date is 2007. It coincides with the start of the Global Financial Crisis (GFC), a period marked by the establishment of a new crop of IFCs with quite distinct characteristics (see below). The second criterion is geographic and, more specifically, whether fiscal councils are European or not. One reason is that European countries historically have a revealed preference for rules-based fiscal frameworks, which could bolster the incentive to create IFCs that can support compliance. The third criterion is the underlying momentum behind the council's creation. The presumption here is that fiscal councils created under external pressure may not command a very strong political consensus in the country, making it more difficult to effectively influence the budget process (Kopits, 2011). In the remainder of this section, we briefly discuss some of the institutional features and analytical groupings used in our subsequent analysis.

**Table 1. IMF Fiscal Council Dataset, 2016 Vintage—3 Cuts at the Data**

| Country name | Name of the Fiscal Council | activity (Year) | Veteran | Europe | Home-grown |
|---|---|---|---|---|---|
| Australia | Parliamentary Budget Office | 2012 | 0 | 0 | 1 |
| Austria | Fiscal Advisory Council | 1970 | 1 | 1 | 1 |
| Belgium | High Council of Finance - Public Sector Borrowing Section | 1989 | 1 | 1 | 1 |
| Belgium | Federal Planning Bureau | 1994 | 1 | 1 | 1 |
| Canada | Parliamentary Budget Office | 2008 | 0 | 0 | 1 |
| Chile | Advisory Fiscal Council | 2014 | 0 | 0 | 1 |
| Colombia | Comite Consultivo para la Regla Fiscal | 2012 | 0 | 0 | 1 |
| Cyprus | Fiscal Council | 2014 | 0 | 1 | 0 |
| Denmark | Danish Economic Council | 1962 | 1 | 1 | 1 |
| Estonia | Fiscal Council | 2014 | 0 | 1 | 0 |
| Finland | National Audit Office of Finland | 2013 | 0 | 1 | 0 |
| France | High Council of Public Finance | 2013 | 0 | 1 | 0 |
| Georgia | Parliamentary Budget Office | 1997 | 1 | 0 | 1 |
| Germany | Independent Advisory Board to the German Stability Council | 2010 | 0 | 1 | 0 |
| Greece | Parliamentary Budget Office | 2010 | 0 | 1 | 0 |
| Hungary | Fiscal Council | 2009 | 0 | 1 | 0 |
| Iran | Public sector Directorate of Parliament (Majlis) Research Center | 1991 | 1 | 0 | 1 |
| Ireland | Irish Fiscal Advisory Council | 2011 | 0 | 1 | 0 |
| Italy | Parliamentary Budget Office | 2014 | 0 | 1 | 0 |
| Kenya | Parliamentary Budget Office | 2007 | 0 | 0 | 1 |
| Latvia | Fiscal Discipline Council | 2014 | 0 | 1 | 0 |
| Lithuania | National Audit Office | 2015 | 0 | 1 | 0 |
| Luxembourg | National Council of Public Finance | 2014 | 0 | 1 | 0 |
| Malta | Malta Fiscal Advisory Council | 2015 | 0 | 1 | 0 |
| Mexico | Centre for Public Finance Studies | 1998 | 1 | 0 | 1 |
| Netherlands | Netherlands Bureau for Economic Policy Analysis | 1945 | 1 | 1 | 1 |
| Netherlands | Raad van State | 2014 | 0 | 1 | 0 |
| Peru | Consejo Fiscal | 2015 | 0 | 0 | 1 |
| Portugal | Portuguese Public Finance Council | 2012 | 0 | 1 | 0 |
| Romania | Fiscal Council | 2010 | 0 | 1 | 0 |
| Serbia | Fiscal Council | 2011 | 0 | 1 | 0 |
| Slovak Republic | Council for Budget Responsibility | 2011 | 0 | 1 | 1 |
| South Africa | Parliamentary Budget Office | 2014 | 0 | 0 | 1 |
| South Korea | National Assembly Budget Office | 2003 | 1 | 0 | 1 |
| Spain | Independent Authority of Fiscal Responsibility | 2014 | 0 | 1 | 0 |
| Sweden | Swedish Fiscal Policy Council | 2007 | 0 | 1 | 1 |
| Uganda | Parliamentary Budget Office | 2001 | 1 | 0 | 1 |
| United Kingdom | Office for Budget Responsibility | 2010 | 0 | 1 | 1 |
| United States | Congressional Budget Office | 1974 | 1 | 0 | 1 |

Source: IMF Fiscal Council Dataset.

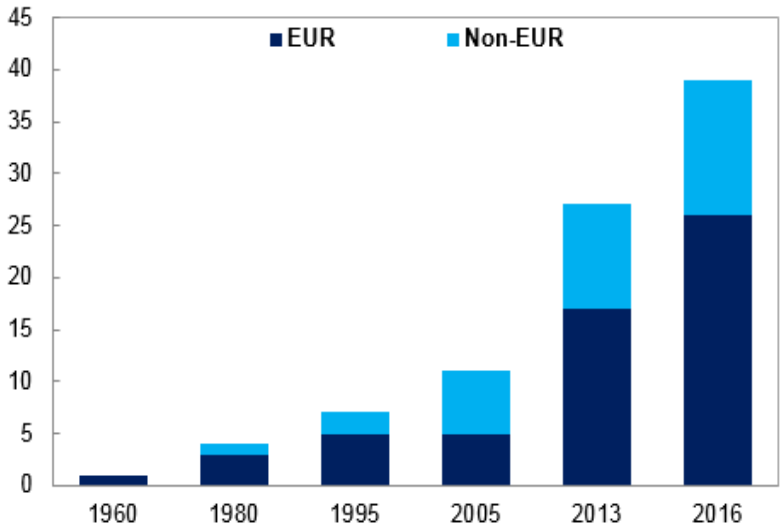
Note: New fiscal councils were created in Brazil and Greece after the cut-off date of the 2016 vintage. Greece's recently created council, the Hellenic Fiscal Council, replaced Greece's Parliamentary Budget Office in 2015 as the official IFC in the country. Each of the last three columns dissects the country sample into a group fulfilling the criterion in the header (indicated by a "1") and a group not fulfilling it (indicated by a "0").

## B. Recent Trends

The rise of fiscal councils is a recent and still mainly European phenomenon. Two thirds of the 39 existing fiscal councils were established after 2007, during and after the global financial and European sovereign debt crises (Figure 1), with half of those new IFCs emerging after 2013. Also, two-thirds of all existing IFCs are in Europe, including 10 out of the 13 institutions created after 2013, and no less than 20 out of the 27 established since

2007. That said, interest in fiscal councils is growing in emerging markets outside Europe. For instance, Chile and Peru recently introduced a fiscal council, while Brazil has formally established such an institution in November 2016.

**Figure 1. Number of Independent Fiscal Councils in the World**




Source: IMF Fiscal Council Dataset. Note: "EUR" is European, "Non-EUR" is non-European.

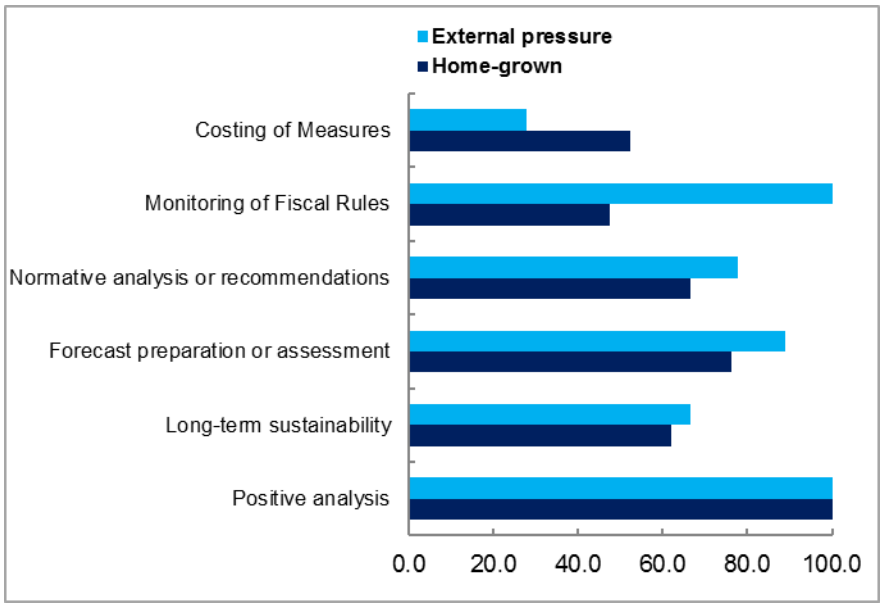
External pressures have driven the recent and rapid rise of European fiscal councils, with implications for their remit. In 2011, the Directive on "requirements for budgetary frameworks of the Member States" mandated "independent bodies" at the national level to monitor compliance with national fiscal rules, and suggested to assess the realism of official forecasts against those prepared by such bodies, "*if appropriate*." In 2013, the so-called Two-Pack Regulations and the intergovernmental Treaty on Stability, Coordination and Governance reiterated the obligation for Euro Area countries to entrust "independent institutions" with such monitoring functions. However, in both cases, the nature of these bodies or institutions as proper IFCs was unclear (IMF, 2013).

More recently, a draft Directive of December 2017 proposes to enshrine in EU law the obligation for member states to introduce IFCs consistent with international good practice, notably in terms of legal and operational independence, freedom to make public communications, and access to information. Under the draft Directive, national IFCs would monitor and publicly assess (i) the adequacy of and compliance with national fiscal rules, (ii) the quality of official forecasts, and (iii) the occurrence or cessation of circumstances triggering escape clauses under the rules. Under the draft Directive, governments would have to either comply with these assessments or explain why they disagree with them (i.e., comply or explain principle).

Not surprisingly, the percentage of these institutions involved in forecast preparation and assessment and fiscal rules monitoring is larger than for homegrown institutions (Figure 2).

All fiscal councils provide positive analysis—the core of their watchdog function. By contrast, the costing of government measures remains relatively less frequent, in part due to the large resource requirements associated with such an activity.

**Figure 2. Fiscal Councils Remit**
*(Percent of fiscal councils' population)*



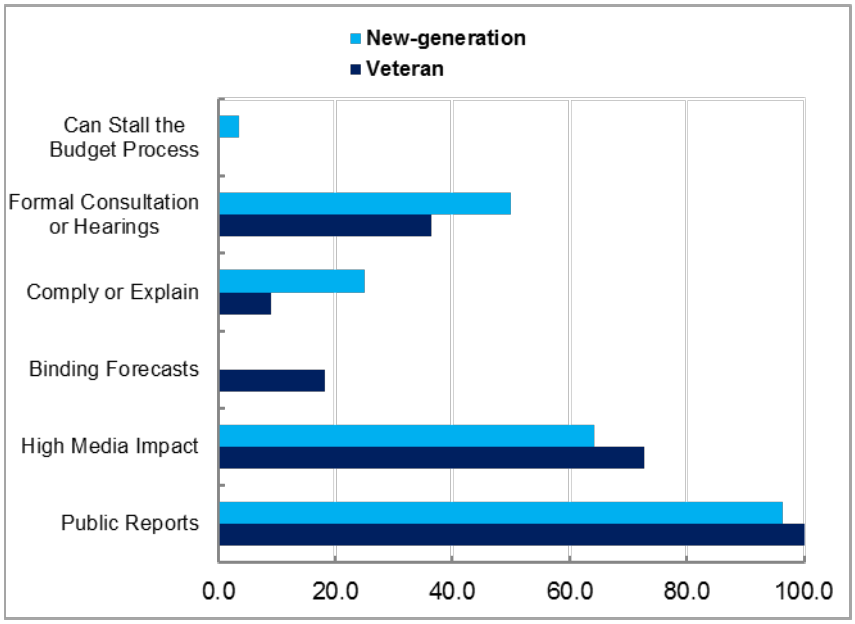

Source: IMF Fiscal Council Dataset.

This latter consideration seems to have been particularly relevant for the, often lean, institutions built under external pressure. Note that some of the newly created European fiscal councils do not prepare or assess forecasts (for example, the Netherlands' Raad van State) because other independent bodies are already performing such tasks.

Comparing veteran fiscal councils to those established after the global financial crisis—the "new generation"—reveals interesting similarities and differences regarding their ability to influence the budget process. As watchdogs, both generations influence fiscal policy indirectly through the public debate: almost all of them are specifically tasked to prepare regular public reports (Figure 3). Interestingly, veteran councils only have a slight edge relative to their younger peers when it comes to the perceived media impact of their activities. Hence, longer exposure to media does not seem to have provided a significant advantage, possibly reflecting early and successful efforts by many newcomers to develop effective communication strategies.[3]

[3] That said, unlike veteran fiscal councils, recent institutions have not yet been put to the test of a full-blown crisis or other extreme event that typically challenges the credibility and resilience of even well-established institutional frameworks.

**Figure 3. Channels of Influence**
*(Percent of total fiscal councils' population)*

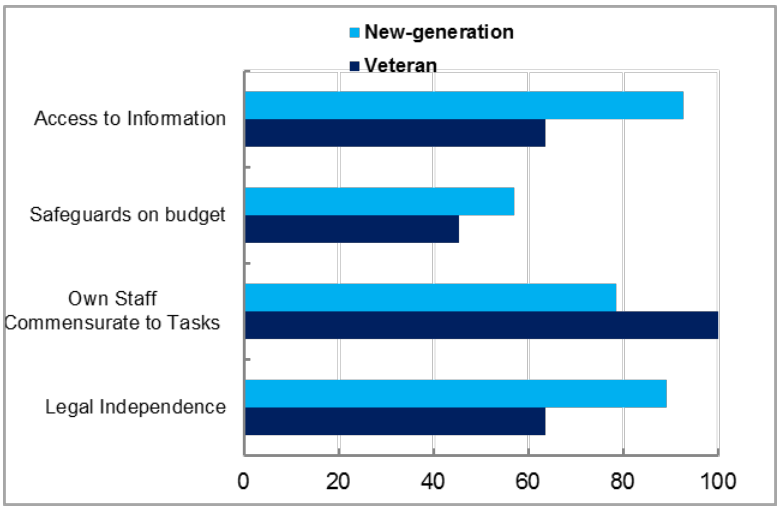



Source: IMF Fiscal Council Dataset.

Some features appear to be more prevalent among new institutions than among veterans. A majority of new fiscal councils established under EU legislation hold formal consultations with the government or hearings in Parliament on a regular basis. This is the case of the councils in the United Kingdom, Spain, Italy, France, and Serbia to name a few. Even though a few veterans (Belgium and the Netherlands) provide binding forecasts for budget preparation, the new generation benefits more from indirect leverage on policymakers through "comply-or-explain" obligations—by which governments should at least explain why they diverge from the fiscal council's views. The actual influence exerted through these channels nevertheless remains unclear, and the experience has so far been mixed.

Independence from partisan politics is of course a key precondition for IFCs effectiveness. While veteran institutions can count on reputation and established practice, the independence of new institutions rests on strict legal safeguards. These are a more common feature among the new generation of fiscal councils (Figure 4). The ability to operate independently (operational independence) is also a relevant consideration. Here too, a larger proportion of new fiscal councils benefit from safeguards on their budget as well as legally guaranteed access to relevant information. Failing on both counts could expose the IFC to existential threats—such as significant cuts in resources—and prevent it from developing a sufficiently persuasive and thorough analysis of the budget. However, while veterans generally appear well resourced considering their remit, some fiscal councils of the new generation seem to lack adequate funding and staffing.

**Figure 4. Fiscal Councils: Aspects of Legal and Operational Independence**
*(Percent of total fiscal councils' population)*




Source: IMF Fiscal Council Dataset.

Having characterized the population of fiscal councils along some of the key dimensions relevant for their effectiveness, we now turn to a more formal and systematic analysis of the latter.

## III. How Effective are Fiscal Councils?

Assessing the effectiveness of IFCs first requires defining appropriate performance metrics. Heterogeneity of remit and tasks does not provide any natural candidate. Direct measures of fiscal performance per se—i.e., the level of the budget balance, its variability or cyclicality—are arguably far from an IFC's direct sphere of influence. Debrun and Kinda (2017) nevertheless document a positive association between the primary balance and the presence of a fiscal council, although the risk of reverse causality could not be ruled out. Focusing on a small group of veteran institutions, Debrun, Gérard and Harris (2017) find that IFCs seem to exert some influence on the public debate, at least as measured by their media presence.

To maximize the data coverage of our analysis, we opt for performance indicators of the two most common functions assigned to IFCs in the sample (aside positive analysis): (i) the preparation or validation of macroeconomic and fiscal forecasts used in budget preparation, and (ii) the monitoring of compliance with numerical fiscal rules. We will first analyze the potential effect of fiscal councils on measures of the quality of economic and budgetary forecasts (bias and precision), by investigating the determinants of the mean and absolute forecast errors. This latter dimension is particularly important to assess the extent to which IFCs contribute to making fiscal policy more predictable and fiscal statistics more meaningful (in terms of their information content on the true state of public finances). Second, we will try to identify the impact of IFCs on measures of compliance with fiscal policy rules. While the first criterion (effect on forecasting quality) is technical in nature and

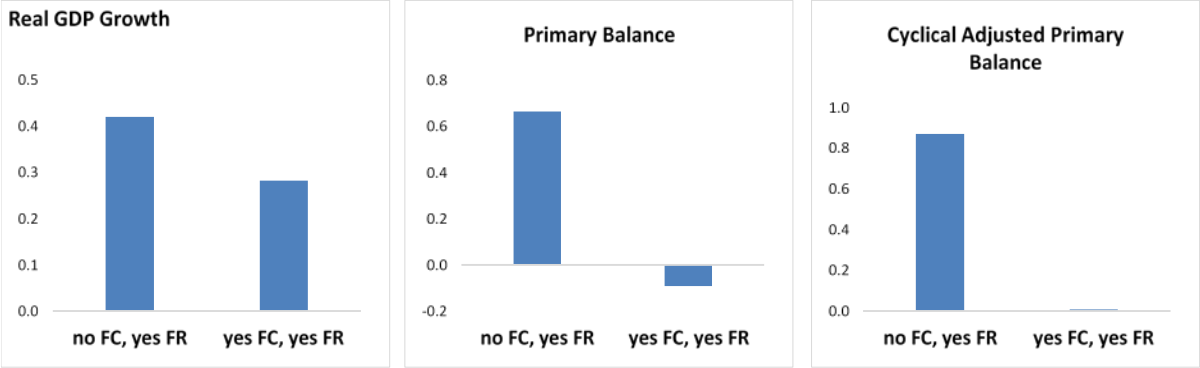
close to IFCs' activities, the second is more loosely connected to the council's sphere of influence as it reflects a policy outcome.

The coverage of our empirical study is dictated by the availability of macroeconomic and fiscal forecasts and measures of rule compliance. To our knowledge, these data are only available on a systematic and comparable basis for EU countries, which report them in their Stability and Convergence Programs, introduced in 1999 at the start of the monetary union. Data on fiscal rules and fiscal councils are extracted from the IMF datasets.[4] Data on fiscal rule compliance are an updated version of Reuter (2015). Finally, macroeconomic variables are from the IMF (2017a), and political variables from the most recent vintage of the Database of Political Institutions (Beck and others, 2001) as well as Armingeon and others (2016).

## A. Do IFCs Reduce Forecasting Biases?

Under the null hypothesis tested in this subsection, average forecast errors should be lower in the presence of an IFC than otherwise. A preliminary look at the data is encouraging (Figure 5). First, average forecast errors for country-year observations without fiscal council are compared to observations with a fiscal council.[5] Real GDP growth forecast errors exhibit overoptimism for both sets of observations. However, the degree of overoptimism is more than 0.1 percentage point of GDP lower on average in the presence of a fiscal council. Furthermore, the presence of a fiscal council is associated with a much lower forecasting error of budget balances (about 0.7 percent of GDP for the primary balance and 0.8 percentage points of GDP for the cyclically-adjusted balance).

**Figure 5. Average Forecasting Errors**




Notes: the figure reports variables averaged over all observations within a given bin. The bins are (no FR, no FC), (FR, no FC), (no FR, FC) and (FR, FC). FR = fiscal rule, FC = fiscal council.

[4] For the fiscal rules dataset, see IMF (2017b), and for the fiscal council dataset, see IMF (2017c).

[5] As the sample contains only EU countries, all countries have fiscal rules. For the real GDP forecasting error, the category of "fiscal rule, no fiscal council" includes 258 observations, and the category of "fiscal rule, fiscal council" includes 109 observations. For the primary balance forecasting error, the category of "fiscal rule, no fiscal council" includes 252 observations, and the category of "fiscal rule, fiscal council" includes 100 observations.

Regression analysis allows conditioning on other potential determinants of forecasting performance. The empirical model is as follows:

$$FE_{it} = \mu_i + \delta_t + \alpha FR_{i,t-1} + \beta FC_{i,t-1} + \sum_k \gamma_k X_{k,i,t-1} + \varepsilon_{i,t} \quad (1)$$

where $FE_{it}$ is the forecasting error in the real growth rate or the primary balance. It is defined as $FE_{it} = X_{i,t-1,t} - X_{i,t+1,t}$, where $X_{i,t-1,t}$ is the forecast of the variable of interest in period t-1 for period t and $X_{i,t+1,t}$ is the estimate of the variable of interest in period t+1 for period t. A positive average forecast error expresses an optimistic bias in the forecast. On the right-hand side of (1), $\mu_i$ is a country-fixed effect, $\delta_t$ is a time-fixed effect, $FR_{it}$ is the fiscal rule index, $FC_{it}$ is a dummy equal to 1 for each country-year observation where an IFC is active, $X_{k,i,t-1}$ is the k$^{th}$ control variable (dated period t-1) and $\varepsilon_{i,t}$ is the error term. The fiscal rule index captures features of fiscal rules that are likely to make them more binding for policymakers. Its construction is explained in detail in Schaechter and others (2012).

Inspection of a time plot of the fiscal rule indices of the sample countries suggests that there is enough variation over time to include the index along with the country-fixed effects. The baseline regression specification contains country- and time-fixed effects, the lagged fiscal rule index, the lagged IFC dummy and lags of the real-time output gap and debt-to-GDP ratio.[6] Hence, all explanatory variables in (1) are part of the information available to forecasters at the time the forecast was made. The results reflect panel estimations with country and time fixed effects. Country-fixed effects help alleviate concerns about cross-sectional dependence. In contrast to the existing literature (for example, Beetsma, Giuliodori, and Wierts 2009; and Frankel and Schreger 2013), we focus on the influence of fiscal rules and fiscal councils using the most recent data available.

Table 2 reports the regression results for the forecasting error in the real growth rate. Column (1) shows that none of the explanatory variables included in the baseline specification (apart from country and time fixed effects) is statistically significant. In particular, neither the tightness and coverage of existing fiscal rules nor the presence of an IFC appears to have any well-defined effect on the real growth forecast error. That said, the estimated coefficient on the IFC dummy consistently exhibits the expected negative sign signaling less optimistic forecasts in the presence of a council.

Alternative specifications of (1) do not meaningfully alter the baseline result. For instance, lagging the fiscal rule index and the IFC dummy twice—to account for a delayed effect of institutional changes on the forecasting process—yields a similar outcome to the baseline (Column (2)). Monetary policy (short-term interest rates, Column (3)) or broader financial

[6] As no persistence is expected in forecast errors, equation (1) is static. Dynamic specifications of equation (1) reject persistence (see column (7) of Table 2).

conditions (long-term interest rates, Column (4)) also appear to be orthogonal to the average growth forecast errors.[7] However, in the latter specification (Column (4)), the estimated effect of the lagged real-time output gap turns positive and statistically significant, suggesting growth optimism in good times and pessimism in bad times. One plausible explanation is that forecasters may exaggerate growth persistence, or systematically miss turning points. The negative coefficient on the IFC dummy is more precisely estimated but still below standard confidence levels.

Taking into account more structural features of the economies does not seem to influence forecasting performance either. Since the level of economic development and the quality of institutions are slow-moving variables largely captured by country-fixed effects, we introduce a measure of government effectiveness (World Bank, 2017) as a control (Column (5)). While the cyclical bias in growth forecasts (optimism in good time and pessimism in bad time) remains, all the other variables continue to be statistically insignificant.

Exploring the potential interaction between the lagged fiscal rule index and the IFC dummy yields intriguing results. In that specification, the estimated coefficient of the IFC dummy is twice as large in absolute value and turns significant at the 10 percent confidence level. At the same time, the coefficient of the interaction term is positive and statistically significant. This points to the possibility that the capacity of an IFC to enable less optimistic growth forecasts depends on the ability of the rule to bind (or its strength). Specifically, the stronger the rule, the weaker the influence of the IFC on the forecast. This could indicate that an IFC will find it harder to tame to the optimistic forecasting bias when a stronger rule magnifies incentives to evade it ex-ante through biased forecasts.

Other results not reported in Table 2—but available upon request—include an analysis of the possible role of political charateristics and the use of instrumental variable techniques to mitigate potential simultaneity bias. Exploiting the political dataset compiled by Armingeon and others (2016), we assessed the potential impact of the ideological composition of the cabinet and its change, the frequency of government changes, the government type (as assessed by the number of parties in government and their voting share in parliament) and the ideological gap between new and old cabinets. Adding one political variable at a time to the baseline regression did not affect the results, and none of the political controls turned out being statistically significant.

[7] EU countries were differently affected by the recent debt crisis (as captured by 10-year government bond yields). The differentiated effects of the crisis on the various countries in the sample cannot be adequately captured by time or country effects.

**Table 2. Regressions for Forecasting Errors in Real GDP Growth**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Constant | 0.401 | 0.672 | 0.503 | 1.231 | 1.029 | 0.428 | 0.198 |
| | (0.616) | (0.649) | (0.642) | (0.865) | (1.148) | (0.606) | (0.674) |
| Real-time output gap (lag) | 0.106 | 0.104 | 0.130 | **0.208**** | **0.144*** | 0.106 | **0.206**** |
| | (0.0915) | (0.0920) | (0.102) | (0.0951) | (0.0826) | (0.0919) | (0.0920) |
| Debt to GDP ratio (lag) | -0.00241 | -0.00290 | -0.00268 | -0.00850 | -0.00168 | 3.08e-05 | 0.00445 |
| | (0.00715) | (0.00721) | (0.00785) | (0.00963) | (0.00737) | (0.00766) | (0.00762) |
| Fiscal rule index (lag) | 0.0881 | | 0.0453 | 0.134 | 0.114 | -0.0361 | 0.0933 |
| | (0.103) | | (0.0964) | (0.0958) | (0.121) | (0.113) | (0.106) |
| Fiscal council (lag) | -0.338 | | -0.195 | -0.497 | -0.328 | **-0.844*** | -0.392 |
| | (0.286) | | (0.316) | (0.320) | (0.313) | (0.446) | (0.277) |
| Fiscal rule index (2nd lag) | | -0.0798 | | | | | |
| | | (0.146) | | | | | |
| Fiscal council (2nd lag) | | -0.253 | | | | | |
| | | (0.317) | | | | | |
| Short-term interest rate (lag) | | | -0.00387 | | | | |
| | | | (0.0626) | | | | |
| 10y bond yield (lag) | | | | 0.0656 | | | |
| | | | | (0.0649) | | | |
| Government effectiveness (lag) | | | | | -0.490 | | |
| | | | | | (0.648) | | |
| Fiscal rule and fiscal council interaction (lag) | | | | | | **0.258*** | |
| | | | | | | (0.149) | |
| Real GDP forecast error (lag) | | | | | | | 0.0140 |
| | | | | | | | (0.0490) |
| Observations | 330 | 330 | 322 | 266 | 283 | 330 | 307 |
| R-squared | 0.556 | 0.556 | 0.561 | 0.571 | 0.582 | 0.559 | 0.581 |
| Number of CountryCode | 27 | 27 | 27 | 19 | 27 | 27 | 27 |

Note: (i) Panel regressions with country and time fixed effects. (ii) Robust standard errors in parentheses. (iii) *** p<0.01, ** p<0.05, * p<0.1. (iv) Data sample includes 27 EU countries. (v) For the FR index and FC characteristics, see the updates in IMF (2017b) and IMF (2017c), respectively.

As regards simultaneity issues, they could arise in this context if common factors not captured in the regressions drove both the forecasting performance and key fetaures of the fiscal institutions (for example, Badinger and Reuter, 2017a, b). We could not identify any suitable instrument among the political, macroeconomic and other candidate variables, including the old-age dependency ratio and Euro Area membership.[8] However, we take comfort in the fact that common determinants of fiscal institutions and forecasting performance are most likely related to deep preferences and other slow-moving structural factors likely to be reflected in country fixed effects.

Turning to the determinants of the primary balance forecasting error, three results stand out (Table 3). First, the more fiscal rules are likely to bind (as captured by an increase in the fiscal rule index), the more optimistic the budget balance forecast. This is consistent with the possibility that tighter and more encompassing fiscal rules could inspire rosier forecasts to create the illusion of strong fiscal performance and ex-ante compliance. The logic of the argument is similar to the risk of creative accounting in response to binding rules (Milesi-Ferretti, 2003) and could also explain why errors are slightly persistent. Second, the presence

[8] The old-age dependency ratio is taken from the World Bank (2017) and the Euro Area membership dummy is from Badinger and Reuter (2017b) and Doray-Demers and Foucault (2017).

of a fiscal council could mitigate such optimism, as suggested by the negative sign of the IFC dummy. However, the result is weak and only statistically significant at the 10 percent threshold for the second lag of the dummy. Third, high public debt levels are associated with less optimism in the fiscal forecast. There is no natural interpretation to this quantitatively small effect.[9] One possibility is that a high debt level is by itself a conspicuous sign of fiscal weakness that makes it pointless to mask reality with overoptimistic forecasts. Other control variables—including the output gap and non-reported results for political variables—have no apparent impact on fiscal forecasts.

**Table 3. Regressions for Forecasting Error in the Primary Balance**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Constant | **2.884**** | **3.206**** | **3.228**** | **2.262*** | **4.628***** | **2.825***** | **3.449***** |
| | (1.105) | (1.166) | (1.225) | (1.128) | (1.129) | (0.977) | (1.035) |
| Real-time output gap (lag) | -0.231 | -0.228 | -0.241 | -0.104 | -0.230 | -0.231 | -0.217 |
| | (0.152) | (0.157) | (0.174) | (0.117) | (0.153) | (0.154) | (0.137) |
| Debt to GDP ratio (lag) | **-0.0228*** | **-0.0242**** | **-0.0248**** | **-0.0290*** | **-0.0270**** | **-0.0232*** | **-0.0290***** |
| | (0.0112) | (0.0109) | (0.0113) | (0.0144) | (0.0115) | (0.0123) | (0.0103) |
| Fiscal rule index (lag) | **0.301***** | | **0.341***** | **0.242**** | **0.322***** | **0.323*** | **0.303***** |
| | (0.105) | | (0.112) | (0.112) | (0.114) | (0.158) | (0.107) |
| Fiscal council (lag) | -0.743 | | -0.820 | -0.394 | -0.752 | -0.655 | -0.550 |
| | (0.531) | | (0.483) | (0.367) | (0.554) | (0.932) | (0.482) |
| Fiscal rule index (2nd lag) | | 0.128 | | | | | |
| | | (0.137) | | | | | |
| Fiscal council (2nd lag) | | **-0.637*** | | | | | |
| | | (0.330) | | | | | |
| Short-term interest rate (lag) | | | -0.184 | | | | |
| | | | (0.118) | | | | |
| 10y bond yield (lag) | | | | 0.120 | | | |
| | | | | (0.124) | | | |
| Government effectiveness (lag) | | | | | -1.019 | | |
| | | | | | (0.879) | | |
| Fiscal rule and fiscal council interaction (lag) | | | | | | -0.0446 | |
| | | | | | | (0.271) | |
| Primary balance forecast error (lag) | | | | | | | **0.149***** |
| | | | | | | | (0.0270) |
| Observations | 315 | 315 | 308 | 250 | 274 | 315 | 296 |
| R-squared | 0.320 | 0.313 | 0.327 | 0.440 | 0.322 | 0.320 | 0.340 |
| Number of CountryCode | 27 | 27 | 27 | 19 | 27 | 27 | 27 |

Note: (i) Panel regressions with country and time fixed effects. (ii) Robust standard errors in parentheses. (iii) *** p<0.01, ** p<0.05, * p<0.1. (iv) Data sample includes 27 EU countries. (v) For the FR index and FC characteristics, see the updates in IMF (2017b) and IMF (2017c), respectively.

The somewhat stronger effect of IFCs on fiscal forecasts, as opposed to growth forecasts, may reflect the monopoly power and informational advantage of the government in producing the former. The existence of competing growth forecasts from various sources complicates efforts to deviate too much from the "consensus." Such competition is much

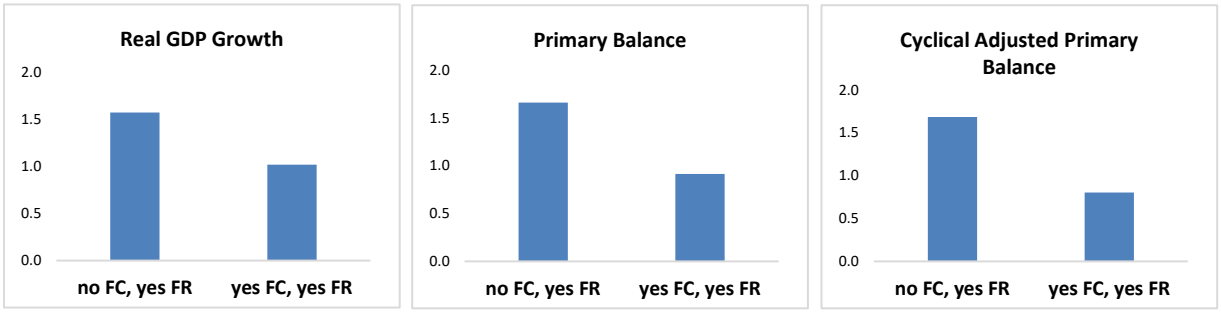
[9] A one-percentage point increase in the debt ratio lowers the forecast error by 0.02 percentage points on average.

more limited for public finances. A fiscal council can challenge government's monopoly on budgetary forecasts and reduce the temptation to exploit that monopoly power.

## B. Do IFCs Improve the Precision of Forecasts?

Our metric of forecasting precision is the mean absolute forecast error. Figure 6 suggests that the presence of a fiscal council is associated with more precise macroeconomic and fiscal forecasts across the board. Orders of magnitudes are meaningful, ranging from a reduction of about half a percentage point of GDP on average for real GDP growth forecast errors to about three-quarters of a percentage point of GDP on average for budget balance forecasts errors.

**Figure 6. Average of Absolute Forecasting Errors**




Notes: see Notes to Figure 5.

The corresponding regression model is the following:

$$ABS(FE_{it}) = \mu_i + \delta_t + \alpha FR_{i,t-1} + \beta FC_{i,t-1} + \sum_k \gamma_k X_{k,i,t-1} + \varepsilon_{i,t}, \quad (2)$$

where $ABS(FE_{it})$ symbolizes the absolute value of $FE_{it}$.

While the regressions discussed above give a sense of the potential role of fiscal councils in alleviating the role of political distortions in macroeconomic and budgetary forecasting, estimates of equation (2) assess whether fiscal councils can improve the information contents of official forecasts or equivalently, the credibility of budget plans.

Among the potential explanatory variables considered in the empirical model, only the fiscal rule index seems to affect the precision of growth forecasts (Table 4). Specifically, stronger rules are associated with somewhat less precise growth forecasts. This might reflect the incentive to base budget preparation on optimistic growth assumptions to secure ex-ante compliance with the rules. Once again, extending the baseline regression with political variables does not affect the results, and none of those variables is significant.

**Table 4. Regressions for Absolute Forecasting Errors in Real GDP Growth**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Constant | 0.00132 | -0.0182 | 0.0714 | 0.150 | -1.014 | 0.0131 | 0.0625 |
| | (0.498) | (0.520) | (0.491) | (0.525) | (0.801) | (0.496) | (0.518) |
| Real-time output gap (lag) | 0.0586 | 0.0623 | 0.0576 | 0.0272 | 0.0350 | 0.0586 | 0.0217 |
| | (0.0593) | (0.0589) | (0.0659) | (0.0961) | (0.0608) | (0.0594) | (0.0698) |
| Debt to GDP ratio (lag) | 0.00486 | 0.00595 | 0.00448 | -0.00101 | 0.00834 | 0.00594 | 0.000872 |
| | (0.00646) | (0.00591) | (0.00653) | (0.00657) | (0.00673) | (0.00660) | (0.00641) |
| Fiscal rule index (lag) | **0.120**** | | **0.109*** | **0.0976*** | **0.137**** | 0.0649 | **0.140*** |
| | (0.0555) | | (0.0567) | (0.0501) | (0.0659) | (0.0902) | (0.0775) |
| Fiscal council (lag) | 0.250 | | 0.245 | 0.227 | 0.124 | 0.0271 | 0.325 |
| | (0.434) | | (0.453) | (0.474) | (0.403) | (0.497) | (0.414) |
| Fiscal rule index (2nd lag) | | 0.112 | | | | | |
| | | (0.0765) | | | | | |
| Fiscal council (2nd lag) | | 0.267 | | | | | |
| | | (0.412) | | | | | |
| Short-term interest rate (lag) | | | -0.0577 | | | | |
| | | | (0.0374) | | | | |
| 10y bond yield (lag) | | | | 0.0409 | | | |
| | | | | (0.0392) | | | |
| Government effectiveness (lag) | | | | | 0.576 | | |
| | | | | | (0.578) | | |
| Fiscal rule and fiscal council interaction (lag) | | | | | | 0.114 | |
| | | | | | | (0.0901) | |
| Absolute value of real GDP forecast error (lag) | | | | | | | -0.0301 |
| | | | | | | | (0.0807) |
| Observations | 330 | 330 | 322 | 266 | 283 | 330 | 307 |
| R-squared | 0.536 | 0.535 | 0.537 | 0.535 | 0.556 | 0.537 | 0.553 |
| Number of CountryCode | 27 | 27 | 27 | 19 | 27 | 27 | 27 |

Note: (i) Panel regressions with country and time fixed effects. (ii) Robust standard errors in parentheses. (iii) *** p<0.01, ** p<0.05, * p<0.1. (iv) Data sample includes 27 EU countries. (v) For the FR index and FC characteristics, see the updates in IMF (2017b) and IMF (2017c), respectively.

The greater imprecision in growth forecasts seemingly related to the strength of fiscal rules does not appear to fully translate into less accurate primary balance forecasts. The estimated coefficient of the fiscal rule index is indeed positive but not statistically significant (Table 5).

The presence of an IFC has the expected positive effect on fiscal forecast accuracy, although that effect is not always precisely estimated. Taking point estimates at face value, introducing an IFC would reduce the magnitude of the primary balance forecast error by a full percentage point of GDP on average; that is about two thirds of the unconditional sample average.[10] A similar result is obtained when using the second lag instead of the first (Column (2)). Other control variables have no impact on fiscal forecast accuracy except for short-term interest rates, possibly reflecting the coincidence between sharp reductions in monetary policy rates and the large fiscal shocks that occurred at the onset of Global Financial Crisis. Those results are robust to the additional political control variables, none of which had a significant influence on fiscal forecast accuracy.

[10] Replacing the IFC dummy with dummies capturing IFCs with only certain characteristics, such as legal independence, safeguards on the budget, and other potential determinants of effectiveness does not allow identifying features that might be more influential than others.

**Table 5. Regressions for Absolute Forecasting Errors in the Primary Balance**

| | (1) | (2) | (3) | (4) | (5) | (6) | (7) |
|---|---|---|---|---|---|---|---|
| Constant | 1.680 | 1.934 | **2.086**** | **1.732*** | **3.235*** | **1.988*** | 1.703 |
| | (0.999) | (1.183) | (0.943) | (0.930) | (1.892) | (1.101) | (1.065) |
| Real-time output gap (lag) | -0.217 | -0.219 | -0.228 | -0.0869 | **-0.225*** | -0.219 | -0.225 |
| | (0.128) | (0.132) | (0.147) | (0.0860) | (0.124) | (0.129) | (0.135) |
| Debt to GDP ratio (lag) | -0.00891 | -0.0122 | -0.0106 | -0.00619 | -0.0120 | -0.00689 | -0.0114 |
| | (0.00986) | (0.0116) | (0.00987) | (0.0130) | (0.0110) | (0.00896) | (0.0109) |
| Fiscal rule index (lag) | 0.174 | | 0.175 | 0.122 | 0.144 | 0.0583 | **0.244*** |
| | (0.121) | | (0.140) | (0.132) | (0.122) | (0.196) | (0.121) |
| Fiscal council (lag) | **-1.133*** | | **-1.260**** | **-0.729*** | **-1.077*** | -1.592 | **-1.104*** |
| | (0.601) | | (0.574) | (0.368) | (0.602) | (1.001) | (0.646) |
| Fiscal rule index (2nd lag) | | 0.0645 | | | | | |
| | | (0.102) | | | | | |
| Fiscal council (2nd lag) | | **-0.867*** | | | | | |
| | | (0.460) | | | | | |
| Short-term interest rate (lag) | | | **-0.185*** | | | | |
| | | | (0.0975) | | | | |
| 10y bond yield (lag) | | | | 0.0352 | | | |
| | | | | (0.113) | | | |
| Government effectiveness (lag) | | | | | -0.985 | | |
| | | | | | (0.701) | | |
| Fiscal rule and fiscal council interaction (lag) | | | | | | 0.233 | |
| | | | | | | (0.287) | |
| Absolute value of primary balance forecast error (lag) | | | | | | | -0.00941 |
| | | | | | | | (0.0508) |
| Observations | 315 | 315 | 308 | 250 | 274 | 315 | 296 |
| R-squared | 0.238 | 0.228 | 0.254 | 0.281 | 0.238 | 0.241 | 0.237 |
| Number of CountryCode | 27 | 27 | 27 | 19 | 27 | 27 | 27 |

Note: (i) Panel regressions with country and time fixed effects. (ii) Robust standard errors in parentheses. (iii) *** p<0.01, ** p<0.05, * p<0.1. (iv) Data sample includes 27 EU countries. (v) For the FR index and FC characteristics, see the updates in IMF (2017b) and IMF (2017c), respectively.

To summarize, the presence of a fiscal council can encourage more accurate fiscal forecasts. This is consistent with the "signal-enhancement" role of IFCs theorized by Beetsma, Debrun, and Sloof (2017). By reducing the noise-to-signal ratio of fiscal data, fiscal councils may facilitate the operation of existing democratic controls. Better informed voters and veto players in the budget process can provide stronger incentives to policymakers to deliver sound policies.

Because not all IFCs are born equal, we replicated this analysis for selected subsets of institutions, including a differentiation between “veteran” and new institutions—using 2007 as the cutoff date—and between councils that emanated from a homegrown process as opposed to those introduced under external pressure. However, the small sample size did not allow identifying robust effects. These results are available upon request.

## C. Do IFCs Foster Compliance with Numerical Fiscal Rules? A First Pass at the Data

This section explores whether the introduction of fiscal councils improves governments’ compliance with numerical fiscal rules. Since IFCs have no control on fiscal performance, this is clearly a more demanding test of IFC’s effectiveness than assessing their impact on the quality of fiscal forecasts, which is closer to their sphere of influence. It remains that IFCs

are ultimately expected to foster rule compliance. And in fact, many fiscal councils routinely provide inputs that feed into fiscal rules, such as estimates of structural balances, they check ex-post compliance and communicate extensively about fiscal rules.

The analysis is based on the rule compliance dataset compiled by Reuter (2017). Rule compliance must be understood as deviations from numerical limits or targets and not as legal compliance. An assessment of legal compliance would require detailed information about escape clauses, one-off adjustments and other country-specific information that is lacking for a sufficiently large sample. Aside this limitation, our analysis should help shed some light on the role fiscal councils may have in preserving medium-term fiscal sustainability.[11]

We define the "compliance gap" as the difference between the fiscal rule threshold ($F^*$) and the corresponding fiscal aggregate ($F$) subject to the rule, i.e., $F^* - F$, expressed as a share of GDP. Following Reuter (2015, 2017), fiscal deficits (surpluses) are positive (negative), so that a positive "compliance gap" ($F^* - F > 0$) always denotes compliance with the fiscal rule. Table 6 describes compliance gaps' distributions across different types of rules.

**Table 6. Distribution of the Compliance Gap for Three Types of Fiscal Rules**

| | Compliance Gap : *F* - F* (in percent) | | | | | |
|---|---|---|---|---|---|---|
| **Fiscal Rule Type** | **Mean** | **5** | **25** | **50** | **75** | **95** |
| BBR | -0.94 | -6.53 | -2 | -0.52 | 0.44 | 2.74 |
| DR | 7.75 | -5.04 | 0 | 0.7 | 10.7 | 21.01 |
| ER | 0.31 | -2.1 | -0.63 | 0 | 0.62 | 4.64 |

Source: Reuter (2017) and authors' calculations. Further, BBR = budget-balance rule, DR = debt rule, and ER = expenditure rule. The columns under "5 percent", etcetera, indicate the location of the 5th percentile, etcetera, of the compliance gap.

The baseline empirical specification is given by (3).

$$F^* - F_{it} = \mu_i + \delta_t + \alpha FR_{i,t-1} + \beta FC_{i,t-1} + \sum_k \gamma_k X_{k,i,t-1} + \varepsilon_{i,t} \quad (3)$$

where $F^* - F_{it}$ is the compliance gap, and $FC_{i,t-1}$ is our dummy capturing the presence of a fiscal council for a country *conditional* on that country having a specific fiscal rule $i$ at time $t-1$. Hence, each country operating under more than one rule for a given year enters as many times in the sample as the number of fiscal rules it is subject to. That said, $FR_{i,t-1}$, the fiscal rule index, is measured for the complete set of rules constraining fiscal policy in each

[11] The measure of noncompliance used here is crude as it ignores escape clauses and other provisions allowing deviations from numerical limits. This measurement error might bias the estimated IFCs' impact downward so that our results are likely to capture a lower bound of IFC effectiveness.

country. Thus, the index has same value for all the $i$'s associated with a given country regardless of the specific rule corresponding to $i$. $X$ is a vector of control variables, while $\delta_t$ and $\mu_i$ are time and country/rule fixed-effects, respectively. All standard errors are corrected for heteroscedasticity, autocorrelation, and clustered at the rule level.

Equation (3) could be estimated separately for each type of rule (expenditure, budget balance or debt), in which case $\mu_i$ would be simple country fixed effects. These estimates suggest that the presence of an IFC improves rule compliance for budget-balance and expenditure rules, but not for debt rules. This is not surprising. Compliance gaps for debt rules have a drastically different distribution compared to those for expenditure and budget-balance rules (Table 6). Unlike budget flows, public debt is a stock that is inherently more persistent and subject to potentially large shocks outside the control of policymakers. To maximize degrees of freedom, the remainder of the analysis jointly analyzes compliance with expenditure and budget-balance rules.

Table 7 reports the results for our baseline model of compliance with expenditure and budget-balance rules combined. Across a broad range of specifications, the presence of a fiscal council is associated with a sizable and statistically significant effect on compliance. Overall, IFCs' activities help to overcome the seemingly greater difficulty to comply with stonger numerical fiscal rules (as captured by the negative, albeit mostly insignificant, estimated coefficient for the fiscal rules index).

The positive influence of IFCs on fiscal rule compliance emerges less clearly in only two cases. The first is when we allow for an interaction term between the fiscal rules index and the IFC dummy, possibly reflecting excessive collinearity (Column (7)). The second, and more interesting case is when we introduce the primary balance forecast error as an explanatory variable (Column (9)). Greater forecast errors—i.e., more optimistic or less pessimistic plans—tend to undermine (ex-post) compliance. Thus deliberate efforts to boost ex-ante compliance through rosy forecasts seem to result in lower ex-post compliance, all else equal. As shown earlier, fiscal councils can help mitigate such optimistic biases, which in turn facilitate compliance. The fact that the fiscal council dummy turns statistically insignificant in Column (9) suggests that the influence of IFCs operates in good part through better fiscal forecasts.[12]

[12] The same test performed to assess the influence of a less optimistic growth forecast does not reject the null of no influence.

**Table 7. Explaining Rule Compliance (Expenditure and Budget Balance Rules)**

| VARIABLES | (1) | (2) | (3) | (4) | (5) | (6) | (7) | (8) | (9) |
|---|---|---|---|---|---|---|---|---|---|
| Constant | **4.043**** | **1.590*** | **4.563***** | 3.979 | 3.121 | 2.802 | 2.802 | 3.739 | **4.025**** |
| | (1.764) | (0.785) | (1.648) | (2.635) | (2.831) | (3.048) | (1.984) | (2.464) | (1.804) |
| Real-time output gap (lag) | 0.00584 | 0.0300 | -0.0232 | 0.0879 | 0.153 | 0.0207 | 0.129** | 0.116 | 0.00592 |
| | (0.0637) | (0.0645) | (0.0494) | (0.0653) | (0.103) | (0.0646) | (0.0595) | (0.0815) | (0.0643) |
| Debt-to-GDP ratio (lag) | **-0.0740**** | **-0.0459***** | **-0.0644*** | **-0.0719**** | **-0.0641*** | **-0.0702*** | **-0.0652*** | **-0.0819*** | **-0.0752**** |
| | (0.0337) | (0.0156) | (0.0329) | (0.0347) | (0.0351) | (0.0394) | (0.0339) | (0.0463) | (0.0354) |
| Fiscal rule index (lag) | -0.313 | | | -0.237 | -0.255 | -0.368 | 0.106 | 0.0115 | -0.277 |
| | (0.345) | | | (0.501) | (0.216) | (0.391) | (0.471) | (0.545) | (0.566) |
| Fiscal council (lag) | **1.062*** | **1.256**** | | **1.056*** | **1.509***** | **1.104**** | 0.864 | **1.267*** | 1.266 |
| | (0.552) | (0.484) | | (0.608) | (0.538) | (0.519) | (0.768) | (0.705) | (1.460) |
| Fiscal rule index (2nd lag) | | | **-0.726**** | | | | | | |
| | | | (0.281) | | | | | | |
| Fiscal council (2nd lag) | | | **0.622*** | | | | | | |
| | | | (0.366) | | | | | | |
| Short term interest rate (lag) | | | | -0.0185 | | | | | |
| | | | | (0.168) | | | | | |
| 10y bond yield (lag) | | | | | 0.0830 | | | | |
| | | | | | (0.209) | | | | |
| Government effectiveness (lag) | | | | | | 0.800 | | | |
| | | | | | | (1.420) | | | |
| Rule and council interaction (lag) | | | | | | | -0.0771 | | |
| | | | | | | | (0.541) | | |
| Growth forecast error (lag) | | | | | | | | -0.180 | |
| | | | | | | | | (0.118) | |
| Primary balance forecast error (lag) | | | | | | | | | **-0.401**** |
| | | | | | | | | | (0.169) |
| Observations | 206 | 231 | 193 | 184 | 163 | 183 | 176 | 162 | 206 |
| R-squared | 0.066 | 0.063 | 0.080 | 0.102 | 0.102 | 0.078 | 0.100 | 0.173 | 0.066 |
| Number of rules | 35 | 37 | 35 | 33 | 26 | 35 | 34 | 34 | 35 |

Robust standard errors in parentheses

*** p<0.01, ** p<0.05, * p<0.1

Notes: (i) Panel estimation with fixed effects for each cross-sectional unit (country/rule) and time fixed effects. (ii) Robust standard errors in parentheses. (iii) *** p<0.01, ** p<0.05, * p<0.1. (iv) Forecast errors are taken from regressions of the format of the baseline regressions in Tables 2 and 3, conducted on a sample dictated by the availability of the compliance gap. These regression results are available upon request.

Our control variables have in general no effect on compliance with fiscal rules. One notable exception is the negative impact of the (lagged) public debt ratio. However, the strong persistence inherent to debt dynamics cannot exclude the possibility that despite the inclusion of fixed effects, reverse causality plays a role in this result. Among the other control variables, the indicator of government effectiveness—which should be a good proxy for the strength of public financial management systems—has the expected positive correlation with rule compliance, but the estimated effect turns out not being statistically significant.

Once again, political variables could simultaneously influence the adoption of fiscal councils and compliance to fiscal rules. Table 8 shows that our results are generally robust to the inclusion of political indicators, although statistical significance is reduced. Two of those variables appear to undermine rule compliance: a more left-wing orientation of the cabinet and political instability (i.e., a higher number of government changes per year).

**Table 8. Explaining Rule Compliance: Adding Political Variables**

| VARIABLES | (1) | (2) | (3) | (4) | (5) |
|---|---|---|---|---|---|
| Constant | **4.068**** | **3.787*** | **4.100**** | **4.989*** | **3.876*** |
| | (1.939) | (1.960) | (1.910) | (2.531) | (1.936) |
| Fiscal council (lag) | **1.050*** | **1.162*** | **1.179*** | 1.025 | 1.055 |
| | (0.609) | (0.659) | (0.651) | (0.718) | (0.711) |
| Debt to GDP (lag) | -0.0584 | **-0.0723**** | **-0.0696*** | **-0.0727*** | **-0.0722*** |
| | (0.0351) | (0.0350) | (0.0352) | (0.0359) | (0.0358) |
| Output gap (lag) | 0.0265 | 0.0103 | 0.0128 | 0.000166 | 0.00817 |
| | (0.0683) | (0.0679) | (0.0707) | (0.0708) | (0.0700) |
| Fiscal rule strength (lag) | -0.379 | -0.273 | -0.348 | -0.287 | -0.264 |
| | (0.393) | (0.402) | (0.373) | (0.418) | (0.383) |
| gov party | **-0.218*** | | | | |
| | (0.112) | | | | |
| gov new | | 0.267 | | | |
| | | (0.341) | | | |
| gov chan | | | **-0.484**** | | |
| | | | (0.218) | | |
| gov type | | | | -0.354 | |
| | | | | (0.257) | |
| gov gap | | | | | 0.0867 |
| | | | | | (0.166) |
| Observations | 195 | 195 | 195 | 195 | 195 |
| R-squared | 0.076 | 0.062 | 0.083 | 0.074 | 0.060 |
| Number of rules | 35 | 35 | 35 | 35 | 35 |

Notes: Panel regressions with country/rule and time fixed effects. Robust standard errors in parenthesis.
*** p<0.01, ** p<0.05, * p<0.1 (i) "gov_party" measures the political orientation of the cabinet ranging from hegemony of right-wing parties (lowest value) to hegemony of left-wing parties (highest value); "gov_new" is a dummy taking a value of one in the case of a new ideological composition of the cabinet; "gov_chan" is number of changes in government per year; "gov_type" measures the strength of the government ranging from single-party majority government (lowest value) to caretaker government (highest value); "gov gap" measures the ideological gap between new and old cabinets

## IV. CONCLUSION

The paper analyzes recent developments in the emergence of non-partisan fiscal watchdogs, known as "independent fiscal councils." Although the proliferation of IFCs is a recent phenomenon rooted in Europe, interest is growing fast in other regions. IFCs have now become part of international good practice in the design of fiscal frameworks aimed at guiding fiscal policymakers' discretion. Yet very little is known about their effectiveness, as

existing evidence is limited to mostly descriptive statistics and conditional cross-country correlation.

After an overview of recent development in the population of IFCs, we exploit the latest vintage of the IMF dataset to develop a more comprehensive econometric analysis of IFCs' effectiveness. The results provide some suggestive evidence that the presence of fiscal councils seems to eliminate optimistic biases in budgetary forecasts and to improve their accuracy. All else equal, IFCs also appear to foster compliance with budget-balance and expenditure rules, in part through their influence on the accuracy of budget plans. However, as experience with fiscal councils remains quite limited, that evidence must be interpreted with caution, as causality remains particularly difficult to establish. By creating pressures to comply with fiscal rules and reducing forecast errors, the establishment of IFCs could ultimately encourage sophisicated creative accounting practices that our analysis could not capture. If anything, our results should be seen as an encouragement to further develop empirical analysis of the impact of IFCs as experience acccumulates over time and across countries.

## APPENDIX 1. NUTS AND BOLTS OF THE FISCAL COUNCIL DATASET

### Institutional Features

The dataset is divided into the following five sections covering different aspects of fiscal councils, with most variables in binary terms (0–1):

i. **General Information:** This section provides an overall description of the institutions, including their names, regions, year of establishment, year of major amendment to their mandate, tasks or governance, and the government level of their coverage.

ii. **Remit:** This section spells out key elements of the council's mandate, such as positive and normative assessment of fiscal policy, macroeconomic or fiscal forecast preparation and assessment, analysis of long-term fiscal sustainability, and monitoring compliance with fiscal rules. Ideally, the mandate of the fiscal councils should be clearly defined in higher-level legislation and aim at fostering a meaningful public debate on fiscal policy based on objective facts and independent analysis.

iii. **Task and Instruments:** This section specifies the instruments available to fiscal councils to perform two tasks critical for its capacity to influence the fiscal policy debate. The first task is to manage public relations. It captures the council's ability to communicate its opinions to the public and other relevant stakeholders and is supported by the production of timely and accessible public reports and the impact that these and other council's public interventions has on the media. The second task is to influence the budget process. Information is provided on the instruments available for the fiscal councils to directly interact with participants in the budget process. These include the use of its forecasts and policy recommendations for budget preparation, the obligation for governments to publicly explain deviations from these forecasts and recommendations, and whether the fiscal council is able to meet regularly with decision makers.

iv. **Independence and Accountability:** Non-partisanship and independence are pre-requisites for successful fiscal councils and essential attributes to distinguish fiscal councils from government appointed ad-hoc bi-partisan or multi-partisan advisory bodies. This section looks at various aspects of the council's legal and operational independence, including whether the financial resources made available to the institution are safeguarded and commensurate to its tasks, whether the governing members of councils are selected based on technical competence, and whether access to all relevant government is legally protected.

v. **Resources:** This section primarily focuses on the human resources of the fiscal councils, including the composition, term, body of appointment/dismissal of their governing members and the overall size of the councils.

## Sources

As with the original dataset, the main sources of information for the 2016 update were the relevant legal documents, which generally contain provisions specifying the councils' remit, tasks and main operational features; the fiscal councils' official websites and annual reports; and IMF country papers. For OECD members, data was primarily sourced from background country notes used in the preparation of the OECD Principles for Independent Fiscal Institutions (von Trapp, Lienert and Wehner, 2016) and later cross-checked with the newly published OECD IFI database to ensure consistency across datasets. For EU members, data was also verified against the European Commission's database on independent fiscal institutions.

## REFERENCES


Armingeon, K., C. Isler, L. Knöpfel, D. Weisstanner and S. Engler. 2016. *Comparative Political Data Set 1960–2014*. University of Bern: Institute of Political Science, Bern.

Badinger, H. and W. Reuter. 2017a. "Determinants of Fiscal Rules", *Applied Economics Letters* 24 (3): 154–8.

Badinger, H. and W. Reuter. 2017b. "The Case for Fiscal Rules", *Economic Modelling* 60: 334–43.

Beck, T., G. Clarke, A. Groff, P. Keefer, and P. Walsh. 2001. "New tools in Comparative Political Economy: The Database of Political Institutions", *World Bank Economic Review* 15, 1, 165–176.

Beetsma, R. and X. Debrun (eds.). 2018. *Independent Fiscal Councils: Watchdogs or Lapdogs?* E-book, CEPR.

Beetsma, R., X. Debrun, and R. Sloo. 2017. "The Political Economy of Fiscal Transparency and Independent Fiscal Councils", CEPR Discussion Paper, No.12181.

Beetsma, R., M. Giuliodori, and P. Wierts. 2009. "Planning to Cheat: EU Fiscal Policy in Real Time", *Economic Policy* 24, 60, 753-804.

Debrun, X. and T. Kinda. 2017. "Strengthening Post-Crisis Fiscal Credibility—Fiscal Councils on the Rise. A New Dataset," *Fiscal Studies* 38(4): 667-700.

Debrun X. and L. Jonung. 2017. "Rules-Based Fiscal Policy: How Sustainable Is It?" Paper presented for the conference Fiscal Frameworks in Europe: Background and Perspectives, Copenhagen, 1–2 June 2017.

Debrun, X., M. Gérard, and J. Harris. 2017. "Fiscal Watchdog and Sound Fiscal Policy: Is the Barking Loud Enough to Tame Politicians?" in Gaspar, V., Gupta, S. and C. Mulas-Granados (eds.), *Fiscal Politics*, International Monetary Fund.

Debrun, X, X. Zhang, and V. Lledó. 2017. "The Fiscal Council Dataset: A Primer to the 2016 Vintage", Background Paper available at http://www.imf.org/external/np/fad/council/.

Doray-Demers, P. and M. Foucault. 2017. "The Politics of Fiscal Rules within the European Union: A Dynamic Analysis of Fiscal Rules Stringency", *Journal of European Public Policy* 24 (6), 852–870.

Eyraud, L., X. Debrun, A. Hodges, V. Lledó, and C. Pattillo. 2018. "Second-Generation Fiscal Rules: Balancing Credibility, Flexibility and Simplicity", IMF Staff Discussion Note, forthcoming.

Frankel, J and J. Schreger. 2013. "Over-optimistic Official Forecasts and Fiscal Rules in the Eurozone", *Review of World Economics* 149: 247-272.

International Monetary Fund. 2013. "The Functions and Impacts of Fiscal Councils", IMF Policy Paper, Washington, DC.

International Monetary Fund. 2017a. *World Economic Outlook*, Washington, DC, April.

International Monetary Fund. 2017b. *Fiscal Rules Dataset 1985–2015*, http://www.imf.org/external/datamapper/FiscalRules/map/map.htm.

International Monetary Fund. 2017c. *Fiscal Council Dataset*, http://www.imf.org/external/np/fad/council/.

Kopits, G. 2011. "Independent Fiscal Institutions: Developing Good Practice", *OECD Journal on Budgeting* 3: 35-52.

Kopits, G. (ed.). 2013. *Restoring Public Debt Sustainability: The Role of Independent Fiscal Institutions,* Oxford University Press.

Kopits, G. and S. Symansky. 1998. "Fiscal Policy Rules", IMF Occasional Paper No 162, International Monetary Fund.

Lledó, V., S. Yoon, X. Fang, S. Mbaye, and Y. Kim. 2017. "Fiscal Rules at a Glance", March, International Monetary Fund.

Milesi-Ferretti, G. 2003. Good, Bad, or Ugly? "On the Effects of Fiscal Rules with Creative Accounting"," *Journal of Public Economics*, 88:377-394.

Reuter, W. H. 2015. "National Numerical Fiscal Rules: Not Complied with, but still Effective?" *European Journal of Political Economy* 39: 67–81.

Reuter, W. H. 2017. "When and Why Do Countries Break their National Fiscal Rules?" *Mimeo*, Staff of the German Council of Economic Experts.

Schaechter, A., T. Kinda, N. Budina, and A. Weber. 2012. "Fiscal Rules in Response to the Crisis—Toward the Next Generation Rules". A New Dataset, IMF Working Paper, No 12/187.

Thomson, E. 1981. "Who Should Control the Money Supply?" *American Economic Review* 71: 356–61.

Von Trapp, L., I. Lienert, and J. Wehner. 2016. "Principles for Independent Fiscal Institutions and Case Studies", *OECD Journal on Budgeting*, Vol. 15/2

World Bank. 2017. *World Development Indicators*, Washington, DC, https://data.worldbank.org/data-catalog/worldwide-governance-indicators.