The determinants of IMF fiscal conditionality: Economics or politics?

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Abstract. Conditionalities, measures that a borrowing country should adopt to obtain loans from the International Monetary Fund (IMF), are pervasive in IMF programs. Empirical work on the determinants of IMF conditionalities typically employs indicators based on the number of conditions as proxies for program austerity. This paper estimates the effects of political and economic factors on a different measure of stringency of conditionality: the fiscal balance requested in an agreement. The correlation between the number of conditions and the requested fiscal adjustment is close to zero in our sample. The requested adjustment is strongly linked to the country's fiscal deficit but is also affected by politics. For middle-income and upper-income countries, political alignment with the US has a significant negative effect on the fiscal effort required by the IMF.

Résumé. Déterminants des conditionnalités fiscales du FMI : facteurs économiques ou politiques? La « conditionnalité », c'est-à-dire l'ensemble des mesures qu'un pays emprunteur doit adopter pour obtenir des prêts du Fonds monétaire international, est un élément systématique des programmes du FMI. En règle générale, les travaux empiriques sur les déterminants des conditionnalités du FMI utilisent un certain nombre d'indicateurs basés sur le nombre de conditions à respecter, lesquelles servant de substituts aux programmes d'austérité. Dans cet article, nous évaluons l'effet des facteurs économiques et politiques sur une autre mesure de rigueur des conditionnalités, à savoir l'exigence d'équilibre fiscal. Dans notre échantillon, la corrélation entre le nombre de conditions et l'exigence d'ajustement fiscal est proche de zéro. L'ajustement exigé est fortement lié au déficit fiscal du pays, mais également à des facteurs politiques. Pour les pays à revenu intermédiaire, l'alignement politique avec les États-Unis a un effet négatif important sur l'effort fiscal exigé par le FMI.

1. Introduction

THE IMF IS often criticized for its allegedly politically oriented behaviour. In particular, politics are said to play a crucial role in determining IMF conditionality, the set of policies that participating countries agree to uphold. The implication would be that a country's connections in the international political arena impact the level of austerity in IMF programs.

Corroborating this view, one crucial finding in the literature is that the number of conditions in an IMF program, the most frequently used proxy of its stringency, is affected by the level of political alignment between a country and the Fund's principal shareholders. Because a fundamental component of IMF conditionality is a target for the government budget balance, Dreher and Jensen (2007) conclude that, "for countries that are not strongly allied with the United States, the IMF would restrain fiscal and monetary policy expansion by setting tight conditions on loans."

There are, however, vast differences among the conditions requested by the IMF in the extent of economic changes they would bring about once implemented. Recognizing the limitation of the number of conditions as a proxy for program austerity, several studies have implemented alternative measures. Previous research has disaggregated the data by the type of policy condition and by the kind of arrangement and has looked at the scope of conditionality.[1] However, these indicators do not consider how important or costly each condition is.

This paper contributes to the literature by estimating the effects of political and economic factors on a different measure of IMF program stringency: the size of fiscal adjustment requested in an agreement between the IMF and a country's authorities (henceforth the requested/required fiscal adjustment). This is defined as the difference between the requested target for the government budget balance (as a proportion of GDP) and its pre-program value. The requested fiscal adjustment is a crucial indicator of fiscal austerity in an IMF program. The vast majority of IMF programs include a target for the government budget balance. The implementation of fiscal discipline can be politically costly and often leads to social unrest.[2] One of the most common criticisms of IMF programs is indeed the pre-

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1 See, for example, Stone (2008), Caraway et al. (2012), Woo (2013) and Dreher et al. (2015).

2 Passarelli and Tabellini (2017) analyze 19 OECD countries from 1975 to 2008 and show that a fiscal adjustment of 1% of GDP is associated with an increase in the number of riots by 20%. Based on episodes of fiscal retrenchments in Europe during the period of 1919 to 2008, Ponticelli and Voth (2011) provide strong evidence of a causal relationship between spending cuts and the occurrence of social unrest.

scription of fiscal consolidation, which could aggravate economic downturns.[3]

The overall stringency of IMF conditionality is given by how many things a borrowing government has to do and how difficult they are. The previous literature has mostly focused in the extensive margin. This paper looks at the intensive margin. We see those measures as complements.

The first take-home point of the paper is that our measure of stringency of conditionality and the number of conditions are entirely different indicators. The correlation between the number of fiscal conditions and the requested fiscal adjustment is close to zero in our sample. In other words, the variable we are considering is orthogonal to the measure usually employed in the literature. We then proceed to understand the drivers of this particularly important condition attached to IMF lending.

Our empirical strategy is based on a simple specification of the IMF objective. We posit that the IMF would like to: (i) minimize the distance between its requested fiscal balance and an ideal one, that depends on economic fundamentals, (ii) minimize the distance between its requested fiscal balance and the current one, because fiscal adjustment is costly, and (iii) require a larger fiscal balance from recipient countries that are less politically aligned with IMF shareholders. The first order condition yields a specification that allows us to estimate the importance of each of the three objectives.

Our baseline econometric models include country and year fixed effects, so identification comes from within-country variations in economic and political factors. This is important because the cross-country variation of default risk is strongly affected by persistent country-specific characteristics. While a 5% fiscal deficit might be too large for a country but quite manageable for another, an increase in the fiscal deficit by a couple of percentage points for a given country in a few years is more likely to correspond to a more substantial need for fiscal adjustment. We also control for standard time-varying country-specific characteristics that correlate with the likelihood of program participation and the stance of fiscal policy.

We build a data set comprising information from 143 programs and 52 countries in the period between 1999 and 2012 to investigate the influence of economic and political factors over our measure of requested fiscal

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3 The jury is still out on the short-term effects of fiscal adjustment. Based on a narrative approach, Guajardo et al. (2014) find that discretionary fiscal consolidations have contractionary effects on GDP. In contrast, Alesina et al. (2015) construct multi-year exogenous fiscal plans and provide evidence that spending-based adjustments have little or no adverse effects, and Diniz (2018) finds short-lived contractionary effects for tax increases only. Moreover, the fiscal multiplier seems to greatly depend on country characteristics (Ilzetzki et al. 2013 find negative multipliers when debt levels are high) and on expectations about future policy adjustment (Corsetti et al. 2012 find that expected spending reversals alter the short-run effects of fiscal policy).

adjustment. Following the literature, we use voting patterns in the United Nations General Assembly (UNGA) to measure political alignment between countries.[4] In our baseline models, we consider the proportion of occasions in which a country votes in the same way as G5 members or the United States, either overall or on important issues only—which the US State Department classifies as "votes on issues which directly affected United States interests and on which the United States lobbied extensively." We also test whether the requested fiscal adjustment responds differentially to executive elections in countries more or less aligned with the G5 or the US on UNGA votes.[5]

We find that the requested fiscal adjustment is strongly affected by the level of a country's fiscal balance. In our baseline regressions, an increase in the deficit by one percentage point increases the requested fiscal adjustment by about half a percentage point. However, the estimates of the effects of politics do not paint a clear picture. Different proxies for political alignment yield opposite (and sometimes significant) results. In addition, we do not find evidence supporting an electioneering effect.

We then divide the sample into two subsamples, separating programs designed for low-income countries from those aimed at upper- and middle-income countries. We find that the estimates in our baseline regressions mask substantial heterogeneity between types of countries. For low-income countries, an increase in the fiscal deficit by one percentage point increases the requested fiscal adjustment by a similar amount. Using our specification of the IMF objective, this implies that deviations between the required and the ideal fiscal balances are much more costly to the IMF than the costs of adjustment. More importantly, in most specifications, we cannot reject the null hypothesis of the irrelevance of political proximity, and the few exceptions actually have the opposite sign—political proximity to the US would be associated with an increase in the requested fiscal adjustment.

However, for the subsample of upper- and middle-income countries, the results are strikingly different. The country's fiscal deficit is still an essential driver of the requested fiscal adjustment. However, differently from before, the coefficient of the political alignment variable is negative in all specifications and statistically significant in most cases. Political proximity to the US is indeed related to a smaller requested fiscal adjustment, in line with the findings in the previous literature.

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4 Voting behaviour in UNGA has been found to matter for a variety of issues, including the allocation of foreign aid (Alesina and Dollar 2000) and its interference in patterns on international trade (Umana Dajud 2013).

5 In a similar setting, Kersting and Kilby (2016) applies a difference-in-difference approach to explore whether World Bank lending responds differently to executive elections conditional on the level of political alignment between countries. They find evidence of an electioneering mechanism: World Bank lending accelerates for US allies when domestic elections approach.

In order to compare our findings to existing results, we also test how economic and political factors affect the number of conditions in an IMF agreement. The results are broadly consistent with previous research. As found in the literature, political alignment with the US or with G5 members seems to imply fewer fiscal conditions. However, we actually find the opposite result when our political variable is voting with the US on important issues. Moreover, we do not find evidence of an electioneering effect.

Our results imply that economic factors are essential determinants of the stringency of the fiscal balance requested by the IMF. Moreover, for upper- and middle-income countries, political alignment between the recipient country and the US is associated with a smaller fiscal adjustment. Because our measure of stringency is orthogonal to those usually employed in the literature, our findings reinforce the importance of geopolitical interests as drivers of the Fund's decisions.

The remainder of the introduction discusses the related literature. Section 2 then briefly describes the process of IMF lending, highlighting the main components of a program. Section 3 explains the empirical strategy, and section 4 provides details on the data. Section 5 presents the results, while section 6 concludes.

1.1. Related literature

A branch of the empirical literature about the IMF focuses on the determinants of program participation and the design of conditionality.[6] Much of this work studies whether foreign policy interests of the Fund's major members affect its lending decisions. The widely used indicator for the degree of political alignment between countries consists of UNGA voting records, ranging from zero to one, with one indicating perfect affinity.

Thacker (1999) provides one of the first empirical analysis investigating the political influence of the United States over IMF lending decisions. Considering similarity on key votes, the results strongly support the argument that moving towards the US political preferences raises the probability of a country obtaining a loan. Andersen et al. (2006) study the allocation of loans by the IMF as a mechanism design problem and obtain that loan allocation probabilities are increasing in the size of political concessions.[7] Their empirical analysis corroborates this theoretical prediction. The results in Barro and Lee

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6 Dreher (2009) presents a survey of the theoretical literature on the reasons for IMF conditionality. In Marchesi and Thomas (1999), IMF conditionalities act as a screening device. In Fafchamps (1996), Gonçalves and Guimaraes (2015) and Guimaraes and Iazdi (2015), conditionality helps to deal with time inconsistency problems.

7 They measure political concessions by the difference between the overall voting record of a country and the votes on issues considered important by the US Department of State.

(2005) and Presbitero and Zazzaro (2012) also suggest that political proximity affects Fund's decisions. Both papers find that countries voting more frequently with the US in UNGA have a higher probability of getting a package approved, with larger loans. In a recent study, Lang and Presbitero (2018) also show that "US Friend" countries are more likely to receive improved ratings in the context of World Bank–IMF Debt Sustainability Framework.[8]

Many empirical papers find that IMF loans and conditionality are responsive to the economic interests of the Fund's major shareholders and the domestic political environment of recipient countries. Previous research finds evidence that private financial institutions pressure the IMF for more "bank-friendly" conditions when their financial interests are at stake (Gould 2003) and that IMF loans are larger for countries highly indebted to American commercial banks (Oatley and Yackee 2004) and for countries with strong trade connections with the US (Barro and Lee 2005). Regarding the role of domestic politics, Caraway et al. (2012) develop a measure for the stringency of labour market conditionality and find that countries with stronger domestic labour power receive softer conditions.[9] The results in Beazer and Woo (2016) indicate that a higher number of structural conditions jeopardizes reform implementation by reducing government's policy space for building pro-reform coalitions.

Closer to our paper is the work of Dreher and Jensen (2007). Their empirical analysis evaluates the extent to which the number of conditions in an IMF agreement depends on domestic economic factors such as real GDP growth and government budget deficit, or on political proximity to the US (and G7 countries). They find that countries closely allied with the US sign deals with a significantly smaller number of conditions. Their results also suggest that countries voting more frequently with the US receive fewer conditions before elections. Similarly, Dreher et al. (2009) estimate the effects of temporary participation on the United Nations Security Council (UNSC) and find that non-permanent members receive a significant reduction in the number of conditions. Building on Dreher and Jensen (2007), Woo (2013) finds that closer political proximity to the US leads to fewer financial-sector conditions, though the effect on the number of fiscal conditions is not statistically significant. In a related contribution, Stone (2008) empirically investigates the influence of US interests and the role of domestic political opposition over the design of IMF conditionality. The measure of intrusiveness corresponds to the number of categories of conditions subject to test in a given program review. He finds that countries that are more likely to be offered a program accept it with fewer conditions attached.

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8 Empirical research on World Bank lending also finds that countries more politically allied to the US receive better access to loans. See, for instance, Kilby (2009) and Kersting and Kilby (2016).

9 The stringency of conditionality in Caraway et al. (2012) consists of a weighted sum of the number of conditions, with higher weights given to prior action and performance criteria conditions.

2. IMF lending

An IMF program consists of a package that includes three main components: financing, conditionality and technical assistance. The Fund offers several lending instruments which are, according to official statements, designed and made available according to country-specific characteristics and sources of economic instability. Concessional facilities are designed to assist low-income countries, while advanced and emerging economies have access to non-concessional loans.[10] The nature of the IMF's financial assistance has changed significantly over time, from the traditional support to countries facing short-term trade fluctuations to supporting macroeconomic adjustment and addressing a wide range of balance of payments problems resulting from terms of trade shocks, broad economic transition, sovereign debt restructuring and banking crises.

The second component of an IMF program is a set of macroeconomic and structural policies that a participating country agrees to uphold, known as conditionality. These can take different forms. Prior actions are conditions that must be met before the executive board approves a program. Performance criteria include quantitative targets for macroeconomic variables which must be met by a corresponding program review, or officially be waived by the executive board if compliance is not achieved. There are also structural benchmark conditions, usually non-quantifiable, which require more specific structural reforms such as privatizations and tax reform. As an example, the appendix shows the letter of intent of a stand-by arrangement approved for Greece in 2014.

Technical assistance and training are also provided by the IMF, usually in core areas of expertise such as central banking, tax policy and official statistics. The view is that the provision of expertise helps the design and implementation of economic policies and the reestablishment of government institutions after episodes of social unrest.

The terms of a loan are negotiated between a country's authorities and the IMF's staff. This process culminates in a letter of intent and a memorandum of economic and financial policies, where the targets and goals of a program are described. These documents are then submitted to the executive board, which decides whether the program is approved (with possible modifications in the initial letter of intent). Once approved, the resources are released usually in phased instalments, and the Fund starts to monitor program implementation. The executive board can also decide on post-programming monitoring for a country at any time during or after a program expires.

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10 Concessional lending carries zero interest rates, while non-concessional loans are subject to the IMF's market-based interest rates. A detailed description of all credit lines offered by the IMF can be found at `www.imf.org/external/np/exr/facts/howlend.htm`.

Countries under post-program monitoring undertake more frequent consulta-
tions than countries under normal surveillance. Once strong policies are in
place and the country's external position is safe, the executive board agrees to
discontinue post-program monitoring.

3. Empirical strategy

The fiscal balance requested by the IMF might be driven by different objec-
tives: (i) getting closer to an economically ideal fiscal balance, (ii) minimizing
the costs of fiscal adjustment and (iii) benefitting or harming countries for
political reasons. We start from a simple specification of the IMF objective
function with weights on each of these three factors:

$$V = -a\left(s_{i,t}^* - \hat{s}_{i,t}\right)^2 - b\left(\hat{s}_{i,t} - s_{i,t-1}\right)^2 + c(1 - p_{i,t})\left(\hat{s}_{i,t} - s_{i,t-1}\right), \qquad (1)$$

where $s_{i,t}^*$ is the ideal fiscal surplus of recipient country i at time t, $\hat{s}_{i,t}$
denotes the fiscal surplus requested by the IMF, $s_{i,t-1}$ is the fiscal surplus
before the agreement, $p_{i,t} \in [0,1]$ is a measure of political proximity and a, b,
c are positive weights on each of the IMF's objectives.

The first term in equation (1) captures the loss owing to the difference
between the requested and the ideal surplus. An excessively low requested sur-
plus is costly for implying a larger probability of recidivism and loss of reputa-
tion, while a very high requested surplus reduces the chances of an agreement
and might hurt the country's economy. For simplicity, we assume a simple
quadratic specification implying that both types of errors are equally costly.[11]

The second term allows for costs of fiscal adjustment because it consid-
ers that larger deviations from the current state are costly. Substantial
changes in taxes and government spending are usually politically difficult
and may lead to short term disturbances in the economy. In practice, defi-
cit reductions are probably costlier than deficit increases (or cuts in the fis-
cal surplus). However, our data are not rich enough to allow us to
estimate these differences, so we stick with the simple quadratic specifica-
tion that yields a linear equation.

The third term allows the IMF to request a larger fiscal surplus for
countries that are politically distant from its main shareholders. The linear
specification implies that a marginal increase ds in the requested fiscal
adjustment $\hat{s}_{i,t} - s_{i,t-1}$ yields a marginal benefit to the IMF equal to
$c(1-p_{i,t})\,ds$. The marginal benefit is thus proportional to political distance
$(1-p_{i,t})$ and to the weight c. This captures the IMF political motivation in
a simple way.

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11 One might conjecture that an excessively low fiscal balance is more costly for
the IMF than an excessively high surplus. However, $s_{i,t}^*$ is not observed. Our
empirical strategy can deal with this issue, but allowing for asymmetries here
would require further assumptions.

This specification portrays the three drivers of the requested fiscal balance needed in the model: economic fundamentals, adjustment costs and political motivations. Taking the first order condition and rearranging yields a simple linear expression:

$$\hat{s}_{i,t} - s_{i,t-1} = \frac{c}{2(a+b)} + \left(\frac{a}{a+b}\right) s_{i,t}^* - \left(\frac{a}{a+b}\right) s_{i,t-1} - \left(\frac{c}{2(a+b)}\right) p_{i,t}.$$

In the absence of adjustment costs and political motivations (i.e., $b = c = 0$), the IMF would request a surplus equal to $s_{i,t}^*$, and the coefficient on the current surplus $s_{i,t-1}$ should be one. Larger values of b bring this coefficient towards zero. In contrast, in the absence of an economic motivation (i.e., $a = 0$), the coefficients on $s_{i,t}^*$ and $s_{i,t-1}$ should be zero and only the political variable could matter.

The key issue is that $s_{i,t}^*$ is not observable. We assume that the ideal fiscal surplus is given by

$$s_{i,t}^* = \alpha_i + \nu_t + \gamma X_t + \varepsilon_{i,t}, \tag{2}$$

where α_i is country i's fixed effect, ν_t is time t's fixed effect, X_t are economic variables and $\epsilon_{i,t}$ is an error term. Changes in the world economic outlook that might lead the IMF to be more or less fiscally conservative would be captured by ν_t, while slow-moving institutional characteristics of a country would be captured by the term α_i.

Rearranging (and dropping constants multiplying or adding to fixed effects or coefficients), we get that

$$\hat{s}_{i,t} - s_{i,t-1} = -\left(\frac{a}{a+b}\right) s_{i,t-1} - \beta p_{i,t} + \gamma X_t + \alpha_i + \nu_t + \varepsilon_{i,t}. \tag{3}$$

The key identifying assumption is that $\epsilon_{i,t}$ is uncorrelated with $p_{i,t}$ and $s_{i,t-1}$. In words, the ideal fiscal balance is well described by equation (2) and shocks to this variable are unrelated to our regressors. One could imagine that $s_{i,t-1}$ would be positively related with $\epsilon_{i,t}$: a larger observed surplus in the previous period could be reflecting, at least in part, a larger ideal fiscal surplus (not captured by α_i, ν_t and X_t). Importantly, that would likely bias our estimate towards zero. If large values of $s_{i,t-1}$ would often coincide with large and positive values of $\epsilon_{i,t}$, large values of $s_{i,t-1}$ would not necessarily lead to smaller fiscal adjustments $\hat{s}_{i,t} - s_{i,t-1}$. Hence our estimator would be smaller than $-(a/(a+b))$ in absolute value. Intuitively, if changes in $s_{i,t}^*$ are captured in part by $s_{i,t-1}$, the country has already moved in the required direction and the IMF will require smaller adjustments, so $\hat{s}_{i,t} - s_{i,t-1}$ will be smaller.

3.1. The determinants of the requested fiscal adjustment

Define the requested fiscal adjustment for country i with a program approved in year t as

$$RFA_{i,t} = \hat{s}_{it} - s_{it-1}. \tag{4}$$

The relationship between requested fiscal adjustment, government consumption, tax revenue and political proximity follows from equation (3):

$$RFA_{i,t,h} = \delta_0 G_{i,t-1} + \delta_1 T_{i,t-1} + \beta PA_{i,t-1} + \gamma X_{i,t-1} + \alpha_i + \nu_t + \varepsilon_{i,t}, \qquad (5)$$

where $G_{i,t-1}$ is government consumption as a share of GDP, $T_{i,t-1}$ is tax revenue also as a share of GDP and $PA_{i,t-1}$ indicates how frequently a country votes in the same way as G5 members or the US in UNGA. For the political alignment with the US, we consider either overall or important votes only.[12] The vector $X_{i,t-1}$ consists of standard time-varying country-specific economic and demographic control variables such as annual GDP growth, public debt–GDP ratio, trade openness and the share of the population between 15 and 64 years old. The term α_i is a vector of country fixed effects capturing any time-invariant unobserved heterogeneity and ν_t is a vector of year fixed effects absorbing global shocks that similarly affect different countries in a given year.

The only meaningful difference between (3) and (5) is that in the estimation, we consider $G_{i,t-1}$ and $T_{i,t-1}$ separately instead of considering the difference between them, s_{it-1}. The model implies $\delta_0 = a/(a + b)$ and $\delta_1 = -a/(a + b)$. This thus yields a sanity test of the model. Note also that the estimates of δ_0 and δ_1 provide information about the relative weights on requesting a suboptimal target and on the costs of fiscal adjustment.

A fixed-effect regression is particularly suitable for our empirical strategy because countries with similar levels of public debt and deficit may have very different propensities to default. Woo (2003) provides evidence that institutional and political variables largely account for cross-country differences in the size of public deficits. The empirical results in Fatás and Mihov (2003) relate the discretionary use of fiscal policy to the political and institutional environment. Norambuena (2015) shows that default risk variation across countries can be mainly attributed to persistent country-specific characteristics. Fixed effects capture each country's "natural" propensity to default on its debt and to adopt a particular type of fiscal policy.

Arguably, some countries can sustain higher levels of debt and are less prone to default on their obligations owing to unobserved characteristics. Assuming these countries find it easier to smooth the burden of taxation over time, we could expect a softer requirement of fiscal adjustment for

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12 In 2000, for example, important resolutions included Resolution A/Res/ES-10/ 7 on Israeli actions in occupied territory and resolution A/Res/55/20 on the US embargo of Cuba. The US State Department excludes abstentions and absences to calculate voting coincidence.

these countries. However, in this case, a regression without fixed effects could yield a spurious negative impact of public debt over the size of fiscal adjustment.[13]

After estimating the relation in equation (5), we turn to investigate the hypothesis that G5 members use their influence over the IMF to request a differentially lower fiscal adjustment in election years to more politically aligned countries. We thus estimate

$$
\begin{aligned}
RFA_{i,t,h} = {} & \delta_0\, G_{i,t-1} + \delta_1\, T_{i,t-1} + \beta PA_{i,t-1} + \theta_0 Elec_{i,t} \\
& + \theta_1 Elec_{i,t} \times PA_{i,t-1} + \gamma X_{i,t-1} + \alpha_i + \nu_t + \varepsilon_{i,t},
\end{aligned}
\tag{6}
$$

where $Elec_{i,t}$ is a dummy variable that assumes the value of 1 if country i held an executive election in a window of six months before and 12 months after it had a program approved. There are 41 elections in 29 countries in our sample according to this definition. We interpret θ_1 as estimating the difference-in-differences between election year effects conditional on the level of political alignment. Importantly, under the assumption that the timing of elections is exogenously defined, this interaction term can be interpreted causally. We believe this is a reasonable assumption in our context: it seems very unlikely that incumbents deliberately reschedule elections because of an upcoming IMF program.[14]

3.2. The determinants of the number of conditions

We repeat our analysis using the number of conditions instead of the requested fiscal adjustment as the dependent variable. This specification is similar to others from the literature and helps us to compare our estimates of the determinants of the requested fiscal adjustment and previous results found in the literature.

The estimation employs a Poisson specification for the conditional mean. For brevity of exposition, we show only the version of equation equation (5) as follows:

$$
\begin{aligned}
\mathbb{E}[Number_{i,t}|\alpha_i, W_i] = {} & \exp(\delta_0\, G_{i,t-1} + \delta_1\, T_{i,t-1} + \beta PA_{i,t-1} \\
& + \gamma X_{i,t-1} + \alpha_i + \nu_t),
\end{aligned}
\tag{7}
$$

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13 Corroborating this argument, Reinhart and Rogoff (2010) show that thresholds for external debt sustainability are significantly lower for emerging market economies than for industrialized countries.

14 In similar settings, Lang and Presbitero (2018) and Kersting and Kilby (2016) do not find evidence for endogenous election timing with regard to the World Bank–IMF Debt Sustainability Framework and World Bank lending, respectively.

where $\mathbb{E}$ is the expectations operator and W_i is the vector of all explanatory variables on the right-hand side of the equation.[15] The dependent variable $Number_{i,t}$ counts either the total number of conditions or the number of fiscal conditions for country i with a program approved in year t.

4. Data and descriptive evidence

Our main data set is extracted from the IMF's Monitoring of Fund Arrangements (MONA) database, which contains all the relevant information on programs such as the approval date, duration and the economic targets. Our sample consists of 143 programs approved between 1999 and 2012 for 52 countries with at least two programs and with fiscal conditionality attached.[16] The analysis focuses on the initial program design, mainly because this is when its broad outlines are defined.[17]

Our measure of the required fiscal effort is the difference between the requested fiscal balance and the observed one immediately before the agreement, as defined in equation (4). We take from MONA the envisaged overall government balance for each year of the program.

We define two versions of the requested fiscal adjustment $RFA_{i,t}$: one that uses the proposed fiscal balance for one year after program approval and another that considers instead each program's final year requested fiscal balance. While programs can last from one to four years, the bulk of them are signed for three years.[18] Moreover, the average country participates with three programs in the sample period. There are four programs in our sample with a mismatch between its duration and the available information on the envisaged

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15 To estimate the model, the statistical software Stata transforms equation (7) to remove the individual fixed effects. Thus, we obtain a multinomial distribution for $Number_{i,t}$ as follows:

$$\mathbb{E}[Number_{i,t}|\alpha_i, W_i, \overline{Num_i}] = \frac{\mathbb{E}[Number_{i,t}|\alpha_i, W_i]}{\sum_{r=1}^{T} \exp(\delta_0 G_{i,r-1} + \delta_1 T_{i,r-1} + \beta PA_{i,r-1} + \gamma X_{i,r-1} + \alpha_i + \nu_r)} \overline{Num_i},$$

where $\overline{Num_i} = \sum_{r=1}^{T} Number_{i,t}$ is the number of conditions in a program for country i over the entire sample. Estimation is via conditional quasi-maximum likelihood.

16 Because we use country fixed effects in our baseline estimation, countries with only one program provide no useful information.

17 As noted by (Copelovitch 2010), there is evidence that the IMF rarely alters the number of "hard" conditions.

18 An exception is the eight-year program Tanzania obtained in 2003.

fiscal balance.[19] For these programs, we use the last available data on the targeted fiscal balance to construct the second version of the requested fiscal adjustment. For one-year programs, the two versions of the requested fiscal adjustment coincide by definition.

Out of those 143 programs, MONA does not provide information on the envisaged fiscal balance in any year following approval for five programs: Honduras (1999), Argentina (2000), Pakistan (2000), Lithuania (2000) and Brazil (2001). We thus exclude such observations when running the regressions in equations (5) and (6) and their counterparts in the robustness exercises. We also adjusted the data set for the following programs: Nigeria (2005), Central African Republic (2006) and Burkina Faso (2007). According to MONA, the first two countries entered into IMF programs with very high levels of fiscal surpluses and were still required to improve them. The data from the IMF's World Economic Outlook (WEO) database tell us that the Central African Republic actually ran a fiscal deficit in 2005 (of 4.6 % of its GDP), while Nigeria had a high fiscal surplus indeed in 2004 (but not as high as in MONA). In the case of Burkina Faso, we identified an inconsistent value (by historical standards) for the fiscal balance of 2006, a surplus of around 16% of GDP. This unusually high balance results from an extraordinarily fiscal revenue for that year, around 40% of GDP. The IMF's WEO database provides roughly the same values for these two variables. However, the country's letter of intent confirms our suspicion and leads us to adjust for this program/country.[20] We use the 2006 fiscal balance of −5.88% of GDP (from the World Bank), with the tax revenue adjusting (by residual) to 18.72% of GDP.[21]

As a first piece of evidence on the determinants of the requested fiscal adjustment, we analyze the bivariate relationship between pre-program fiscal balance and the requested fiscal adjustment. That is plotted in figure 1. The straight line is what the requested adjustment would be if the IMF always aimed at a zero fiscal balance.

Figure 1 suggests a negative correlation between current fiscal balance and the requested fiscal adjustment as implied by equation (3). The requested

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19 They are Mauritania (1999), Malawi (2000), Pakistan (2001) and Burundi (2012).

20 According to the letter of intent of April 2007, "fiscal revenues in 2006 were considerably less than projected, mainly because of lower domestic consumption and income taxes in part related to the crisis in the cotton sector. Though total expenditures were also reduced in nominal terms, the overall deficit excluding grants reflected the revenue shortfall and increased to 11% of GDP (on an engagement basis). However, with higher than expected capital expenditures funded by additional project grant disbursements, the overall balance including grants was in line with projections at 5.2% of GDP."

21 The World Bank data on fiscal balance use another official IMF's data set, the Government Finance Statistics Yearbook (GFSY).
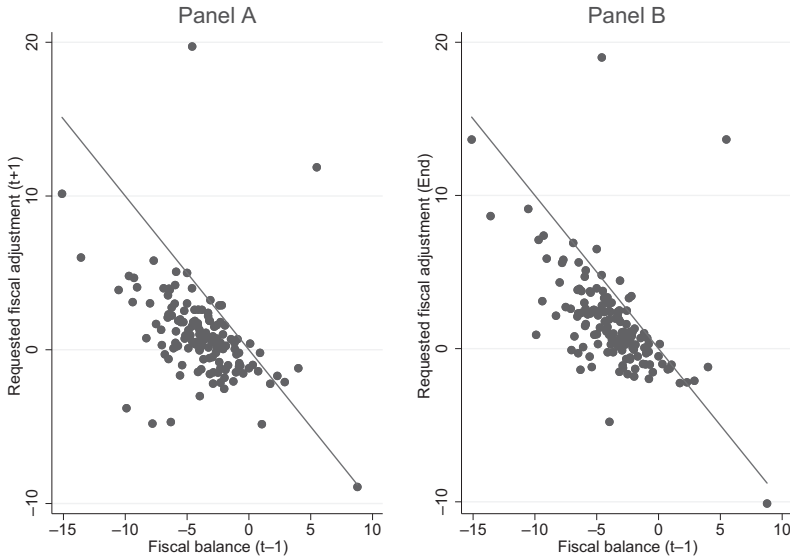
FIGURE 1   Correlation between the requested fiscal adjustment and initial deficits

adjustment is usually below the negative 45-degree line, implying that requested adjustments aim at reducing but not eliminating fiscal deficits—perhaps reflecting a substantial cost of fiscal adjustment b. This simple relationship will be confirmed by more rigorous empirical analysis.

Additional interesting features emerge from figure 1. While there is an initial deterioration in the existing fiscal deficits for some countries, in many of those cases there is a request for fiscal improvement throughout their programs—or at least an improvement compared to their first year targeted fiscal balances. In figure 1, points in the third quadrant move (vertically) towards the 45-degree line as we go from panel A to panel B.[22] Some countries enter into IMF arrangements with fiscal surpluses, but the number of such cases is small in our sample (11) and the size of the surpluses is arguably moderate for most of them (eight), not exceeding 3% of GDP. The requested fiscal adjustment for these countries is negative, but we cannot tell whether their realized fiscal balances would be even more negative in the absence of an IMF agreement.

Turning to the number of conditions, MONA classifies them according to their type (prior actions, quantitative performance and structural

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22   Indeed, an official report in Selowsky and Mansoor (2003) that analyzes fiscal adjustment in 133 IMF programs in the 1993–2001 period states that "contrary to the general perception that IMF-supported programs invariably enforce austerity, it finds many instances where fiscal deficits were actually projected to widen and expenditures to increase as a percentage of GDP."
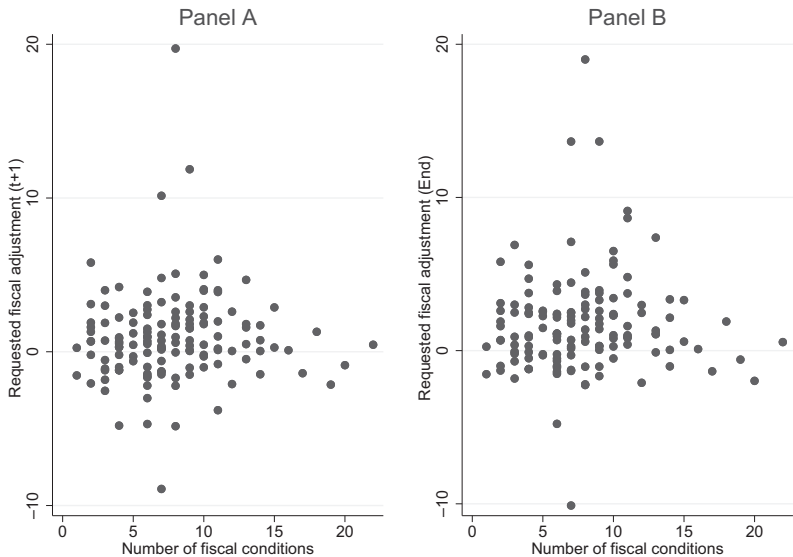
FIGURE 2   Correlation between the number of fiscal conditions and the requested fiscal adjustment

benchmarks) and targeted sectors (such as fiscal and monetary). While the total number of conditions is the most frequent indicator of overall program austerity in the literature, our work also looks at the number of fiscal conditions. We do so for two reasons. First, there is evidence that fiscal conditions are deeper in scope and harder to implement.[23] Second, it allows for a more direct comparison with our measure of requested fiscal adjustment.

Defining what counts as a fiscal condition is mostly straightforward. For each condition, there is a criterion code and an economic descriptor that indicate whether it is a fiscal condition or not. In general terms, the fiscal conditions extracted from MONA are distributed in categories related to revenue or expenditure measures, debt management, public enterprise reform, pricing policy and social security and pensions.

Figure 2 shows the first result of this paper: there is no significant correlation between the two measures of conditionality. A given number of fiscal conditions can correspond to either high, moderate, or soft requirements for fiscal adjustment. The absence of a strong correlation remains when we eliminate the noisy effects of time. When we regress each measure of fiscal conditionality against year dummy variables and focus on the residuals, we actually observe a small negative correlation between them.[24]

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23 For instance, the IMF's report in Lamdany and Hamann (2008) finds that structural conditions related to tax policy and public expenditure measures are the most stringent.

24 Available upon request.

TABLE 1

Fiscal conditionality in IMF programs

Years of program	No. of programs	RFA(T+1)		RFA(end year)		Fiscal conditions	
		Mean	SD	Mean	SD	Mean	SD
1	24	0.95	1.80	0.95	1.80	6.00	4.18
2	25	1.14	2.84	1.84	2.80	7.24	3.87
3	86	0.82	3.35	1.80	3.69	8.42	3.92
4+	3	2.11	2.27	3.92	3.02	7.33	5.51
All programs	138	0.93	3.00	1.71	3.27	7.76	4.05

NOTES: RFA(T+1) and RFA(end year) are the requested fiscal adjustment, defined as the difference between the requested target for the government budget balance (for one year after program approval and the final year of the program, respectively) and the pre-program values. SD refers to standard deviation.

Conditions are very different in scope. Some of them do not require any economic or political effort by a participating country, while others involve domestic political battles and produce significant institutional and economic changes once implemented (Lamdany and Hamann 2008). In a 2002 program, Peru's authorities agreed on the privatization of its electricity generation company, a measure that involves difficult domestic negotiations. On the other hand, when Lesotho obtained an assistance package in 2001, it agreed to release its monthly budget execution report, a particularly simple condition to fulfill. These examples indicate the potential problems of considering all conditions alike and shed some light on the absence of a significant correlation between the two measures of conditionality.

On average, IMF programs request a fiscal adjustment of either 0.93% of GDP (t + 1) or 1.71% of GDP (end year). Fiscal conditions are pervasive, with almost eight conditions per program on average, which represents 39% of all conditions included in a package. A "ceiling on the overall stock of central government debt" is an example of a fiscal quantitative conditionality and the preparation of a "privatization plan for the divestment of state assets and enterprises with the aim to raise at least 1 billion euro a year during the period 2011–2013" is a fiscal structural condition.[25] We report some descriptive statistics of IMF programs in table 1, which in turn suggest significant variability in both measures of fiscal conditionality.

To measure political alignment between recipient countries and the G5 or the US, we use data on voting behaviour in UNGA (Strezhnev and Voeten 2013). Voting compliance with the US on important votes are from the archives on the US State Department website. In our baseline regressions, we set political proximity to reflect the degree to which participating countries voting records match that of G5 members or of the United States. These

25 These examples were taken from the letter of intent for Greece (December 8, 2010).

TABLE 2

Data, means and variances

Variable	Mean	Standard deviation	Observations
DATA SET 1: IN SAMPLE PROGRAMS			
Votes G5	48.4	16.4	138
Votes US	18.0	10.6	138
Key Votes US	42.9	25.1	137
Election	0.29	0.45	138
Government Consumption (% GDP)	28.3	9.3	131
Tax Revenue (% GDP)	24.6	8.7	135
Public Debt (% GDP)	66.9	52.4	131
Current Account Balance (% GDP)	−6.4	6.6	138
GDP Annual Growth (%)	3.7	4.9	138
Monetary Annual Expansion (%)	19.2	45.4	138
Trade Openness (% GDP)	70.0	27.8	136
Population 15–64 (% total)	60.6	4.8	138
Population 65 and Above (% total)	6.1	4.4	138
DATA SET 2: OUT OF SAMPLE PROGRAMS			
Votes G5	43.3	16.9	80
Votes US	17.1	10.8	80
Key Votes US	33.8	23.3	81
Government Consumption (% GDP)	30.0	14.9	70
Tax Revenue (% GDP)	26.8	13.1	71
Public Debt (% GDP)	79.0	63.5	63
Current Account Balance (% GDP)	−5.4	9.5	79
GDP Annual Growth (%)	4.2	8.2	79
Monetary Annual expansion (%)	17.8	29.0	80
Trade Openness (% GDP)	88.0	41.8	73
Population 15–64 (% total)	57.8	9.1	80
Population 65 and Above (% total)	5.4	3.6	80

measures range from zero to one, with one indicating perfect alignment. Additional economic and demographic control variables are drawn from the WEO database, the World Bank and UNCTAD. A complete description of our data is available in the appendix.

Table 2 details the means and variances of the data used in some of our regressions for programs with fiscal conditionality. We also include statistics for out of sample programs, that is, without fiscal conditionality.[26]

5. Results

5.1. The determinants of number of conditions

We start showing how economic and political factors affect the number of conditions. The results are in table 3. Each panel considers a different measure of

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26 The list of all IMF programs is from Axel Dreher's website: `www.uni-heidelberg.de/fakultaeten/wiso/awi/professuren/intwipol/datasets.html`. The arrangements in this list that are not in our sample define the out of sample programs.

political alignment: Votes G5 (panel A), Votes US (panel B) and Key Votes US (panel C). Country and year fixed effects are included in all cases as well as the controls described in $X_{i,t-1}$.

We find a negative correlation between the number of conditions and political alignment of a country with the G5 or with the US on all votes. The effect is large, especially for fiscal conditions. When political alignment with G5 countries or with the US is one standard deviation above the country mean, the number of fiscal conditions is, on average, 23% smaller than the country mean. The decrease in the total number of conditions is around 8% on average.[27]

When we turn to political alignment with the US on important issues only, we find evidence against the prediction of the political-influence hypothesis: higher voting compliance with the US on key issues is associated with more instead of fewer conditions. The effect is stronger when we consider all conditions in a program.

Our findings regarding the economic determinants of the number of conditions are similar to those reported in Dreher and Jensen (2007)—the partial effects of government consumption and tax revenue are in almost all cases indistinguishable from zero. Overall, the effects on the number of conditions are broadly consistent to those obtained by Dreher and Jensen (2007), Dreher (2009) and Woo (2013).

5.2. The determinants of requested fiscal adjustments

Table 4 presents the main results of the paper. Columns (1), (2), (5) and (6) of each panel report estimates of (5), in which each political proximity variable enters (unconditionally) as a determinant of the requested fiscal adjustment. Columns (3), (4), (7) and (8) of table 4 report the results regarding the estimation of equation (6), which includes the election dummy and its interaction with each political proximity variable. All specifications include country fixed effects, year fixed effects and the controls described in $X_{i,t-1}$.

The coefficients of government consumption and tax revenue ratios indicate that the size of the requested fiscal adjustment sharply increases in the deterioration of the fiscal balance. When the fiscal deficit is one percentage point higher than the country average, the requested fiscal adjustment is

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27 As a concrete example, consider the case of Chad, whose program in 2005 included 11 fiscal conditions. In that year, Chad voted identically to G5 countries in only 8.6% of the occasions. According to our results, an increase in voting compliance to match the sample average (48.4%) would reduce the number of fiscal conditions to around 6, all else constant. This result is similar to the obtained by Dreher and Jensen (2007). They also find a particularly large reduction in the number of fiscal conditions.

TABLE 3
Number of conditions regressions

Dependent variable	No. fiscal conditions				No. total conditions			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: VOTES G5								
Votes G5		−0.02***		−0.01**		−0.007*		−0.006
		(0.006)		(0.006)		(0.004)		(0.004)
Election			0.23*	−0.32			0.11	0.07
			(0.12)	(0.30)			(0.09)	(0.27)
Votes G5 × Election				0.01*				0.00
				(0.006)				(0.005)
Gov. Consumption	−0.01	−0.02	−0.006	−0.02	−0.03	−0.04	−0.03	−0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Tax Revenue	−0.003	0.002	−0.01	0.001	0.01	0.01	0.006	0.008
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Observations	124	124	124	124	124	124	124	124
PANEL B: VOTES US								
Votes US		−0.02*		−0.02**		−0.006		−0.006
		(0.01)		(0.01)		(0.01)		(0.01)
Election			0.23*	−0.23			0.11	0.05
			(0.12)	(0.20)			(0.09)	(0.17)
Votes US × Election				0.02***				0.003
				(0.009)				(0.007)
Gov. Consumption	−0.01	−0.01	−0.006	−0.01	−0.03	−0.03	−0.03	−0.03
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Tax Revenue	−0.003	−0.003	−0.01	−0.001	0.01	0.009	0.006	0.006
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Observations	124	124	124	124	124	124	124	124
PANEL C: KEY VOTES US								
Key Votes US		0.006		0.004		0.008***		0.008***
		(0.004)		(0.004)		(0.003)		(0.003)

TABLE 3
(*Continued*)

Dependent variable	No. fiscal conditions				No. total conditions			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Election			0.23*	−0.01			0.11	0.19
			(0.12)	(0.23)			(0.09)	(0.22)
Key Votes US × Election				0.005				−0.001
				(0.005)				(0.003)
Gov. Consumption	−0.01	−0.01	−0.006	−0.01	−0.03	−0.04*	−0.03	−0.03*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Tax Revenue	−0.003	−0.003	−0.01	−0.007	0.01	0.01	0.006	0.007
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Observations	124	122	124	122	124	122	124	122

NOTES: The dependent variable is either the number of fiscal conditions or the number of total conditions included in a program approved in year t for country i. Estimations use a Poisson specification for the conditional mean. All regressions include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

TABLE 4
Fiscal adjustment regressions

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: VOTES G5								
Votes G5		0.12*		0.11		0.11		0.09
		(0.07)		(0.07)		(0.07)		(0.07)
Election			−1.37**	−1.58			−1.87***	−1.28
			(0.52)	(2.49)			(0.55)	(2.55)
Votes G5 × Election				0.009				−0.008
				(0.05)				(0.05)
Gov. Consumption	0.46*	0.55**	0.40	0.49*	0.54**	0.62**	0.45*	0.53*
	(0.24)	(0.24)	(0.24)	(0.26)	(0.27)	(0.28)	(0.26)	(0.28)
Tax Revenue	−0.45**	−0.50**	−0.38*	−0.43**	−0.57**	−0.61***	−0.48**	−0.53**
	(0.21)	(0.20)	(0.20)	(0.21)	(0.22)	(0.22)	(0.20)	(0.21)
Observations	125	125	125	125	125	125	125	125
R-squared	0.34	0.40	0.38	0.43	0.37	0.41	0.43	0.45
PANEL B: VOTES US								
Votes US		0.18		0.18		0.14		0.14
		(0.12)		(0.12)		(0.13)		(0.13)
Election			−1.37**	−0.83			−1.87***	−0.90
			(0.52)	(1.39)			(0.55)	(1.54)
Votes US × Election				−0.03				−0.05
				(0.07)				(0.07)
Gov. Consumption	0.46*	0.45*	0.40	0.40	0.54**	0.53**	0.45*	0.46*
	(0.24)	(0.23)	(0.24)	(0.24)	(0.27)	(0.26)	(0.26)	(0.26)
Tax Revenue	−0.45**	−0.44**	−0.38*	−0.38*	−0.57**	−0.56**	−0.48**	−0.50**
	(0.21)	(0.21)	(0.20)	(0.22)	(0.22)	(0.22)	(0.20)	(0.21)
Observations	125	125	125	125	125	125	125	125
R-squared	0.34	0.38	0.38	0.41	0.37	0.39	0.43	0.45

TABLE 4
(*Continued*)

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL C: KEY VOTES US								
Key Votes US		−0.09***		−0.09***		−0.07*		−0.06*
		(0.03)		(0.03)		(0.03)		(0.03)
Election			−1.37**	−2.06*			−1.87***	−2.24
			(0.52)	(1.18)			(0.55)	(1.38)
Key Votes US × Election				0.02				0.01
				(0.02)				(0.03)
Gov. Consumption	0.46*	0.49**	0.40	0.41*	0.54**	0.56**	0.45*	0.46*
	(0.24)	(0.22)	(0.24)	(0.24)	(0.27)	(0.25)	(0.26)	(0.26)
Tax Revenue	−0.45**	−0.42**	−0.38*	−0.35*	−0.57**	−0.55***	−0.48**	−0.46**
	(0.21)	(0.17)	(0.20)	(0.18)	(0.22)	(0.19)	(0.20)	(0.18)
Observations	125	124	125	124	125	124	125	124
R-squared	0.34	0.47	0.38	0.50	0.37	0.43	0.43	0.48

NOTES: The dependent variable is the requested fiscal adjustment (in percentage points) approved for country i in year t, defined as the difference between the requested target for the government budget balance and its pre-program value. RFA(T+1) uses the requested fiscal balance for one year after program approval and RFA(end year) uses the balance of the final year. All regressions are estimated with OLS and include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

about half a percentage point higher than the country mean, ceteris paribus. Restoring budget discipline seems to be an important determinant of the fiscal effort required by the IMF.

However, the results on the effect of political alignment are mixed. Differently from what the political-influence hypothesis would imply, we find a positive direct relationship between the size of requested fiscal adjustment and political alignment as measured by Votes G5 and Votes US. Although the estimates are not statically significant, 95% confidence intervals shown in figure 3 (for the complete models in columns (4) and (8)) suggest that the coefficients might be positive. Conversely, voting with the US on important issues is associated with lower fiscal adjustment.[28] The effect is statistically significant and large because a 1 standard deviation increase in voting compliance reduces the fiscal adjustment by around 0.61 standard deviation.[29]

Columns (3) and (7) of each panel show that the IMF demands smaller fiscal adjustment in election years, the effect being large (around 1.5% of GDP) and statistically significant.[30] The results reported in columns (4) and (8) consider the effect of interacting each political variable with the election dummy. They do not support the hypothesis that the G5 or the US, through their influence over the IMF Executive Board, demand differentially softer fiscal adjustment in election years for countries that vote more frequently with them in UNGA. The unconditional election effect loses statistical significance, but a joint F-test considering both the election dummy and the interaction term rejects the null effect in most cases, confirming that in election years, the requested fiscal adjustment tends to be smaller.

As a robustness exercise, we consider a different political variable, US Friend.[31] This is an indicator variable that takes the value 1 if a given country

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28 There is one less observation when we use Key Votes US because Niger abstained in all 13 instances classified by the US State Department as Key Votes in 2000.

29 Interestingly, the direction of the effect of each political variable on the number of conditions is often the opposite of the sign of the coefficient when we use the requested fiscal adjustment instead. Because both measures of fiscal austerity are roughly orthogonal, there is no reason why they should have the same sign, but one could expect that politics would affect the intensive and the extensive margin of conditionality in the same way.

30 As one possible explanation, the IMF might take into account domestic political instability in election years and the fiscal consolidation contribution to exacerbate social unrest (Ponticelli and Voth 2011).

31 We do not examine the impact of temporary UNSC membership on IMF conditionality (as in Dreher 2009) because in our sample UNSC status is time invariant for most countries.
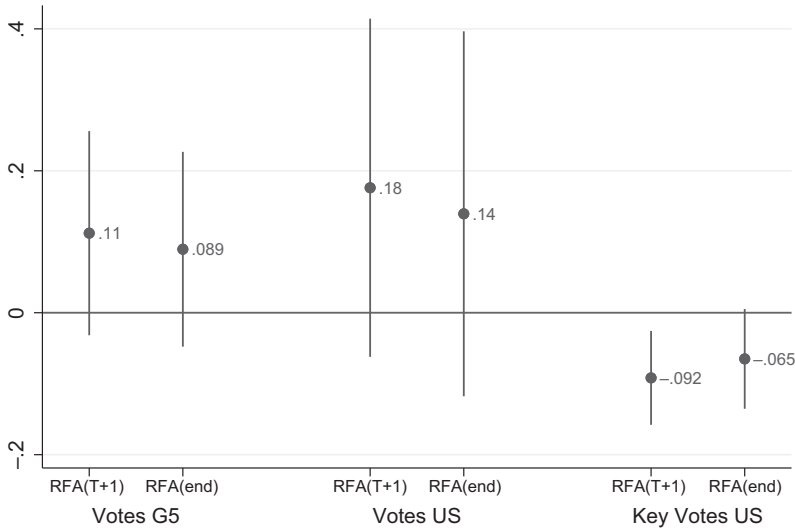
FIGURE 3   Point estimates and 95% confidence intervals
NOTE: Point estimates are based on regression results reported in table 4.

was more closely aligned with the US on key votes than on all UNGA votes, and 0 otherwise.[32] US Friend therefore measures the political concessions of a country to the US, allowing us to test for a vote-buying hypothesis rather than political alignment itself. The rationale is that the benefits in terms of conditionality would accrue to countries that deviate from their own political preferences (captured in all votes similar to those of the US) to match those of the US on important issues. We report the results in tables A1 and A2. The findings are similar to those with Key Votes US.[33]

In some cases, the requested fiscal adjustment is negative, that is, the IMF is allowing for an increase in the fiscal deficit or a decrease in the surplus. It is quite plausible that in the absence of an IMF program, the country would be heading for, say, an even larger deficit, but still, one might expect that fiscal variables would be less important in this case. Appendix table A3 considers a specification where the fiscal variables interact with a dummy equal to one in

32 Kilby (2009) and Kersting and Kilby (2016) also used US Friend in the context of World Bank lending.

33 There is not so much variation of Votes US over time for a given country in our relatively short panel. Most of the time-varying change in US Friend are due to movements in Key Votes US over time. Therefore, it is not surprising that the results using the US-Friend variable are similar to those using Key Votes US. Intuitively, country fixed effects would absorb a country's own political preferences.

case of a negative requested fiscal adjustment. The effects of tax revenues and government spending are less precisely estimated, but the coefficients of political variables are very similar to those in table 4.

Overall, the results are consistent with an IMF policy that aims at bringing a country's fiscal balance closer to its historical average. However, the results on the political effects are less clear. The dependence of results on how political alignment is measured, together with apparently opposite results for specific measures when comparing count models with requested fiscal adjustment models, suggests that a more detailed analysis is warranted.

5.3. Heterogeneity

In this subsection, we examine the possibility that our average estimates reported in table 4 mask heterogeneity between types of programs or countries. We follow IMF's classification to divide the sample into programs designed for low-income countries and for middle-and upper-income countries.[34] In our sample, there are 76 programs designed for low-income countries. About three-quarters of them are for African nations. We report the results for each political variable, Votes G5, Votes US, Key Votes US, in tables 5, 6, and 7, respectively. In each table, results for low-income countries (LIC) are in panel A, and those for all other countries (Others) are in panel B. In all these tables/specifications, country and year fixed effects are included as well as the controls described in $X_{i,t-1}$.

For low-income countries, most results are statistically insignificant and the sign of the coefficient varies across specifications. However, for middle- and upper-income countries, there is robust evidence that politics play a role. For those nations, political alignment with the US is associated with softer fiscal adjustment. All estimates are negative and statistically significant when we consider political affinity with the United States, either in all votes or in key issues only. The estimates in the complete specifications (columns (4) and (8)) indicate that a one percentage point increase in Votes US and Key Votes US is associated with about a 0.49 and 0.11 percentage point reduction (average across the complete models) in the requested fiscal adjustment, respectively. The results for Votes G5 are not significant, but the estimates are also negative.

We also find that the pre-program fiscal deficit is a major determinant of the requested fiscal adjustment for both sub-samples. In fact, the coefficients of government spending and tax revenue rations are larger than those in the baseline and closer to one in several specifications, especially for low-income countries. Using equation (3), those coefficients correspond to $(a/(a+b))$; hence an estimate close to one implies that a is much larger than b: the cost of deviating from the ideal fiscal adjustment (cost of a suboptimal requested

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34 The list of low-income facilities can be found at `www.imf.org/en/About/Fac`
`tsheets/IMF-Support-for-Low-Income-Countries`.

TABLE 5

Heterogeneity: Different countries and alignment with the G5

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: LIC								
Votes G5		0.05		0.06		0.09		0.11
		(0.07)		(0.07)		(0.08)		(0.08)
Election			−0.93	−7.93			−1.76	−13.83
			(1.93)	(9.17)			(2.02)	(10.52)
Votes G5 × Election				0.17				0.30
				(0.23)				(0.26)
Gov. Consumption	1.00**	1.00**	0.95**	0.91**	1.06**	1.06**	0.96*	0.90**
	(0.42)	(0.40)	(0.43)	(0.39)	(0.47)	(0.44)	(0.48)	(0.42)
Tax Revenue	−0.82***	−0.84***	−0.76***	−0.75***	−0.92***	−0.94***	−0.81***	−0.79***
	(0.23)	(0.23)	(0.25)	(0.24)	(0.26)	(0.25)	(0.27)	(0.23)
Observations	69	69	69	69	69	69	69	69
R-squared	0.64	0.65	0.65	0.66	0.63	0.65	0.64	0.68
PANEL B: OTHERS								
Votes G5		−0.03		−0.07		−0.03		−0.09
		(0.05)		(0.09)		(0.05)		(0.07)
Election			−0.54	−3.29			−1.64*	−3.91
			(0.87)	(4.06)			(0.84)	(3.85)
Votes G5 × Election				0.05				0.04
				(0.07)				(0.07)
Gov. Consumption	0.73***	0.72***	0.61**	0.59**	0.94***	0.93***	0.59*	0.54
	(0.23)	(0.22)	(0.27)	(0.29)	(0.30)	(0.29)	(0.31)	(0.32)
Tax Revenue	−0.35*	−0.33*	−0.27	−0.28	−0.67**	−0.66**	−0.42	−0.39
	(0.20)	(0.19)	(0.25)	(0.33)	(0.24)	(0.24)	(0.27)	(0.34)
Observations	56	56	56	56	56	56	56	56
R-squared	0.82	0.83	0.83	0.84	0.77	0.77	0.83	0.84

NOTES: The dependent variable is the requested fiscal adjustment (in percentage points) approved for country i in year t, defined as the difference between the requested target for the government budget balance and its pre-program value. RFA(T+1) uses the requested fiscal balance for one year after program approval and RFA(end year) uses the balance of the final year. All regressions are estimated with OLS and include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

TABLE 6

Heterogeneity: Different countries and overall alignment with the US

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: LIC								
Votes US		0.29				0.51*		0.50**
		(0.23)				(0.26)		(0.25)
Election			-0.93	-1.14			-1.76	-4.10
			(1.93)	(3.94)			(2.02)	(4.41)
Votes US × Election				0.03				0.20
				(0.29)				(0.33)
Gov. Consumption	1.00**	0.97***	0.95**	0.92**	1.06**	1.00***	0.96*	0.90**
	(0.42)	(0.34)	(0.43)	(0.36)	(0.47)	(0.33)	(0.48)	(0.37)
Tax Revenue	-0.82***	-0.85***	-0.76***	-0.79***	-0.92***	-0.97***	-0.81***	-0.85***
	(0.23)	(0.22)	(0.25)	(0.26)	(0.26)	(0.21)	(0.27)	(0.24)
Observations	69	69	69	69	69	69	69	69
R-squared	0.64	0.68	0.65	0.68	0.63	0.73	0.64	0.74
PANEL B: OTHERS								
Votes US		-0.22**				-0.38***		-0.52***
		(0.11)				(0.11)		(0.16)
Election			-0.54	-4.76*			-1.64*	-5.31**
			(0.87)	(2.35)			(0.84)	(2.12)
Votes US × Election				0.25**				0.23**
				(0.11)				(0.10)
Gov. Consumption	0.73***	0.81***	0.61**	1.10***	0.94***	1.07***	0.59*	1.13***
	(0.23)	(0.18)	(0.27)	(0.20)	(0.30)	(0.22)	(0.31)	(0.24)
Tax Revenue	-0.35*	-0.34*	-0.27	-0.62***	-0.67**	-0.66***	-0.42	-0.77***
	(0.20)	(0.18)	(0.25)	(0.22)	(0.24)	(0.21)	(0.27)	(0.21)
Observations	56	56	56	56	56	56	56	56
R-squared	0.82	0.85	0.83	0.90	0.77	0.86	0.83	0.91

NOTES: The dependent variable is the requested fiscal adjustment (in percentage points) approved for country i in year t, defined as the difference between the requested target for the government budget balance and its pre-program value. RFA(T+1) uses the requested fiscal balance for one year after program approval and RFA(end year) uses the balance of the final year. All regressions are estimated with OLS and include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

TABLE 7

Heterogeneity: Different countries and alignment with the US on key votes

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
PANEL A: LIC								
Key Votes US		−0.08		−0.08		−0.03		−0.01
		(0.07)		(0.07)		(0.07)		(0.08)
Election			−0.93	4.48			−1.76	2.24
			(1.93)	(3.77)			(2.02)	(4.23)
Key Votes US × Election				−0.13				−0.11
				(0.09)				(0.09)
Gov. Consumption	1.00**	0.85*	0.95**	0.89*	1.06**	1.01*	0.96**	0.98*
	(0.42)	(0.46)	(0.43)	(0.47)	(0.47)	(0.52)	(0.48)	(0.55)
Tax Revenue	−0.82***	−0.62**	−0.76***	−0.71**	−0.92***	−0.85**	−0.81***	−0.86**
	(0.23)	(0.30)	(0.25)	(0.33)	(0.26)	(0.35)	(0.27)	(0.39)
Observations	69	68	69	68	69	68	69	68
R-squared	0.64	0.67	0.65	0.69	0.63	0.63	0.64	0.66
PANEL B: OTHERS								
Key Votes US		−0.09***		−0.13***		−0.08**		−0.09*
		(0.02)		(0.04)		(0.03)		(0.05)
Election			−0.54	−1.54			−1.64*	−2.26*
			(0.87)	(1.08)			(0.84)	(1.22)
Key Votes US × Election				0.04*				0.02
				(0.02)				(0.02)
Gov. Consumption	0.73***	1.12***	0.61**	1.30***	0.94***	1.28***	0.59*	1.05**
	(0.23)	(0.18)	(0.27)	(0.28)	(0.30)	(0.28)	(0.31)	(0.42)
Tax Revenue	−0.35*	−0.77***	−0.27	−0.99***	−0.67**	−1.05***	−0.42	−0.90**
	(0.20)	(0.21)	(0.25)	(0.31)	(0.24)	(0.24)	(0.27)	(0.39)
Observations	56	56	56	56	56	56	56	56
R-squared	0.82	0.89	0.83	0.91	0.77	0.83	0.83	0.87

NOTES: The dependent variable is the requested fiscal adjustment (in percentage points) approved for country i in year t, defined as the difference between the requested target for the government budget balance and its pre-program value. RFA(T+1) uses the requested fiscal balance for one year after program approval and RFA(end year) uses the balance of the final year. All regressions are estimated with OLS and include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

target) is substantially higher than the cost from moving away from the current fiscal balance (cost of fiscal adjustment).

The results are in line with previous findings in the literature that look at different outcomes or proxies for the stringency of conditionality. Focusing on the determinants of loan sizes, Reynaud and Vauday (2009) find that the IMF favours geopolitically important countries through stand-by agreements (a facility usually associated with middle-income and richer economies) but not through the Poverty Reduction and Growth Facility (targeted to poor countries). Dreher et al. (2015) find a significant effect of UNSC membership on the scope of conditionality for stand-by agreements, but not for programs associated with the Poverty Reduction and Growth Facility (however, UNSC temporary membership seems to reduce the number of conditions in both cases).

As a robustness exercise, we have considered $Election_{i,t}$ taking the value 1 when country i held an election in a window of six months before and after program approval. In our sample, there are 30 elections according to this definition. We have also modified $Election_{i,t}$ to assume the value 1 when country i held an election in the year of program approval, for which we observe 26 episodes. Our findings are robust to these modifications.[35]

We have also run regressions 5 and 6 augmenting the set of control variables to include each country's economic connections to G5 members. We follow Copelovitch (2010) and Lang and Presbitero (2018) and include Bank G5 Exposure, which corresponds to the financial exposure that commercial banks from G5 members have in borrowing countries (%GDP). Data on bank exposure are drawn from the Bank for International Settlements' Consolidate International Banking Statistics database. Similarly to Barro and Lee (2005), we add Trade G5 Exposure, the ratio of a country's bilateral trade with G5 members to the country's GDP. We lose some observations, but again, the main findings are robust to these modifications.[36]

6. Concluding remarks

There is a fair amount of anecdotal evidence of political influence on the IMF's decisions. For example, Momani (2004) assesses whether IMF-Egyptian agreements were facilitated by the US in 1987 and 1991, as a reward to Egypt for

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35 Available upon request. The only (minor) difference is that the point estimate of the effect of Votes G5 on the requested fiscal adjustment is positive in some specifications, but it is never statistically significant.

36 Available upon request. There are two (minor) differences: (i) the coefficient of Votes G5 becomes statistically significant in some specifications, but the coefficient of Votes US loses significance in some cases, and (ii) the coefficients of government consumption and tax revenues are very large, especially for low-income countries, but standard errors are also large.

not participating in the Persian Gulf War. She compares IMF's Article IV Consultations (with staff recommendations) and the actual agreements (which are more likely to be subject to political intervention). In the 1987 agreement, IMF staff recommended eight conditions, but only three were included in the program. The 1991 agreement had ten conditions attached, but three other recommended conditions were absent. Akerman et al. (2020) finds that proximity to communist countries during the cold war implies a smaller number of conditions in an IMF agreement and illustrates this finding with the case of Zaire. In 1975, Zairian president Mobutu Sese Seko was struggling to finance his military. This issue was particularly important for US authorities after Angola had adopted a Soviet-aligned socialist regime. Owing to these political concerns, the IMF provided funds to Zaire through a stand-by arrangement subject to no binding conditions.

These stories are corroborated by a substantial empirical literature. Previous work has typically employed measures of program austerity based on the number of conditions. A robust finding in this literature is that political proximity of the borrowing country to the Fund's major shareholders has a significant effect on the number of conditions in an IMF agreement. However, the number of conditions is an imperfect proxy for the stringency of conditions. One could conjecture that political influence is usually restricted to minor aspects of the deal (which leads to fewer conditions) but does not systematically affects the main conditions required by the IMF.

This paper looks at the fiscal adjustment requested by the IMF. Using this variable has required a careful examination of the available data, as described in section 4. MONA provides information on the requested fiscal balance for the years following an IMF program, but some adjustments and corrections had to be made.

The resulting indicator of stringency of IMF conditionality is virtually uncorrelated with the most common measure, the number of conditions in an agreement. Hence, research using the requested fiscal adjustment can contribute to our understanding of other IMF-related questions. For example, existing work on compliance with program conditionality usually considers the number of (implemented) conditions to evaluate the effects of conditionality on a variety of issues (Bulíř and Moon 2004, Stubbs et al. 2020). Extending the analysis to incorporate an intensive margin of conditionality could provide new insights to this debate.

Even though our measure of stringency of IMF conditionality is almost uncorrelated with the usual indicators, the results are not very different. To be sure, a country's fiscal deficit is the primary determinant of the fiscal adjustment requested by the IMF. But echoing previous results in the literature, we find that political alignment with the US has a significant negative effect on the required fiscal effort for the sample of middle- and upper-income countries.

Appendix A1: tables

TABLE A1

Robustness: Number of conditions regressions with US Friend

Dependent variable	No. fiscal conditions				No. total conditions			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
US Friend		0.22		0.19		0.33**		0.35**
		(0.18)		(0.17)		(0.14)		(0.14)
Election			0.23*	0.53**			0.11	0.43
			(0.12)	(0.27)			(0.09)	(0.29)
US Friend ×				−0.38				−0.43
Election				(0.33)				(0.31)
Gov. Consumption	−0.01	−0.02	−0.006	−0.007	−0.03	−0.04*	−0.03	−0.03*
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Tax Revenue	−0.003	0.004	−0.01	−0.008	0.01	0.02	0.006	0.01
	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)	(0.02)
Observations	124	122	124	122	124	122	124	122

NOTES: The dependent variable is either the number of fiscal conditions or the number of total conditions included in a program approved in year t for country i. Estimations use a Poisson specification for the conditional mean. All regressions include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE A2

Robustness: Fiscal adjustment regressions with US Friend

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
US Friend		−2.02**		−1.62		−1.26		−0.59
		(0.97)		(1.01)		(0.89)		(0.87)
Election			−1.37**	−0.76			−1.87***	−2.26
			(0.52)	(1.13)			(0.55)	(1.48)
US Friend ×				−0.37				0.51
Election				(1.44)				(1.69)
Gov. Consumption	0.46*	0.50*	0.40	0.45*	0.54**	0.56**	0.45*	0.45*
	(0.24)	(0.25)	(0.24)	(0.25)	(0.27)	(0.27)	(0.26)	(0.27)
Tax Revenue	−0.45**	−0.49**	−0.38*	−0.44**	−0.57**	−0.60***	−0.48**	−0.49**
	(0.21)	(0.19)	(0.20)	(0.20)	(0.22)	(0.22)	(0.20)	(0.19)
Observations	125	124	125	124	125	124	125	124
R-squared	0.34	0.38	0.38	0.40	0.37	0.38	0.43	0.43

NOTES: The dependent variable is the requested fiscal adjustment (in percentage points) approved for country i in year t, defined as the difference between the requested target for the government budget balance and its pre-program value. RFA(T+1) uses the requested fiscal balance for one year after program approval and RFA(end year) uses the balance of the final year. All regressions are estimated with OLS and include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

TABLE A3

Fiscal adjustment regressions with asymmetric model

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Panel A: Votes G5								
Votes G5		0.12*		0.11*		0.10		0.09
		(0.06)		(0.06)		(0.06)		(0.06)
Election			−1.09***	−0.76			−1.73***	−0.74
			(0.39)	(2.02)			(0.46)	(2.16)
Votes G5 × Election				−0.002				−0.02
				(0.04)				(0.04)
Gov. Consumption	0.29*	0.38**	0.26	0.35*	0.25	0.34*	0.19	0.29
	(0.16)	(0.18)	(0.16)	(0.19)	(0.18)	(0.20)	(0.18)	(0.21)
Gov. Consumption × RFA < 0	−0.06	−0.06	−0.10	−0.09	0.33	0.25	0.23	0.18
	(0.27)	(0.25)	(0.27)	(0.25)	(0.29)	(0.30)	(0.24)	(0.25)
Tax Revenue	−0.20	−0.25*	−0.17	−0.23	−0.23*	−0.29*	−0.17	−0.23
	(0.13)	(0.14)	(0.13)	(0.14)	(0.14)	(0.15)	(0.13)	(0.14)
Tax Revenue × RFA < 0	−0.07	−0.07	−0.02	−0.03	−0.50	−0.42	−0.40	−0.33
	(0.30)	(0.28)	(0.30)	(0.27)	(0.32)	(0.33)	(0.27)	(0.28)
Panel B: Votes US								
Votes US		0.18*		0.18*		0.16*		0.16
		(0.09)		(0.09)		(0.09)		(0.10)
Election			−1.09***	−0.90			−1.73***	−1.18
			(0.39)	(1.08)			(0.46)	(1.25)
Votes US × Election				−0.008				−0.03
				(0.06)				(0.07)
Gov. Consumption	0.29*	0.24	0.26	0.22	0.25	0.21	0.19	0.17
	(0.16)	(0.16)	(0.16)	(0.17)	(0.18)	(0.17)	(0.18)	(0.19)
Gov. Consumption × RFA < 0	−0.06	0.04	−0.10	−0.006	0.33	0.45	0.23	0.33
	(0.27)	(0.28)	(0.27)	(0.27)	(0.29)	(0.32)	(0.24)	(0.28)
Tax Revenue	−0.20	−0.15	−0.17	−0.13	−0.23*	−0.20	−0.17	−0.16
	(0.13)	(0.13)	(0.13)	(0.14)	(0.14)	(0.13)	(0.13)	(0.14)

(continued)

TABLE A3
(*Continued*)

Dependent variable	RFA(T+1)				RFA(end year)			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Tax Revenue×RFA < 0	-0.07	-0.18	-0.02	-0.12	-0.50	-0.63*	-0.40	-0.50
	(0.30)	(0.31)	(0.30)	(0.30)	(0.32)	(0.35)	(0.27)	(0.31)
Panel C: Key Votes US								
Key Votes US		-0.08**		-0.08**		-0.05		-0.06
		(0.03)		(0.03)		(0.04)		(0.04)
Election			-1.09***	-1.75*			-1.73***	-2.47**
			(0.39)	(0.95)			(0.46)	(1.09)
Key Votes US × Election				0.02				0.02
				(0.02)				(0.02)
Gov. Consumption	0.29*	0.39**	0.26	0.34*	0.25	0.35*	0.19	0.27
	(0.16)	(0.17)	(0.16)	(0.18)	(0.18)	(0.21)	(0.18)	(0.21)
Gov. Consumption × RFA < 0	-0.06	-0.24	-0.10	-0.27	0.33	0.02	0.23	-0.09
	(0.27)	(0.23)	(0.27)	(0.22)	(0.29)	(0.33)	(0.24)	(0.31)
Tax Revenue	-0.20	-0.28**	-0.17	-0.23*	-0.23*	-0.29*	-0.17	-0.21
	(0.13)	(0.14)	(0.13)	(0.14)	(0.14)	(0.15)	(0.13)	(0.14)
Tax Revenue × RFA < 0	-0.07	0.15	-0.02	0.18	-0.50	-0.16	-0.40	-0.04
	(0.30)	(0.26)	(0.30)	(0.26)	(0.32)	(0.36)	(0.27)	(0.35)

NOTES: The dependent variable is the requested fiscal adjustment (as in previous tables). RFA<0 is a dummy equal to one in case of a negative requested fiscal adjustment. All regressions are estimated with OLS and include country fixed effects as well as year fixed effects. Robust standard errors in parentheses. ***p < 0.01, **p < 0.05, *p < 0.1.

TABLE A4

Requested fiscal adjustments by country-program and year of approval

Country (year of approval)	RFA(T+1)	FRA(end year)
Greece (2010/2012)	6.0/4.7	8.6/7.4
Turkey (1999/2005)	−4.8/3.9	5.6/9.1
Argentina (2000/2003)	NA/0.1	NA/0.1
Brazil (2001/2002)	NA/2.5	NA/2.5
Colombia (1999/2003/2005)	0.3/0.7/−1.8	2.4/0.9/−1.8
Dominican Republic (2003/2005/2009)	1.0/2.9/0.5	1.1/3.4/ 2.8
Ecuador (2000/2003)	3.0/−2.1	3.0/−2.1
El Salvador (2009/2010)	0.3/2.0	0.3/3.7
Guatemala (2002/2003/2009)	0.9/0.7/−1.5	0.9/0.7/−1.5
Honduras (1999/2004/2008/2010)	NA/0.1/0.7/1.5	NA/0.3/0.7/2.6
Nicaragua (2003/2007)	2.6/1.1	3.3/2.0
Peru (1999/2001/2004/2007)	−0.2/1.6/0.2/−1.0	0.3/1.6/0.7/−1.0
Uruguay (1999/2000/2002/2005)	−0.3/2.6/1.9/0.5	−0.3/3.0/2.5/1.1
Dominica (2002/2003)	0.05/4.1	0.05/5.9
Jordan (1999/2002/2012)	4.0/−0.6/0.3	6.9/−0.2/2.2
Sri Lanka (2001/2003/2009)	3.1/3.0/1.7	3.1/4.3/2.7
Pakistan (2000/2001/2008)	NA/1.3/−0.04	NA/1.9/0.9
Djibouti (1999/2008)	−0.2/0.7	−1.3/2.5
Burundi (2004/2008/2012)	2.2/−4.8/−1.5	3.8/−1.0/−1.7
Cape Verde (2002/2006/2010)	−3.0/−1.5/−4.7	−4.8/−1.3/−1.4
Central African Rep. (2006/2012)	19.7/2.9	19.0/3.3
Chad (2000/2005)	−1.0/0.1	−1.2/0.8
Benin (2000/2005/2010)	−1.7/−1.5/1.7	−2.2/−1.0/3.3
Gambia (2002/2012)	3.2/1.9	4.4/2.4
Guinea-Bissau (2000/2010)	−3.8/2.6	0.9/3.0
Guinea (2001/2012)	1.9/−0.5	1.9/−0.1
Cote D'Ivoire (2002/2009/2011)	0.5/−0.9/−2.1	1.0/−2.0/−0.6
Kenya (2000/2003)	0.4/1.5	0.3/1.4
Malawi (2000/2005/2008/2010/2012)	6.5/5.1/0.7/4.7/3.9	5.0/2.7/0.4/1.8/2.1
Mali (1999/2004/2008/2011)	−0.8/−1.3/0.6/−0.2	0.4/0.3/0.6/0.3
Mauritania (1999/2003/2006/2010)	−1.2/−8.9/0.3/0.9	−1.2/−10.1/−0.1/2.5
Mozambique (1999/2004/2007/2010)	−1.2/−0.5/−2.1/−1.7	−0.7/0.4/−1.0/−0.5
Niger (2000/2005)	1.2/1.8	2.6/3.8
Nigeria (2000/2005)	5.8/11.9	5.8/13.6
Sierra Leone (2006/2010)	1.6/−1.6	1.3/−1.5
Tanzania (2003/2007/2010/2012)	0.4/1.9/−1.4/0.4	1.8/2.3/−0.2/1.5
Uganda (2002/2006/2010)	−0.1/−1.0/−1.3	−0.7/−1.0/−1.3
Burkina Faso (1999/2003/2007/2010)	−2.2/1.8/0.2/0.9	−1.1/3.7/1.6/1.4
Zambia (1999/2004)	1.3/4.0	2.6/5.6
Armenia (2001/2005)	3.9/−1.0	3.9/−0.5
Albania (2002/2006)	0.7/0.3	2.1/0.6
Georgia (2001/2004/2010)	4.0/1.8/0.6	4.8/1.1/1.0
Kyrgyz Republic (2001/2005/2011)	4.8/0.5/−0.6	7.1/1.1/−0.3
Moldova (2000/2006/2010)	1.8/−2.2/10.1	2.5/−2.2/13.6
Ukraine (2004/2008/2010)	0.05/−2.5/2.7	0.0/−0.06/2.3
Latvia (1999/2001)	−1.1/2.4	−0.2/2.4
Lithuania (2000/2001)	NA/1.5	NA/1.1
Mongolia (2001/2009)	−0.3/0.9	0.8/0.9
Croatia (2001/2003/2004)	2.3/2.1/1.8	2.3/2.1/2.3
Macedonia (2000/2005)	−1.2/−1.4	−0.5/−1.3
Bosnia Herzegovina (2002/2009/2012)	0.1/0.05/0.7	0.1/2.5/1.7
Romania (1999/2001/2004/2009/2011)	2.2/1.0/0.5/1.3/3.5	2.2/1.0/0.6/2.2/3.8

Note: NA = not available.

Appendix A2: Data description and source

TABLE A5

Data description

Variable	Definition (source)
Number of Conditions	Total number of conditions in a program (MONA/IMF)
Number of Fiscal Conditions	Number of fiscal conditions in a program (MONA/IMF)
Requested Fiscal Adjustment	Difference between fiscal balances in percentage of GDP (MONA/IMF)
Votes G5	Vote compliance with G5 countries at UNGA (Strezhnev and Voeten 2013)
Votes US	Vote compliance with the US at UNGA (Strezhnev and Voeten 2013)
Key Votes US	Vote compliance with the US on important votes as defined by the US State Department (US State Department website)
US Friend	Indicator equal to one if a country is more aligned with the US on important votes than on overall votes (US State Department website)
Current Account Balance	All transactions other than those in financial and capital items (WEO/IMF)
Monetary Expansion	Average annual growth rate in money and quasi money (WEO/IMF)
GDP Growth	Annual real GDP growth (WEO/IMF)
Public Debt	Gross public debt in percentage of GDP (IMF)
Government Consumption	Cash payments in providing goods and services (WEO/IMF)
Tax Revenue	Taxes, social contributions, grants receivable and other revenues (WEO/IMF)
Trade G5 Exposure	Country's bilateral trade with G5 members in percentage of GDP (UN Comtrade)
Bank G5 Exposure	Total G5 banks' claims over program country GDP (BIS)
Trade Openness	Sum of exports and imports of goods and services in percentage of GDP (UNCTAD)
Population 0–14	Population between the ages 0 to 14 as percentage of the total (World Bank)
Population 15–64	Population between the ages 15 to 64 as percentage of the total (World Bank)
Election	Indicator equal to one if a country holds an executive election 6 months before and 12 months after a program approval (Database of Political Institutions/World Bank)

Appendix A3: Greece – Letter of intent (May 2014)

Quantitative performance criteria

- Floor on the modified general government primary cash balance
- Ceiling on state budget primary spending
- Ceiling on the overall stock of central government debt
- Ceiling on the accumulation of new external payments arrears on external debt contracted or guaranteed by general government

- Ceiling on the stock of domestic arrears
- Floor on privatization receipts

Structural benchmarks

- Ministry of Finance to produce a comprehensive list of nuisance taxes and levies and eliminate them or transfer them (and the associated spending) to the central government budget
- Adopt VAT reform to streamline rates and simplify administration
- Adopt legislation on a new property tax regime
- Government to meet quarterly performance indicators (KPIs) for revenue administration
- Government to meet quarterly performance indicators for public financial management
- Adopt legislation to reform the system of social security contributions to: (i) broaden the contribution base, (ii) simplify the contribution schedule across the various funds and (iii) reduce contribution rates by 3.9 percentage points. The reforms will be fully phased in by January 1, 2016, and will be revenue neutral and preserve the actuarial balance of the various funds.

Prior actions

- Government to lock in lower spending of 320 million euros from permanent savings in 2013 by revising binding expenditure ceilings in 2015–2018
- Implement several measures to eliminate RES debt by end of 2014
- Government to place additional public sector employees in the mobility scheme to reach 25,000 employees and to achieve 5,000 exits in the public sector
- Adopt secondary legislation to the Income Tax Code and the Tax Procedure Code
- Abolish 40 charges with an annualized cost of 245 million euros
- Adopt 237 of the OECD recommendations to remove barriers to competition in four sectors (tourism, retail, building materials and food processing)
- Adopt legislation to reduce minimum wage for long-term unemployed

Supporting information

Supplementary material accompanies the online version of this article.

References

Akerman, A., L. Weller, and J. P. Pessoa (2020) "The West's teeth: IMF conditionality during the Cold War," SocArXiv: vxbw9

Alesina, A., and D. Dollar (2000) "Who gives foreign aid to whom and why?," *Journal of Economic Growth* 5(1), 33–63

Alesina, A., C. Favero, and F. Giavazzi (2015) "The output effect of fiscal consolidation plans," *Journal of International Economics* 96, S19–S42

Andersen, T.B., T. Harr, and F. Tarp (2006) "On US politics and IMF lending," *European Economic Review* 50(7), 1843–62

Barro, R.J., and J-W. Lee (2005) "IMF programs: Who is chosen and what are the effects?," *Journal of Monetary Economics* 52(7), 1245–69

Beazer, Q.H., and B. Woo (2016) "IMF conditionality, government partisanship, and the progress of economic reforms," *American Journal of Political Science* 60(2), 304–21

Bulíř, A., and S. Moon (2004) "Is fiscal adjustment more durable when the IMF is involved?," *Comparative Economic Studies* 46(3), 373–99

Caraway, T.L., S. J. Rickard, and M. S. Anner (2012) "International negotiations and domestic politics: The case of IMF labor market conditionality," *International Organization* 66(01), 27–61

Copelovitch, M.S. (2010) "Master or servant? Common agency and the political economy of IMF lending," *International Studies Quarterly* 54(1), 49–77

Corsetti, G., A. Meier, and G. Mueller (2012) "Fiscal stimulus with spending reversals," *Review of Economics and Statistics* 94(4), 878–95

Diniz, A. (2018) "Effects of fiscal consolidations in Latin America," *IMF Economic Review* 66(4), 694–731

Dreher, A. (2009) "IMF conditionality: Theory and evidence," *Public Choice* 141(1–2), 233–67

Dreher, A., and N. M. Jensen (2007) "'Independent actor or agent? An empirical analysis of the impact of US interests on International Monetary Fund conditions," *Journal of Law and Economics* 50(1), 105–24

Dreher, A., J.-E. Sturm, and J. R. Vreeland (2009) "Global horse trading: IMF loans for votes in the United Nations Security Council," *European Economic Review* 53(7), 742–57

—— (2015) "Politics and IMF conditionality," *Journal of Conflict Resolution* 59(1), 120–48

Fafchamps, M. (1996) "Sovereign debt, structural adjustment, and conditionality," *Journal of Development Economics* 50(2), 313–35

Fatás, A., and I. Mihov (2003) "The case for restricting fiscal policy discretion," *Quarterly Journal of Economics* 118(4), 1419–47

Gonçalves, C.E., and B. Guimaraes (2015) "Sovereign default risk and commitment for fiscal adjustment," *Journal of International Economics* 95(1), 68–82

Gould, E.R. (2003) "Money talks: Supplementary financiers and International Monetary Fund conditionality," *International Organization* 57(03), 551–86

Guajardo, J., D. Leigh, and A. Pescatori (2014) "Expansionary austerity? International evidence," *Journal of the European Economic Association* 12(4), 949–68

Guimaraes, B., and O. Iazdi (2015) "IMF conditionalities, liquidity provision, and incentives for fiscal adjustment," *International Tax and Public Finance* 22, 705–22

Ilzetzki, E., E. G. Mendoza, and C. A. Végh (2013) "How big (small?) are fiscal multipliers?," *Journal of Monetary Economics* 60(2), 239–54

Kersting, E.K., and C. Kilby (2016) "With a little help from my friends: Global electioneering and world bank lending," *Journal of Development Economics* 121, 153–65

Kilby, C. (2009) "The political economy of conditionality: An empirical analysis of World Bank loan disbursements," *Journal of Development Economics* 89(1), 51–61

Lamdany, R., and A. J. Hamann (2008) *Structural Conditionality in IMF-supported Programs.* International Monetary Fund

Lang, V.F., and A. F. Presbitero (2018) "Room for discretion? Biased decision-making in international financial institutions," *Journal of Development Economics* 130(Supplement C), 1–16

Marchesi, S., and J. P. Thomas (1999) "'IMF conditionality as a screening device," *Economic Journal* 109(454), 111–125

Momani, B. (2004) "American politicization of the International Monetary Fund," *Review of International Political Economy* 11(5), 880–904

Norambuena, V. (2015) "Sovereign debt default: Are countries trapped by their own default history?," working paper no. wp416, University of Chile

Oatley, T., and J. Yackee (2004) "American interests and IMF lending," *International Politics* 41(3), 415–29

Passarelli, F., and G. Tabellini (2017) "Emotions and political unrest," *Journal of Political Economy* 125(3), 903–46

Ponticelli, J., and H.-J. Voth (2011) "Austerity and anarchy: Budget cuts and social unrest in Europe, 1919–2008," CEPR discussion paper no. DP8513

Presbitero, A.F., and A. Zazzaro (2012) "IMF lending in times of crisis: Political influences and crisis prevention," *World Development* 40(10), 1944–69

Reinhart, C.M., and K. S. Rogoff (2010) "Growth in a time of debt (digest summary)," *American Economic Review* 100(2), 573–78

Reynaud, J., and J. Vauday (2009) "Geopolitics and international organizations: An empirical study on IMF facilities," *Journal of Development Economics* 89(1), 139–62

Selowsky, M., and A. Mansoor (2003) *Fiscal Adjustment in IMF-supported Programs.* International Monetary Fund

Stone, R.W. (2008) "The scope of IMF conditionality," *International Organization* 62(4), 589–620

Strezhnev, A., and A. Voeten (2013) Dataset. "United Nations General Assembly voting data." Available at `http://hdl.handle.net/1902.1/12379`

Stubbs, T., B. Reinsberg, A. Kentikelenis, and L. King (2020) "How to evaluate the effects of IMF conditionality," *Review of International Organizations* 15(1), 29–73

Thacker, S.C. (1999) "The high politics of IMF lending," *World Politics* 52(1), 38–75

Umana Dajud, C. (2013) "Political proximity and international trade," *Economics & Politics* 25(3), 283–312

Woo, B. (2013) "Disaggregating IMF conditionality: Comparing determinants of fiscal conditions and financial sector conditions," Oakland University working paper

Woo, J. (2003) "Economic, political, and institutional determinants of public deficits," *Journal of Public Economics* 87(3), 387–426