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Are Budget Rigidities a Source of Fiscal Distress and a Constraint for Fiscal Consolidation?

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Abstract

This paper studies whether budget rigidities affect the probability of countries getting into fiscal distress and reduce the likelihood of governments performing fiscal adjustments. Budget rigidities are constraints that limit the ability of the government to change the size and structure of the public budget in the short term. Budget rigidities stem from different institutional arrangements and therefore can take different forms. To build an indicator of rigid spending that is comparable across a large set of countries, this paper employs a simple definition based on budget components that are naturally inflexible: the sum of public wages, pensions, and debt service. It decomposes this measure into a structural component and a nonstructural component. Then, the paper applies a linear probability model to a panel of 182 advanced and developing countries. A key finding is that relatively high shares of rigid (observed) components of public spending contribute to countries getting into fiscal distress and are a constraint for fiscal consolidation. The paper finds evidence that a relatively high share of nonstructural rigid spending contributes to the probability of fiscal distress and reduces the probability of fiscal consolidation. Moreover, the effect of rigid expenditure seems to be more relevant for economies with high inequality, governments with lower margins of majority, and countries with lower institutional quality. In addition, when looking at the composition of the measure of rigid expenditure, there is also some evidence that higher expenditure on pensions reduces the probability of fiscal adjustment more robustly than higher expenditure on wages.

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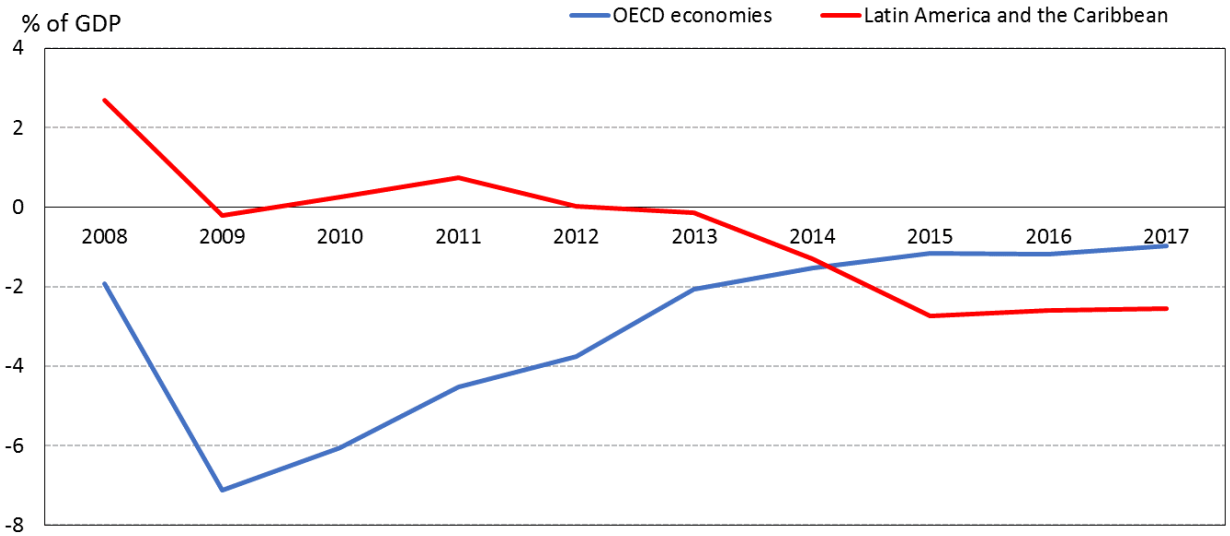
Contents

1. Introduction

The aftermath of the 2008 global financial crisis has shown a clear contrast between OECD and Latin American countries: while, in general, OECD countries have already gone through successful fiscal consolidation processes to adjust their primary deficits, in Latin America these fiscal deficits have continued to increase (Figure 1).

Figure 1: General government primary net lending/borrowing (2008-2017)



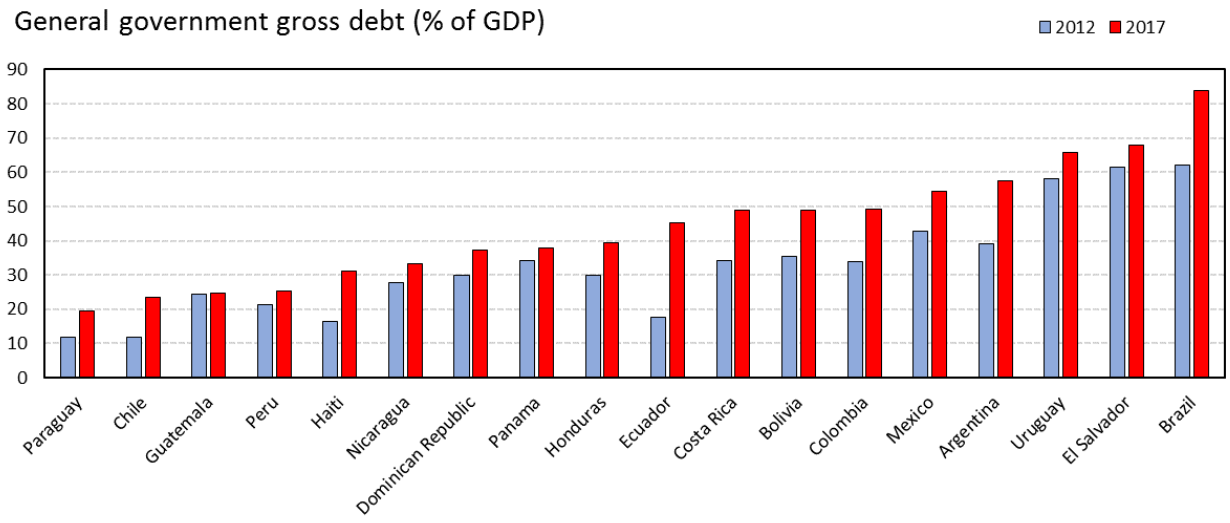
Source: WEO (April 2018)

As a result, many countries in the region are facing daunting fiscal challenges following a substantial surge in debt-to-GDP ratios during recent years (Figure 2). Estimates of fiscal gaps suggest that substantial and sustained fiscal tightening will be needed in nearly all countries to bring debt down to prudent levels (Vegh et al, 2017). Furthermore, as world interest rates continue to rise, public debt sustainability will become a major concern in many countries in the region, obliging more governments to generate high primary surpluses to stabilize their debt dynamics. In other words, fiscal consolidation is now the order of the day in the region, and while strong growth would help, the bulk of consolidation will require specific reforms to spending and revenue programs to stabilize and then reduce debt-to-GDP ratios.

This raises a very important question from the policy point of view: why has it been harder for governments in Latin America to adjust their fiscal deficits? Although there are many possible answers to this question, a common one among policy makers in the region is that the ability of the governments to

follow large fiscal adjustments is constrained by political and institutional factors. For instance, when explaining why it was difficult to further adjust the fiscal deficit in Uruguay, Minister Danilo Astori emphasized there was little room for maneuver because of the "growing participation of endogenous expenditure, which is very difficult to reduce".[2]

Figure 2: Most countries in Latin America have seen substantial surge in debt-GDP ratios



Source: WEO (2018)

What minister Astori calls “endogenous expenditure” is known in the literature as budget rigidities (see Centrángolo et al., 2010). Budget rigidities are institutional, legal, contractual or other constraints that limit the ability of the government to change the size and structure of the public budget, at least in the short term. They are a source of frustration to politicians who find little space to move ahead their government programs. Budget rigidities stem from different institutional arrangements that limit the government’s ability to adjust the composition and size of the budget in the short run. Several budget components are naturally inflexible, like wages, pensions and debt service (these are the components of public expenditure to which Minister Astori was referring). But there are many other inflexibilities that are rooted in the constitution, laws, or decrees that earmark revenues, set minimum spending requirements, or link spending to the evolution of certain macroeconomic variables like inflation, growth, or unemployment (see the section on country case studies to learn more about the different sources of rigidities across Latin American countries).

[2] https://www.elobservador.com.uy/nota/astori-a-pesar-de-que-la-economia-acelero-su-crecimiento-a-la-inversion-le-esta-costando-despegar--201822710340.

Despite being a well-known problem to policy makers, the issue of how budget rigidities contribute to putting countries in fiscal distress or constrain the ability of government to perform fiscal adjustments remains largely unexplored in the literature. The literature on public choice, for instance, has explored the reasons underpinning the emergence of rigidities, but the pervasive effects of budget rigidity have not received a systematic treatment in the literature despite being regularly mentioned in policy papers dealing with fiscal issues.

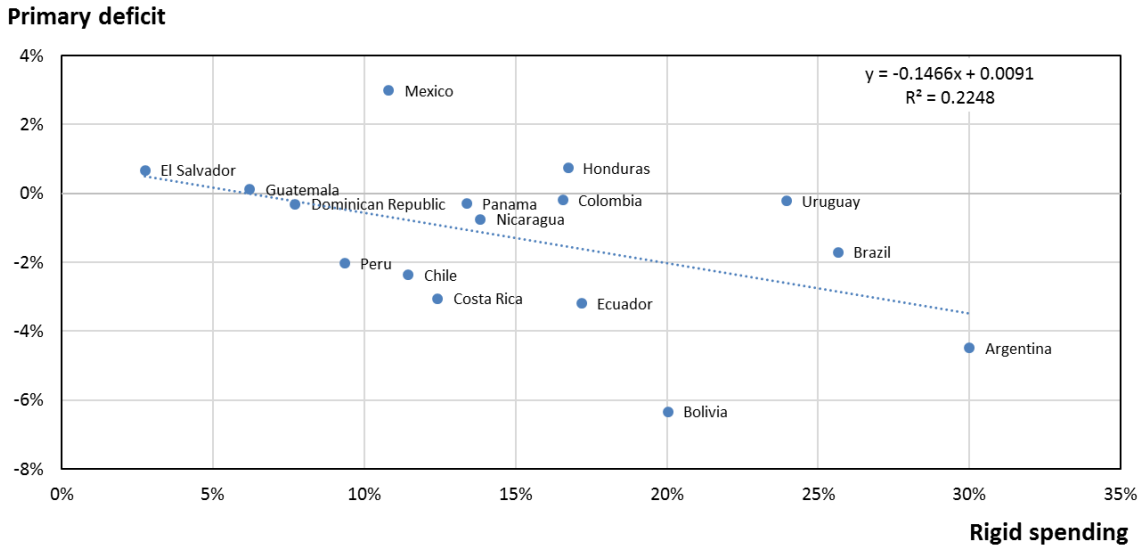
In this paper we seek to help close this gap in the literature by assessing the effects of budget rigidities on the need and ability of governments to make fiscal adjustments. We consider periods when governments should be making fiscal efforts but fail to do so, as well as periods when no adjustment is required. Therefore, from a policy perspective, this paper addresses two important issues that have received little attention. First, how budget rigidities contribute to creating situations of fiscal distress. While there is plentiful anecdotal evidence of how rigid spending can hinder sound policies, to the best of our knowledge, there has not been much empirical work on the subject. Second, how rigidities influence the likelihood of successful fiscal efforts, defined as those cases when countries that are facing a need to adjust manage to do so.

To do this, we would ideally like to use a wide definition of budget rigidities; one that encompasses all institutional, political and legal constraints. However, differences in institutional settings across countries represent a major obstacle to systematically collecting international data for comparison purposes, as comparing budget rigidity across countries requires making judgments about the strength of similar constraints in different institutional settings and political realities. Therefore, for simplicity and to be able to compare measures across a large set of countries, we decided to employ a minimal and generally accepted measure of rigidities (see Vegh et al., 2017): the sum of public wages, social benefits,[3] and debt services as a share of GDP.

These expenditure categories, which are naturally rigid, are difficult to cut in the short run because of political economy or credit market access problems. The consensus among policy makers in the region is that, the higher they are, the more difficult it becomes to follow fiscal consolidation via expenditure reduction. Not surprisingly, the countries in the region that require greater fiscal adjustment are generally those countries with the highest shares of rigid expenditures (Figure 3).

[3] Given that several countries do not report pensions, we use a proxy of social benefits derived from current expenditure subtracting wages, interests, and goods and services.

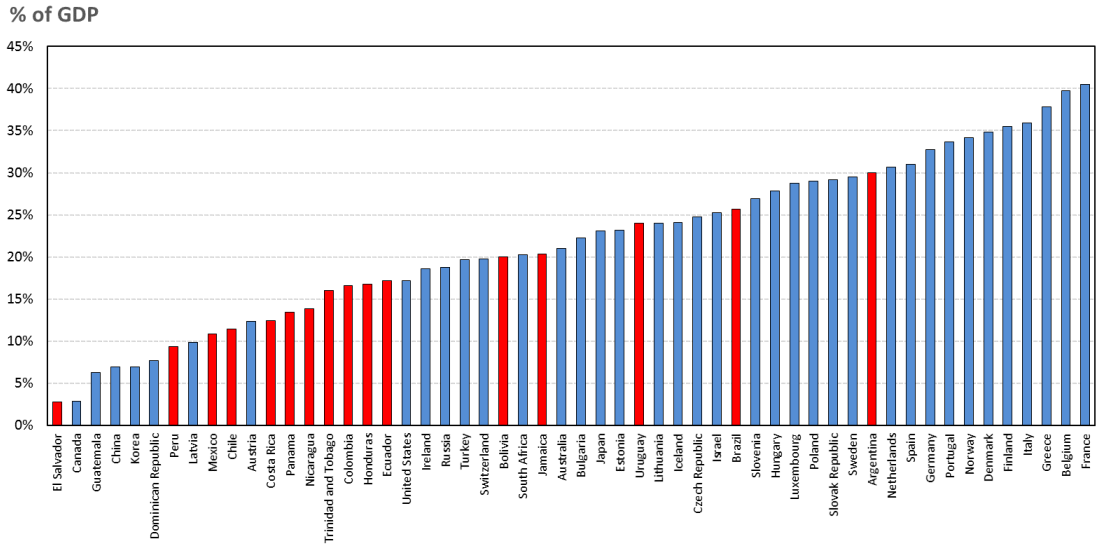
Figure 3: Primary deficits and rigid spending as a share of GDP in 2017



Source: WEO (April 2018)

However, public spending on wages, pensions and debt service as a share of GDP is lower in Latin American countries than in OECD countries (Figure 4 shows red bars tend to be to the left of blue bars). Despite this, OECD countries have been able to consolidate since 2012 (see above), while the fiscal deficit in most Latin American countries has continued growing. Thus, there must be something else. Perhaps it is not the observed level of these components of expenditures.

Figure 4: Budget Rigidities as a share of GDP (2017)

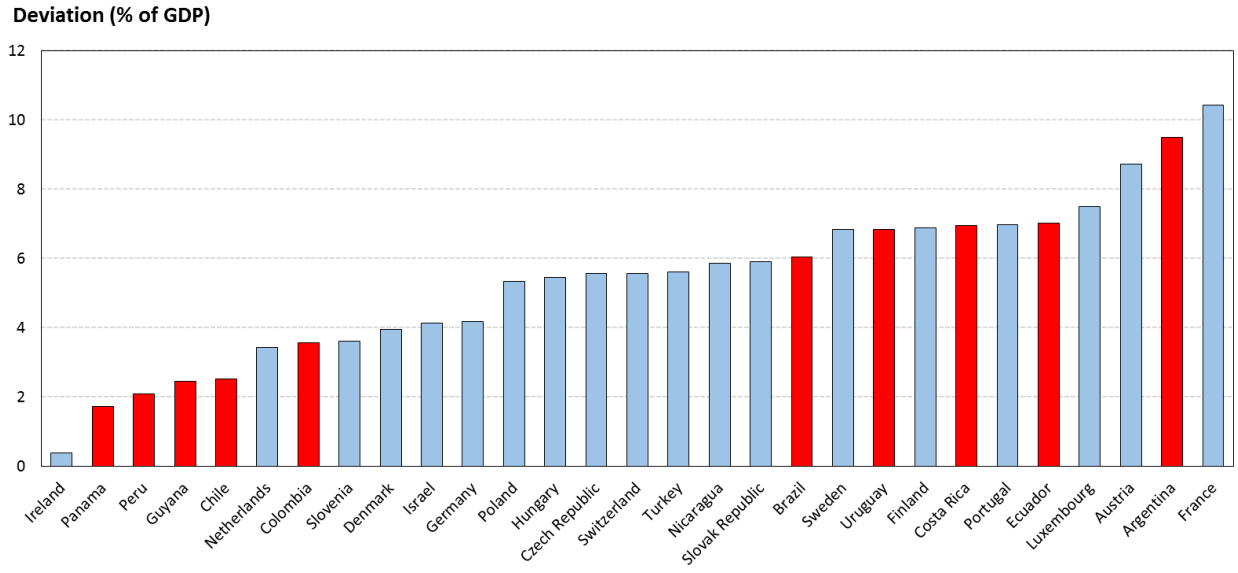


Source: WEO (April 2018)

One hypothesis that we discuss in this paper is that it is not the actual level that governments are spending in these areas that matters, but how much they are overspending in these areas. To look at this, we decompose this measure of rigid spending into a structural and a non-structural component. The structural level is determined by long-run economic fundamentals beyond the policy makers' control (i.e., the level of development and productivity of the country, which should affect the level of public wages; demographic factors that affect the level of pensions than governments must pay). The non-structural one is the difference between the observed and the structural.

When we make this decomposition, we see that, although in Latin America the actual level of the rigid components of government spending is relatively low compared to the OECD, the non-structural components are relatively high. As Figure 5 shows, spending on public wages and on pensions in some countries in Latin America (Argentina, Uruguay, Ecuador, Costa Rica and Brazil) is significantly above what a model based on their level of development and demographic factors would predict.

Figure 5: Wages, pensions and debt service deviation from predicted value (2017)



Source: Authors' own calculations based on data from IMF, World Bank and national institutes of statistics.

This could be because these components of spending have increased too fast during the commodity super-cycle period, leaving the countries with a higher level of rigid spending than they could tolerate (Table 1). For instance, the public wage bill in Argentina, Chile, Costa Rica, Ecuador, and Panama has increased significantly due to generous policy of public hiring and generous wage arrangements. Also, social benefits (mainly pensions) have increased strongly in Argentina, Brazil, Ecuador and Uruguay

because of changes in the eligibility criteria, with more generous replacement ratios and changes in indexation rules.

Table 1: Changes in primary deficit and items of public expenditures between 2008 and 2017 (% of GDP)

Country	Primary deficit	Public wages	Social benefits	Interest
Argentina	6.2%	3.3%	5.0%	0.5%
Peru	6.1%	0.9%	-0.3%	-0.5%
Chile	5.9%	1.5%	-0.5%	0.3%
Brazil	5.5%	0.1%	2.1%	0.5%
Costa Rica	5.3%	1.7%	-0.1%	0.6%
Ecuador	4.9%	2.2%	2.4%	1.0%
Panama	3.1%	1.9%	-0.6%	-1.4%
Colombia	2.1%	-0.2%	0.4%	-0.1%
Uruguay	1.6%	0.6%	4.0%	0.3%

Source: Authors' own calculations based on data from IMF, World Bank and national institutes of statistics.

To estimate how these measures of budget rigidities affect the probability of countries getting into fiscal distress and the likelihood of doing a fiscal adjustment, we use the following strategy. First, we identify periods of adjustment needs based on two different methodologies: one based on consecutive years of primary gaps above certain threshold, and the other based on the level of debt. Second, we identify periods of fiscal adjustment as years where there was at least a 0.1% of GDP improvement in the cyclically adjusted primary balance for two consecutive years (Escolano et al., 2014). Then, we estimate a linear probability model using a panel of 182 advanced and developing countries controlling for economic and political factors that previous literature has identified as potential determinants of governments having fiscal adjustment needs and the ability to do so.

We find that the actual levels of rigid components of public spending (wages, pensions and interests) are positively associated with the probability of countries getting into fiscal distress and are negatively associated with the ability to consolidate. This result may appear counterintuitive, as many advanced economies with relatively high shares of rigid spending have had successful fiscal consolidations. However, we find more robust evidence by using the share of non-structural rigid spending (when spending on public wages and pensions is above what the fundamentals of their economy would suggest), which may explain why these apparently rigid economies have been able to pursue fiscal consolidations. Moreover, the effect of rigid expenditure seems to be more relevant for economies with higher inequality, government with lower margin of majority and countries with lower institutional

quality. In addition, when looking at the composition of our measure of rigid expenditure, we also find some evidence that higher expenditure in pensions reduces the probability of fiscal adjustment more robustly than higher expenditure in wages.

The rest of the paper is organized as follows. Section 2 presents a review of the relevant literature to highlight our main contributions. Section 3 presents the conceptual framework. Then, sections 4 and 5 present the estimation methodology and the main results of the paper. Finally, section 6 concludes.

2. Literature review

This paper is related to several strands of research in the literature (see Table 9 in the appendix). First, it is related to the large literature on the determinants of fiscal distress and adjustment (see Perotti, 1998; Persson and Tabellini, 1999; and Pinho, 2004 for general surveys). Although this literature is extensive, very few studies have focused on the size of budget rigidities and the difficulty of achieving large fiscal adjustments. This literature has identified major determinants of the likelihood of starting fiscal consolidation and its success. Most of the literature concentrates on the composition of consolidation, whether it should be based on expenditure cuts or revenue increases. There seems to be a consensus that adjustments based on expenditure cut tend to be more successful that adjustments based on raising revenues. Adjustments based on expenditure cuts are found to be more effective (Alesina and Ardagna, 1998; Ardagna, 2009; von Hagen et al., 2002; Guichard et al., 2007; Barrios et al., 2010), and the main explanation is that they are often coupled with reforms that enhance the effectiveness of budgetary procedures (European Commission, 2007).

Evidence shows that fiscal consolidation is more likely during periods of weak public finance conditions (Barrios et al., 2010; Guichard et al., 2007; European Commission, 2007; Von Hagen and Strauch, 2001). Stronger economic growth can contribute to successful consolidations (von Hagen and Strauch, 2001), as positive output gaps increase the probability of launching a retrenchment. In particular, governments are more likely to undertake consolidation efforts when the domestic economy is doing well relative to other economies (Von Hagen and Strauch, 2001).

Perhaps closer to the spirit of our paper, some studies have shown that reducing budget items that are politically sensitive makes a significant contribution to successful consolidations (Perotti et al., 1998). While some studies find that cutting social spending and transfers is key to reach a successful consolidation (Guichard et al., 2007), others find that fiscal consolidation should incorporate cuts in welfare spending and government wages to be successful (Alesina and Perotti, 1997). Von Hagen and

Strauch (2001) find that, in OECD countries, cuts in subsidies and transfers reduce on average 50% of current spending during successful consolidations. Cutting public wage expenditures contribute an average of 36% to the reduction in public spending during successful consolidations. On the contrary, they find that a characteristic of unsuccessful fiscal consolidation episodes is that public wages do not fall significantly in relation to GDP. In sum, these results suggest that tackling politically sensitive budgetary items is a characteristic of successful consolidations.

A main difference between our paper and most of previous studies in this literature is that we include both advanced and emerging economies, whereas most previous studies (see Table 9 in the appendix) focus only on advanced economies (usually a subset of OECD countries). A second important difference is that most of this literature starts by identifying a fiscal adjustment based on changes in the cyclically adjusted primary balance and examines how successful those adjustments were, where success is usually defined in terms of the lasting effect the adjustment program has on reducing the government debt-to-GDP ratio (see Table 9). In this paper, we first identify which countries are in need of fiscal adjustment (we do this by applying two different methodologies described below) and estimate if budget rigidities contribute to fiscal distress. Then, among the countries that need to adjust, we estimate whether budget rigidities represent a constraint to fiscal consolidation.

Second, this paper is related to the literature analyzing the economic implications of budget rigidities. The literature on budget rigidities is surprisingly limited given how well-known and pressing the problem is to policy makers in Latin America. Several authors argue that budget rigidities introduce inefficiencies (Echeverry and others, 2005, 2006 and 2009; Mattina, 2007). These studies suggest there is a negative association between rigidity and efficiency of the public sector, where countries with more rigid spending (measured as a percentage of primary spending or as a percentage of GDP) have lower efficiency scores. According to the previous literature, budget rigidities negatively affect budget management by limiting the reallocation of public spending in response to changing needs, promoting poor quality fiscal adjustments and generating a bias towards higher spending and taxation, introducing distortions in tax policy choices, limiting the scope for countercyclical fiscal policy, and weakening incentives to improve the efficiency of public spending (Alier, 2006).

The paper that comes closest to our work is Lavigne (2011), which uses a similar methodology: first identify a fiscal adjustment need and then the determinants of successful adjustment. However, our study differs with respect to Lavigne (2011) in two dimensions. First, it differs because of the criteria used to identify fiscal adjustment needs and the fiscal consolidation process, and the inclusion of budget

rigidities as determinants of adjustment needs as well as constraints to successful fiscal adjustments. Second, we take into consideration the panel nature of the data and estimate a model that controls for unobserved time-invariant heterogeneity across countries. This issue in the literature of fiscal adjustment has been previously pointed out by Mierau et al. (2007).

3. Conceptual framework

The goals of this paper are first to analyze if budget rigidities contribute to countries getting into fiscal distress and second if budget rigidities represent a constraint to initiate fiscal consolidations. To answer these questions, we develop a framework where a country starts off either in a situation of fiscal need or not. If the country does face a need for fiscal adjustment, then the government must decide whether to attempt it or not. In this process, budget rigidities enter twice. First, they can play a role getting countries in fiscal distress, making a fiscal adjustment a requirement to stabilize or reduce the public debt. Second, in those countries where a fiscal adjustment is necessary, governments must decide whether to do the adjustment or not. Here budget rigidities, in combination with economic and political factors can play a key role.

The concept of fiscal need is critical to our purpose. We assume that when any country is facing an objective need for fiscal adjustment, the government will attempt to do so; if it does not do so, it is because of institutional, economic and/or political factors that constrain the government's ability. For this hypothesis to be reasonable, the fiscal need must be clear and pressing. We identify episodes of fiscal adjustment need using two different approaches. First, we follow Escolano et al. (2014) to define fiscal adjustment need as years in which a country is facing a positive primary gap for two consecutive years greater or equal than an arbitrary threshold (see below for more details). Second, we consider the case of countries with the ratio of public debt over average revenue above a country-specific rolling Gaussian weighted average for two consecutive years.

Conceptually it is clear how budget rigidities can increase the probability of countries getting into fiscal distress and constrain the ability of governments to consolidate. The political economy theory emphasizes that government spending often increases because relevant expenditure items are rigid as a result of entitlements or indexation to economic variables that are outside the control of the government (Perotti et al., 1998). This way, expenditures cannot be modified during the annual decision-making

process over the public budget. These can be very important sources of the loss of control of fiscal policy that can get countries into fiscal distress.

Similarly, indication that Latin American countries face tough political battles when trying to implement the fiscal adjustments that involve cutting public wages or social benefits is widespread. For example, Argentina's lower house on December 2017 had to suspend a vote on President Mauricio Macri's pension reform plan (which hoped to limit the growth rate of pensions bill), after the debate became a shouting match and protesters and police clashed violently outside Congress. The bill, which was crucial for the government's efforts to cut the fiscal deficit, drew strong criticism from opposition politicians and labor unions, who said it would hurt retirees and welfare recipients. The pension reform hoped to change the formula used to calculate benefits. Payments would adjust every quarter based on inflation, rather than the previous system of twice-yearly adjustments indexed to wage rises and tax revenue.

Also, there are several economic and political variables that can affect the sustainability of public finances. A consensus within the political economy literature is that governments pursue expansionary fiscal policies before elections to get re-elected (see de Haan and Klomp, 2013 for a survey). This means that governments are unlikely to introduce fiscal adjustments when elections are near, as that will be politically very costly. Furthermore, governments are likely to follow expansionary fiscal policies during election years to increase their probabilities of being (re)elected. In sum, the fact that a country is in an election year should increase the probability that the country gets into fiscal distress, and if it is already in need of fiscal adjustment, reduce the probability that a fiscal consolidation process is initiated. However, voters may be fiscal conservatives and therefore not reward expansionary policies during elections (Pelzman, 1992).

The margin of majority is another political variable that can affect the fiscal status of countries. Lack of political stability or a minority in Congress can reduce effective government control over the budgetary process, increasing the chances of a successful fiscal effort. Previous empirical evidence shows that an index of political fragmentation correlates well with the size of deficits in advanced countries (Roubini and Sachs, 1989). This is due to short tenures and the difficulty of reaching an agreement among different political parties, explaining why coalition governments are more prone to fiscal indiscipline. Other authors have shown that a highly polarized government with alternating majority in Congress increases the risk of electoral loss and leads policy makers to run deficits that will constrain the actions of their successors (Tabellini and Alesina, 1990).

Societal divisions that lead to social conflict can also affect the sustainability of public finance. In particular, the level of income inequality can affect the composition and size of government spending. In the words of Sachs (1989), "Economic policymaking in Latin America remains a battleground of conflicting interest of class, sectors, regions, and ethnic groups." Part of the reason is that income inequality in Latin America remains relatively high. If we take a model with heterogeneous households, these households are going to have different opinions regarding the convenience of following a fiscal adjustment based on cutting public spending. Indeed, the medium voter theory, when income inequality is very high, would predict that voters would rather vote to increase tax rates rather than cut spending. In more unequal societies, the median voter will be relatively poorer than the average household (her income will be lower in relation to mean income). Therefore, if net governmental transfers (transfers minus direct taxes) are progressive, the more unequal is the income distribution, the more the median voter has to lose through fiscal consolidations that are based on cutting current public spending.

4. Estimation methodology

The core of the investigation consists of identifying episodes in which countries need fiscal adjustment and whether they adjust or not during those episodes. Having these episodes identified, we will analyze potential economic and political determinants of them with a focus on the impact of a measure of budget rigidities.

I. Identifying fiscal adjustment need

We identify episodes of fiscal adjustment need using two different approaches. First, we follow Escolano et al. (2014) to define fiscal adjustment need as years in which a country is facing a positive primary gap for two consecutive years greater or equal than an arbitrary threshold. The primary gap is defined as:

$$y_{it} = p_{it}^{*} - p_{it}$$

where y_{it} is the primary gap (in percent of GDP), p_{it}^{*} is the debt-stabilizing primary balance (in percent of GDP), and p_{it} is the actual primary balance (in percent of GDP). We construct the debt-stabilizing primary balance under current market conditions (as defined in Kose et al., 2017) by using:

$$p_{it}^{*} = \frac{(r_{it} - g_{it})}{(1 + g_{it})} d_{it}$$

where r_{it} is the nominal interest rate at the current level, g_{it} the country nominal GDP growth rate, and d_{it} is a constant stock of debt (in percent of GDP) based on the historical country-group (advanced economies, and emerging markets and developing economies) median debt stocks as the target debt ratio.

The threshold is set to the median primary gap among the countries with positive gap and it is computed by country-group. For advanced countries it corresponds to a primary gap of 3.7% of GDP and for EMEs is 5.7% of GDP.

Second, we consider the case of countries with the ratio of public debt over average revenue (defined in Kose et al., 2017 as a measure of fiscal space) above a country-specific rolling Gaussian weighted average for two consecutive years.

Table 10 shows the episodes of adjustment need identified for advanced economies. We identify 38 episodes for 26 countries (out of 34 for which we have data). Table 11 shows 68 episodes identified for emerging economies, they span across 49 countries (of 70). Similarly, Table 14 and Table 15 show the episodes identified using debt-to-revenue ratios. We identify 78 episodes for 35 advanced economies (of 36) and 301 episodes spanning across all the 146 developing countries with available data.

II. Identifying fiscal adjustment

To identify episodes of fiscal adjustment, we follow Escolano et al. (2014) and define adjustment status as periods in which there are two consecutive years with an annual change of at least 0.1% of GDP in the cyclically adjusted primary balance during years of fiscal need. We consider that a period of adjustment continues when the cyclically adjusted balance shows a positive or null change and when a fall of less than 0.3% of GDP is followed by an improvement of at least 0.5% of GDP. These episodes need to coincide with a period of fiscal need, hence for each measure of fiscal need we can compute a different set of episodes of fiscal adjustment.

Table 12 shows the 16 episodes of adjustment identified for advanced economies which span across 14 countries (of 26 economies with episodes of need). Table 13 shows the case of emerging economies, we find 18 episodes for 16 countries (of 49 economies with episodes of need). Similarly, Table 16 and Table 17 use need with debt/revenue. We find 59 episodes of fiscal adjustment in advanced economies including 32 countries (of 35 with episodes of need), and 120 episodes in developing economies which span across 89 countries (of 146).

III. Measuring budget rigidities

Measuring budget rigidities in a cross-country setting is a difficult task, as differences in institutional settings represent a major obstacle to systematically collect international data that can be compared across a large set of countries. Comparing budget rigidity across countries requires making judgements about the strength of similar constraints in different institutional settings and political realities. For simplicity, in this paper we have employed a minimal and generally used measure of rigidities (Vegh et al, 2017): the sum of public wages, social benefits,[4] and debt interest payments as a share of GDP; the components of spending that are naturally rigid. This measure of rigidities assumes that these expenditures categories are, in the short run, beyond the policy makers' control.

However, looking only at the actual level of these rigid components of public expenditures could be misleading, in particular for the cases of public wages and social security benefits. For instance, it should be clear that the ratio of public wages to GDP of Honduras will be significantly below the level of France, as they have different levels of productivity. Economic theory teaches us that the wage level increases with the level of wealth of the country (the Balassa and Samuelson effect). Balassa-Samuelson show that different productivity levels across countries lead to higher wages in wealthier countries (higher productivity countries). Similarly, the share of social security (pensions) in GDP will also be affected by demographic factors as well as the level of productivity in the country (as higher wages are related to higher pensions). Thus, theory predicts that the sum of public wages and social benefits as a percentage of GDP (or total public expenditures) will be higher in more advanced countries than in less advanced ones. But having higher shares of public wages and pensions, as theory would predict, will not necessarily get countries into fiscal distress or limit the ability of governments to adjust the fiscal deficit. At the end, their economic structure suggests that these components of government spending should be relatively high in the long-run.

Therefore, we also estimate a second measure of rigidity of government spending considering that the wages and pensions can be decomposed into a structural and a non-structural component. While the structural component is determined by long-run economic fundamentals beyond the policy makers' control, the non-structural one is determined by policy decisions. The structural components are interpreted as the level of spending the countries should have based on their level of development, productivity and age-profile of the population. Then, we compare the structural component of general

[4] Current expenditure minus purchase of goods and services, expenditure in wages and paid interests.

government wage bill and pension payments with the observed rigid spending to arrive to the non-structural. When countries are above their structural level, this means that they could be overspending in areas that are relatively rigid (difficult to reduce in the short run). This could lead them to fiscal distress and reduce their ability to adjust the fiscal deficit through budget cuts.

To estimate the structural level of compensation to employees (see section on measurement), we estimate a fixed effects model (for 166 countries over the period between 1990 and 2017) that includes as dependent variable the log of the compensation of employees per capita in constant international dollars regressed against the log of GDP per capita, a linear time trend, and the log of the population. In the case of pensions, we run a fixed effects regression (for 63 countries over the period between 1990 and 2017) using pension payments per capita in constant international dollars as dependent variable, and the old age dependency ratio, GDP per capita in constant international dollars (as a proxy for wage levels, see section on measurement in this report for more details), and the revenues of the general government social security system in constant international dollars, as explanatory variables. In both cases, we correct downward the predicted values using 1.5 times the interquartile range of the residuals.

IV. Estimation framework

The econometric specification is a linear probability model and corresponds to the following:

$$Y_{it} = \alpha_i + \beta X_{it} + Z_{it}\delta + \varepsilon_{it}$$

where Y_{it} is a binary dependent variable that indicates the fiscal status (need or adjustment conditional on having need) in country *i* at year *t*; X_{it} is a measure of the degree of budget rigidities; Z_{it} is a matrix that include a set of economic and political economy control variables; β and δ are the coefficient of interest and a vector of coefficients associated with the control variables; α_i is a country fixed effect to control for potential unobserved time-invariant factors in the regression; and ε_{it} a mean-zero random disturbance.

The variable of interest corresponds to a measure of budget rigidity:

a) Traditional: The sum of compensation to employees, social security and interest payments as share of GDP;

b) Structural: We compute the deviation between the traditional measure and a structural component that reflects the minimum expenditure a country could have given its level of development and other structural factors.

As control variables we use a group of economic and political variables previously analyzed in the literature of successful fiscal consolidations.

In the economic variables we include lagged real GDP growth, lagged inflation rate, and international interest rate (long-term U.S. government bond yield: 10 years). These variables are taken from the IMF World Economic Outlook (October 2018).

The information from political variables (majority government and election year) come from the Database of Political Institutions 2017, which is hosted at the Inter-American Development Bank and has coverage of 180 countries from 1975-2017. Rule of law comes from the PRS Group in their International Country Risk Guide. The scores are based on evaluations from experts surveyed and the data are available since 1984 for a group of 140 countries. The Gini coefficient comes from the data set "All the Ginis" created by Branko Milanovic. Table 2 shows some summary statistics of the control variables for the sample with available data to identify need of fiscal adjustment.

Table 2: Descriptive statistics of the control variables

	a) Sample with primary gap					b) Sample with debt/revenue ratio				
	N	mean	SD	min	max	N	mean	SD	min	max
GDP growth		0.03	0.04	-0.16	0.30		0.04	0.05	-0.46	0.92
Inflation		0.06	0.10	-0.09	2.02		0.06	0.10	-1.30	2.02
Interest rate		3.91	1.55	1.80	8.55		4.11	1.64	1.80	8.55
Gini		39.09	9.84	17.50	74.30		40.31	9.78	17.50	77.40
Rule of law		4.10	1.40	1.00	6.00		3.89	1.37	0.00	6.00
Margin of Majority		0.59	0.17	0.05	1.00		0.64	0.20	0.03	1.00
Election's year		0.29	0.45	0.00	1.00		0.25	0.43	0.00	1.00
Observations	2002					4046				

V. Results

In general, the results provide evidence that budget rigidities do affect the probability that countries get into financial distress; in addition, we find evidence on rigidities being a constraint for successful fiscal consolidations. Indeed, the factors found to increase the probability of achieving a successful adjustment effort are not necessarily the same as those favoring the maintenance of sound fiscal policies.

On the determinants of need of fiscal adjustment

In general, the results presented in Table 3 and

Table *4* are in harmony with our expectations. The first insight is that higher shares of budget rigidities are positively and significantly associated with the need of fiscal adjustment.[5] This result is robust to the inclusion of political and economic control variables, as well as to the different methodologies to identify the need for fiscal consolidation (using primary gap or debt over revenue). The results are consistent with the findings of previous studies, i.e., Perotti et al. (1998), who show that higher levels of public wages and social transfers are associated with unsustainable paths of fiscal policy. In addition, the impact of the budget rigidities differs between advanced and emerging economies, being lower in the case of the later (see column 5 in Table 3 and

Table *4*).

Economic factors: our results show that economic factors, such as economic growth, inflation and interest rate, are significant determinants of the need for fiscal adjustment but only growth appears to be robust across different specifications. As expected, higher economic growth in previous years reduces the need for fiscal adjustment. This is consistent with economic theory, as stronger economic growth increases tax revenues, reducing the fiscal deficit. In the case of inflation, the positive and significant coefficient (although not across all specifications) fits with the idea that higher increases in prices are generally associated with bad macroeconomic management, which should lead to periods of fiscal distress. The level of interest rate is negatively associated to fiscal need although only statistically significant when we use the structural measure of rigidities (Table 18 in the Appendix). This is puzzling considering that we would expect higher financing costs leading to more fiscal distress.

[5] The results are qualitatively similar if we use the structural measure, these are reported Table 18 and Table *19* in the Appendix to save space.

Political variables: the previous literature has identified several political factors that can affect the need for fiscal adjustments, focusing mainly on the possible role of elections and budget institutions (Beetsma and others, 2009, 2012 and 2015). In general, these variables are not statistically significant, suggesting that political economy factors do not play a significant role in the dynamics of fiscal adjustment. The only exception is election year, which is positive and significant in specifications that identify need using the primary gap (Table 3 and Table 18 in the Appendix), in line with the prediction of political economy theory that during election years governments are more likely to increase spending (to increase the likelihood of winning the election) and get countries into fiscal distress.

Interactions: In addition to adding economic and political controls, we estimate models that allow for non-linearities in the impact of budget rigidities. We do so by interacting our variable of interest with a binary variable indicating developing economies and our political controls. We find some evidence that the impact of the budget rigidities differs between advanced and emerging economies, being lower in the case of the latter (see column 5 in Table 3,

Table *4*, and Table 18 and Table 19 in the Appendix). We do not find any significant role in the case of the political factors except for some limited evidence that higher rule of law increases the impact of budget rigidities on the probability of fiscal need (see column 7 in Table 4 and

Table *19* of the Appendix). This result could potentially be explained by a stronger enforcement of legal rigidities in the budget, but more research is needed to make this statement categorically.

Composition: To study the composition of our measure of rigid expenditure, we run a similar set of regressions separating the wage bill from social security expenditure. The results, which are reported in Table 20 and Table 21 of the appendix, are qualitatively similar and suggest that both components are associated with an increase in the probability of fiscal adjustment need.

Table 3

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.037***	0.033***	0.038***	0.032***	0.041***	0.033***	0.021	0.028***
(% of GDP)	(0.006)	(0.005)	(0.006)	(0.005)	(0.007)	(0.010)	(0.013)	(0.009)
Economic factors								
GDP growth (t-1)		-1.928***		-1.829***	-1.749***	-1.824***	-1.820***	-1.841***
		(0.413)		(0.420)	(0.409)	(0.424)	(0.416)	(0.424)
Inflation (t-1)		-0.090		-0.053	-0.049	-0.053	-0.051	-0.056
		(0.074)		(0.066)	(0.062)	(0.066)	(0.067)	(0.067)
U.S. Interest rate		-0.012		-0.015	-0.017	-0.015	-0.017	-0.015
		(0.010)		(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Political factors								
Gini			0.007	0.005	0.005	0.006	0.005	0.005
			(0.005)	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)
Rule of law			0.002	0.012	0.004	0.012	-0.053	0.013
			(0.029)	(0.030)	(0.029)	(0.030)	(0.050)	(0.030)
Margin of Majority			0.092	0.059	0.066	0.059	0.063	-0.094
			(0.123)	(0.124)	(0.124)	(0.124)	(0.125)	(0.231)
Election's year			0.021	0.028*	0.029**	0.028*	0.028*	0.028*
			(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Interactions								
EMEs * Rigidity					-0.017*			
					(0.010)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidity							0.002	
							(0.002)	
Majority * Rigidity								0.007
								(0.012)
Constant	-0.840***	-0.607***	-1.212***	-0.884***	-0.874***	-0.913**	-0.618*	-0.796***
	(0.163)	(0.136)	(0.308)	(0.277)	(0.275)	(0.346)	(0.327)	(0.297)
Observations	1,521	1,500	1,360	1,342	1,342	1,342	1,342	1,342
R-squared	0.126	0.182	0.139	0.186	0.193	0.186	0.188	0.187
Number of ifscode	84	84	75	75	75	75	75	75
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 4

Dependent variable: Need of fiscal adjustment based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.023***	0.024***	0.026***	0.023***	0.051***	0.019	0.001	0.031***
(% of GDP)	(0.004)	(0.005)	(0.007)	(0.007)	(0.011)	(0.019)	(0.014)	(0.012)
Economic factors								
GDP growth (t-1)		-1.357***		-1.688***	-1.449***	-1.694***	-1.631***	-1.666***
		(0.320)		(0.334)	(0.340)	(0.335)	(0.343)	(0.332)
Inflation (t-1)		0.020		0.214	0.232*	0.215	0.200	0.217*
		(0.135)		(0.132)	(0.130)	(0.132)	(0.133)	(0.131)
U.S. Interest rate		0.005		0.001	-0.004	0.001	-0.003	0.001
		(0.011)		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Political factors								
Gini			0.008	0.007	0.006	0.005	0.007	0.007
			(0.005)	(0.005)	(0.005)	(0.009)	(0.005)	(0.005)
Rule of law			0.025	0.033	0.023	0.034	-0.100	0.032
			(0.038)	(0.046)	(0.046)	(0.046)	(0.087)	(0.046)
Margin of Majority			-0.091	-0.073	-0.080	-0.072	-0.073	0.146
			(0.152)	(0.156)	(0.151)	(0.156)	(0.158)	(0.285)
Election's year			-0.009	-0.012	-0.009	-0.012	-0.011	-0.013
			(0.015)	(0.015)	(0.016)	(0.015)	(0.016)	(0.016)
Interactions								
EMEs * Rigidity					-0.043***			
					(0.014)			
Gini * Rigidity						0.000		
						(0.000)		
Rule of law * Rigidit							0.006*	
							(0.003)	
Majority * Rigidity								-0.013
								(0.013)
Constant	-0.125	-0.106	-0.558*	-0.455	-0.508*	-0.383	0.015	-0.589*
	(0.096)	(0.122)	(0.321)	(0.299)	(0.290)	(0.420)	(0.393)	(0.337)
Observations	3,046	2,911	2,066	2,007	2,007	2,007	2,007	2,007
R-squared	0.026	0.042	0.031	0.049	0.064	0.049	0.054	0.050
Number of ifscode	147	145	103	102	102	102	102	102
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Probability of a successful fiscal adjustment

Our results for the probability of fiscal adjustment are reported in Table 5 and Table 6 using the traditional measure of fiscal rigidities, and Table 7 and Table 8 using the structural measure. In general, we find evidence suggesting that budget rigidities affect the probability of fiscal adjustment. This negative

effect is robust to the inclusion of different controls as well as the different methods used to define episodes of fiscal adjustment need. Moreover, in contrast to the case of fiscal need, we do not find evidence of a different impact on the probability of adjustment in the case of emerging economies.

Economic variables: In contrast to the case of fiscal adjustment need, we do not find a statistically significant impact of previous GDP growth in any of our specifications. However, we find some evidence of a positive correlation with previous year level of inflation and a negative correlation with the international interest rate. The impact of the interest rate is coherent with previous studies that have documented that consolidation efforts are more likely to be pursued and to succeed if monetary policy stance is eased (Ahrend et al., 2006). The positive association between inflation and the probability of fiscal adjustment is more puzzling.

Political variables: Unlike several previous studies, but in line with Mierau et al. (2007) and Wise et al. (2018), our results do not suggest that political-economy variables are robustly related to successful fiscal adjustments. Like us, both take into consideration the panel nature of the data, which may explain the difference with previous papers. We find a negative correlation in the case of the rule of law although not robust to the inclusion of economic factors. Lavigne (2011) argues that lower rule of law could increase the likelihood of adjustment in developing countries by allowing government to take drastic actions sometimes required to adjust their fiscal policy, our results are in line with this hypothesis. The margin of majority appears to increase the probability of fiscal adjustment (see column 4 in Table 6 and Table 8), but the result is statistically significant only when we use debt/revenue to identify episodes of need.

Interactions: as we do in the case of fiscal need, we estimate models that allow for non-linearities in the impact of budget rigidities on the probability of fiscal adjustment. We find some, although weak, evidence of nonlinearities. The effect of budget rigidities appears to be weakened with higher rule of law (see column 7 in Table 5 and Table 7) and higher margin of majority (see column 8 in Table 5). On the other hand, income inequality seems to strengthen the effect of rigidities (see column 6 in Table 5 and Table 7).

Composition: when we estimate models that consider the wage bill and social security expenditure separately (see Table 22 and Table 23 in the appendix), we find that social security expenditure appears to be more robustly associated with a decrease in the probability of fiscal adjustment. The coefficient associated with the wage component is not statistically significant in any of

our regressions. This result is robust across all our specifications and holds using the traditional measure of rigid expenditure as well as the structural one.

Table 5

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.014	-0.023***	-0.014	-0.027***	-0.016*	0.073**	-0.080***	-0.062***
(% of GDP)	(0.014)	(0.008)	(0.013)	(0.008)	(0.008)	(0.028)	(0.028)	(0.019)
Economic factors								
GDP growth (t-1)		-0.043		0.479	0.520	0.443	0.400	0.436
		(1.337)		(1.418)	(1.392)	(1.393)	(1.419)	(1.416)
Inflation (t-1)		2.500***		2.721**	3.068***	2.991***	3.219***	2.570**
		(0.844)		(1.098)	(1.114)	(1.084)	(1.000)	(1.173)
U.S. Interest rate		-0.122**		-0.157**	-0.175**	-0.204***	-0.192**	-0.172***
		(0.051)		(0.063)	(0.072)	(0.059)	(0.072)	(0.051)
Political factors								
Gini			0.010	0.012	0.014	0.079***	0.014	0.005
			(0.010)	(0.012)	(0.012)	(0.023)	(0.012)	(0.011)
Rule of law			-0.214***	0.091	0.140	0.160	-0.124	0.090
			(0.068)	(0.131)	(0.146)	(0.133)	(0.127)	(0.132)
Margin of Majority			0.516	0.250	0.236	0.451	0.243	-1.486*
			(0.406)	(0.385)	(0.379)	(0.360)	(0.375)	(0.800)
Election's year			-0.111	-0.093	-0.085	-0.074	-0.084	-0.079
			(0.081)	(0.078)	(0.075)	(0.074)	(0.078)	(0.081)
Interactions								
EMEs * Rigidity					-0.032			
					(0.029)			
Gini * Rigidity						-0.003***		
						(0.001)		
Rule of law * Rigidity							0.012**	
							(0.005)	
Majority * Rigidity								0.072*
								(0.041)
Constant	0.611	1.167***	0.758	0.456	0.349	-2.486**	1.414	1.601*
	(0.393)	(0.288)	(0.675)	(0.923)	(0.860)	(1.225)	(0.910)	(0.931)
Observations	185	183	165	163	163	163	163	163
R-squared	0.007	0.114	0.073	0.159	0.167	0.191	0.177	0.187
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 6

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.004	-0.007	-0.009*	-0.012**	-0.013	-0.009	-0.020*	-0.026**
(% of GDP)	(0.003)	(0.004)	(0.005)	(0.005)	(0.010)	(0.015)	(0.012)	(0.010)
Economic factors								
GDP growth (t-1)		-0.329		-0.230	-0.238	-0.227	-0.209	-0.225
		(0.274)		(0.482)	(0.487)	(0.483)	(0.485)	(0.483)
Inflation (t-1)		0.038		0.098	0.096	0.100	0.101	0.084
		(0.084)		(0.164)	(0.163)	(0.164)	(0.167)	(0.164)
U.S. Interest rate		-0.023**		-0.028**	-0.027*	-0.028**	-0.030**	-0.028**
		(0.011)		(0.013)	(0.014)	(0.014)	(0.014)	(0.014)
Political factors								
Gini			0.004	0.004	0.004	0.005	0.004	0.004
			(0.004)	(0.004)	(0.004)	(0.007)	(0.004)	(0.004)
Rule of law			-0.040	-0.020	-0.020	-0.020	-0.065	-0.020
			(0.035)	(0.041)	(0.040)	(0.041)	(0.057)	(0.041)
Margin of Majority			0.221*	0.220*	0.220*	0.218*	0.223*	-0.166
			(0.132)	(0.129)	(0.129)	(0.130)	(0.129)	(0.206)
Election's year			-0.042	-0.048	-0.048	-0.048	-0.048	-0.047
			(0.030)	(0.031)	(0.031)	(0.031)	(0.031)	(0.030)
Interactions								
EMEs * Rigidity					0.002			
					(0.012)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidit							0.002	
							(0.003)	
Majority * Rigidity								0.023
								(0.014)
Constant	0.303***	0.479***	0.352	0.445	0.449	0.396	0.617*	0.678**
	(0.079)	(0.117)	(0.301)	(0.298)	(0.301)	(0.350)	(0.322)	(0.309)
Observations	1,121	1,081	771	755	755	755	755	755
R-squared	0.001	0.009	0.012	0.022	0.022	0.022	0.022	0.026
Number of ifscode	147	145	103	102	102	102	102	102
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 7

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.032***	-0.030***	-0.033***	-0.034***	-0.023***	0.082**	-0.096***	-0.066
structural as % GDP	(0.011)	(0.008)	(0.010)	(0.010)	(0.006)	(0.034)	(0.033)	(0.050)
Economic factors								
GDP growth (t-1)		0.057		0.165	0.217	0.143	0.185	0.160
		(1.317)		(1.502)	(1.481)	(1.470)	(1.491)	(1.515)
Inflation (t-1)		2.770***		3.252***	3.540***	3.537***	3.575***	3.209**
		(0.812)		(1.182)	(1.170)	(1.137)	(1.137)	(1.218)
U.S. Interest rate		-0.136***		-0.147**	-0.158**	-0.163***	-0.169**	-0.154**
		(0.051)		(0.065)	(0.066)	(0.060)	(0.069)	(0.059)
Political factors								
Gini			0.006	0.005	0.004	0.028**	0.005	0.004
			(0.009)	(0.013)	(0.013)	(0.014)	(0.013)	(0.012)
Rule of law			-0.208***	0.106	0.141	0.150	0.049	0.114
			(0.068)	(0.137)	(0.137)	(0.134)	(0.127)	(0.137)
Margin of Majority			0.385	0.155	0.106	0.228	0.114	-0.342
			(0.386)	(0.376)	(0.375)	(0.359)	(0.371)	(0.621)
Election's year			-0.110	-0.083	-0.071	-0.052	-0.079	-0.080
			(0.079)	(0.077)	(0.072)	(0.073)	(0.075)	(0.080)
Interactions								
EMEs * Deviation					-0.040			
					(0.025)			
Gini * Deviation						-0.003***		
						(0.001)		
Rule of law * Deviation							0.013**	
							(0.006)	
Majority * Deviation								0.058
								(0.096)
Constant	0.583***	0.893***	0.968	0.270	0.308	-0.810	0.689	0.589
	(0.130)	(0.190)	(0.667)	(0.937)	(0.919)	(0.979)	(0.930)	(0.845)
Observations	182	180	164	162	162	162	162	162
R-squared	0.035	0.157	0.100	0.180	0.190	0.211	0.194	0.184
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 8

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.009*	-0.012**	-0.017***	-0.020***	-0.021**	-0.017	-0.017	-0.046**
structural as % GDP	(0.005)	(0.006)	(0.006)	(0.006)	(0.010)	(0.023)	(0.019)	(0.020)
Economic factors								
GDP growth (t-1)		-0.277		-0.219	-0.229	-0.218	-0.225	-0.236
		(0.327)		(0.527)	(0.533)	(0.528)	(0.535)	(0.528)
Inflation (t-1)		0.041		0.083	0.081	0.084	0.082	0.053
		(0.085)		(0.167)	(0.166)	(0.167)	(0.166)	(0.167)
U.S. Interest rate		-0.026**		-0.031**	-0.030**	-0.031**	-0.030**	-0.031**
		(0.010)		(0.013)	(0.014)	(0.013)	(0.015)	(0.014)
Political factors								
Gini			0.004	0.004	0.004	0.005	0.004	0.005
			(0.005)	(0.004)	(0.004)	(0.005)	(0.004)	(0.004)
Rule of law			-0.054	-0.028	-0.029	-0.028	-0.023	-0.032
			(0.039)	(0.045)	(0.045)	(0.045)	(0.053)	(0.045)
Margin of Majority			0.314**	0.312**	0.311**	0.311**	0.311**	0.033
			(0.142)	(0.138)	(0.138)	(0.139)	(0.138)	(0.186)
Election's year			-0.045	-0.051	-0.050	-0.051	-0.051	-0.050
			(0.032)	(0.032)	(0.032)	(0.032)	(0.032)	(0.032)
Interactions								
EMEs * Deviation					0.003			
					(0.013)			
Gini * Deviation						-0.000		
						(0.001)		
Rule of law * Deviation							-0.001	
							(0.005)	
Majority * Deviation								0.044
								(0.030)
Constant	0.310***	0.438***	0.264	0.315	0.314	0.299	0.295	0.487*
	(0.041)	(0.065)	(0.288)	(0.283)	(0.282)	(0.291)	(0.302)	(0.293)
Observations	1,015	1,003	713	709	709	709	709	709
R-squared	0.003	0.013	0.022	0.033	0.034	0.034	0.034	0.037
Number of ifscode	137	137	98	98	98	98	98	98
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

VI. Robustness checks

We evaluate the robustness of our findings by estimating six sets of regressions that either slightly modify the way in which we construct the dependent variable in our baseline specifications or keep the dependent variable but change the estimator.

First, we estimate the same econometric specifications using a pooled logistic regression instead of a linear probability model.[6] We find qualitatively similar results in the case of fiscal adjustment need (Table 24, Table *25*, Table *26*, Table *27* in the Appendix), being again positively correlated with rigid expenditure. The main difference in this exercise is that now the political factors play a greater role. Economic inequality, margin of majority, and election year are all statistically significant with positive sign, while the rule of law is negatively correlated with fiscal adjustment need. We also find that developing economies seems to have higher probability of need, and that margin of majority attenuates the effect of budget rigidities while the rule of law strengthens them. In the case of the probability of fiscal adjustment (Table *28*, Table *29*, Table *30*, and Table 31 in the Appendix), we find that rigid expenditure increases the probability of adjustment, which is at odds with our conceptual framework. This result could be in part driven by the unobserved heterogeneity, which it is not controlled by our pooled estimator. The role of economic factors remains as in our baseline estimation while the political factors again appear to be more relevant compare to the baseline estimation. We find some evidence of nonlinearities with regards to income inequality and rule of law.

Second, we consider the same econometric specifications but instead of using the previous pooled logit estimator, we apply a conditional logit estimator, which attempts to control for the unobserved heterogeneity while staying in the maximum likelihood framework.[7] In the case of fiscal need (Table 32, Table *33*, Table *34*, Table 35 in the Appendix), the results are again qualitatively similar with a positive and statistically significant association between adjustment need and rigid expenditure. The economic factors remain as the baseline exercise in terms of sign and statistical significance. The political factors are still significant but less robust across specifications, and we again find some evidence of nonlinearities in the effect of the rigid expenditure. In the case of fiscal adjustment (Table 36, Table *37*, Table *38*, and Table 39 in the Appendix), our results are consistent with our baseline linear probability model, and we find the same, although weaker, evidence of a negative relationship between rigid

[6] Lavigne (2011) among others have estimated their models with this approach (see the summary of the literature in Table 9: Literature review of the Appendix).
[7] Miearau et al. (2007) apply the same type of estimator to study fiscal adjustment in OECD countries.

expenditure and the probability of fiscal adjustment. It is worth noting that the sign of the effect of budget rigidities switches from positive to negative when we control for unobserved heterogeneity, in other words, when we move from a pooled logit model to a conditional logit or linear probability model with fixed effects. The role of economics factors, political factors, and nonlinearities is also consistent with our baseline specification, which supports our claim that unobserved heterogeneity could be driven the results in the pooled logit estimator. Moreover, it is also worth noting that the negative effect of rigid expenditures is only statistically significant when we use the structural measure.

Third, given that we identify episodes of fiscal adjustment conditional on having fiscal need and use only those years, as a robustness check, we also attempt to control for sample selection in our estimation of the determinants of fiscal adjustment. We do so by using the Heckman two-step correction for sample selection bias in which we assume that election year affects the probability of fiscal adjustment need but does not affect the probability of fiscal adjustment. The results of this exercise are like the pooled logit estimator that does not correct for sample selection and show either a positive or an insignificant relationship between rigid expenditure and fiscal adjustment (see Table 40, Table *41*, Table *42*, and Table *43* in the Appendix). In this model, as in the pooled logit regression, we do not account for unobserved heterogeneity because the second step uses a pooled probit model that does not allow fixed effects, so our result again is likely driven by this factor.

Fourth, we estimate our baseline specifications for fiscal adjustment controlling for a measure of the size of the need of fiscal adjustment using a one year lagged value of the primary gap. Our results are consistent with our baseline models, we find a negative relationship that is statistically significant and robust when we identify fiscal adjustment need using primary gap or debt over revenue (see Table 44, Table *45*, Table *46*, and Table 47 in the Appendix).

Fifth, we estimate our baseline specifications with ordinary least squares but using episodes of fiscal need and fiscal adjustment identified as in Lavigne (2011), detailed in the literature review provided in the Appendix, which results in a lower number of events. The results are qualitatively similar. In the case of fiscal need (Table 48 and Table *49* in the Appendix), we confirm the positive association with rigid expenditure, the lack of significance for most of the political factors and that the results for the economic variables continue to hold but the effect of economic growth is weaker. In the case of fiscal adjustment, we find the expected negative sign for rigid expenditure (Table 50 and Table 51 in the Appendix), which again is statistically significant and in contrast to our baseline models, we find that election year decreases

the probability of adjustment significantly. Lastly, unlike our baseline specification, we do not find evidence of nonlinearities in the effect of rigid expenditure.

Sixth, we estimate the model using a linear probability model identifying the episodes of need with a measure of primary gap under stressed conditions (see Kose et al., 2017), which results in a larger number of episodes. The results are qualitatively similar for the need of fiscal adjustment (Table 52 and Table *53* in the Appendix), with rigid expenditure being positively associated to need. Among the economic factors, economic growth remains as in our baseline models, but previous inflation rate and interest rate are negatively correlated. Among the political factors, only rule of law is significantly correlated with need in some of the specifications. In the case of fiscal adjustment (Table *52*Table *54* and Table *55* in the Appendix), we confirm our baseline results and find evidence that rigid expenditure reduces the probability of adjustment, however only when we use the structural measure of rigidity. Moreover, growth and the interest rate are negatively associated to the probability fiscal adjustment, as we expected. In contrast with our baseline estimation, we find statistical evidence that income inequality and the rule of law increase the likelihood of adjustment. In addition, we find some evidence of nonlinearities as the impact of rigid expenditure is attenuated by margin of majority.

VII. Conclusion

This paper was motivated by the fact that many Latin American countries are facing significant challenges to adjust their fiscal deficits. Consecutive years of large fiscal deficits contributed to sharp increases in the public debt. To bring their debt back to a sustainable path, some countries in the region need to reduce government expenditures or find new sources of revenues. However, many policy makers claim that is hard to reduce spending, as a large portion of it is explained by salaries of public employees, pensions and interest payments, all components that are rigid in the short run.

This paper contributes to the existing literature by looking at how budget rigidities affect the probability that governments get into fiscal distress and the probability that they initiate successful fiscal adjustment while they are in need. It considers the effect of budget rigidities not only during periods of fiscal adjustment, but also during periods when governments should be making fiscal efforts and fail to do so, as well as periods when no adjustment is required. Unlike several previous studies, but in line with Wise et al. (2018), our results do not suggest that political-economy variables are robustly related to successful fiscal adjustments. However, we do find evidence that budget rigidities can constrain fiscal

consolidation, especially when the rigid components (wages and pensions) are above what the structure of their economies would demand.

The key findings are that relatively high shares of rigid (observed) components of public spending (wages, pensions and interests) contribute to getting countries into fiscal distress and are a constraint for fiscal consolidation. This could come as a surprise, as many advanced economies with relatively high shares of rigid spending have had successful fiscal consolidations. Nonetheless, we find evidence that a relatively high share of non-structural rigid spending (when spending on public wages and pensions is above what the fundamentals of their economy would suggest) contributes to the probability of fiscal distress and reduces the probability of fiscal consolidation, which is stronger relative to the use of a traditional measure of rigid expenditure. Moreover, the effect of rigid expenditure seems to be more relevant for economies with high income inequality, governments with lower margin of majority and countries with lower institutional quality. Finally, we also find some evidence that higher expenditure in pensions reduces the probability of fiscal adjustment more robustly than higher expenditure in wages.

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Appendix 1: Literature Review

Table 9: Literature review

Paper	Fiscal Adjustment	Succesful fiscal adjustment	Multivariate analysis?	Sample
Alesina and Perotti (1995)	Blanchard Fiscal Impulse (BFI) is less than 1.5% of GDP	Three years after the adjustment the gross debt to GDP ratio is at least 5 percentage points lower	No.	20 (OECD), 1960-92
McDermott and Wescott (1996)	CAPB improves by at least 1.5% over two years and does not decrease in either of those years	Reduction of at least 3 (or 5) percentage points of debt to GDP ratio in second (or third) year after the adjustment.	Logit model, conditional on adjustment taking place.	20 (OECD), 1970-95
Alesina and Perotti (1997)	BFI falls by more than 1.5% of GDP of a period of two consecutive years in which BFI falls by at least 1.25% per year in both years.	If either (i) in the three years after the adjustment the ratio of the CAPB (as % of GDP) is on average at least 2% below the last year of adjustment (ii) three years after the adjustment the debt to GDP ratio is 5% below the level of the last year of the adjustment	No.	20 (OECD), 1960-94
Alesina and Ardagna (1998)	CAPB (as % of GDP) improves by at least 2%, or a period of two consecutive years in which the CAPB improves by at least 1.5% per year, in both years.	If either (i) in the three years after the adjustment, the ratio of the CAPB (as % of GDP) is on average at least 2 percentage points below its value in the year of adjustment, or (ii) three years after adjustment, government debt (as % of GDP) is 5 percentage points below its level in the adjustmnet year.	Probit model for success, conditional on adjustment taking place, but do not include spending and revenues simultaneously.	20 (OECD), 1960-96
Alesina et al. (1998)	The ratio of the primary deficit to GDP is reduced by at least 1.5%	If (i) either in the three years following the adjustment year, the deficit-to-GDP ratio is on average at least 2 percentage points below its level in the adjustment year; or (ii) three years after the adjustment, the debt-to-GDP ratio is at least 5 percentage points below its level in the adjustment year.	Only probit estimates for consequences of fiscal adjustments on political economy variables. All years included, or all years where the change om the deficit is positive.	19 (OECD), 1960-95
Haylen and Everaert (2000)	Periods of at least two consecutive years when the CAPB (as % of GDP) improved by at least 2%. Furthermore, in the first year of consolidation period the CAPB improves by at least 0.25%, whereas in all other years its change is positive.	These authors do not define succesful adjustments but estimate model for the change in the debt/GDP ratio as dependent variable.	OLS estimates using periods when adjustment took place.	19 (OECD), 1960-98
von Hagen et al. (2001,2002)	The cyclically adjusted (total) government budget balance increases by at least 1.25% of cyclically adjusted GDP in two consecutive years, or the cyclically adjusted budget balance increase by at least 1.5% of cyclically adjusted GDP in one year and was positive but perhaps less than 1.25% in both the preceding and subsequent year.	Two years after the initial adjustment, the government budget balance stands at no less than 75% of the balance in the first year of the consolidation episode.	Probit models for succesful adjustments (but do not include spending and revenue changes)	20 (OECD), 1960-98
Mulas-Granados (2003)	CAPB increases by at least 1.25% of GDP in two consecutive years, or if the change in CAPB exceeded 1.5% of GDP in one year and was less than 1.25% of GDP in the following or the precedent year.	NA.	FE models by component and LPM.	15 (EU), 1970-01
Baldacci et al. (2004)	Year (or set of years) in which the general government primary budget balance improves by at least 0.5% of GDP per year.	Primary balance exceeds the sustainability threshold at least for one year during the adjustment episode or during the following two years. A country's fiscal position is deemed sustainable when its primary balance is such that debt stock is not increasing as a share of GDP.	Probit model to determine the contribution of economic and political factors in succesful fiscal adjustments.	25 emerging market economies, 1980-01

Table A0: Literature review (continuation)

Paper	Fiscal Adjustment	Succesful fiscal adjustment	Multivariate analysis?	Sample
Tavares (2004)	The change in the primary deficit is -1.5% of GDP or less.	If the total change in the primary deficit in the 3 years after the adjustment is -1% (or less) of GDP or, 3 years after the initial adjustment year, the debt-to-GDP ratio is 5% below its level before the adjustment.	Probit model . Only adjustment periods considered.	19 (OECD), 1960-95
Ardagna (2004)	The CAPB must increase by at least 1.5% of potential GDP over two years and not decrease.	A succesful fiscal stabilization is an episode in which the CAPB improves, and, 2 years after, the debt-to-GDP ratio is at least 3% lower than in the year of the fiscal tightening.	Probit model, but sample also includes years without adjustment.	17 (OECD), 1975-02
Ahrend et al. (2006)	CAPB increases by at least 1% of GDP in one year or over two consecutive years with at least 0.5% in the first year.	Classified as seriously pursued if in the two years following the adjustment an additional adjustment of at least 1% of GDP is achieved. Success based on the cumulative adjustment.	Probit and FE estimator using cumulative CAPB changes.	24 (OECD), 1980-05
Tsibouris et al. (2006)	Any year or succession of years of uninterrupted improvement in the fiscal primary balance.	Episodes in which reversals over the first three post-adjustment years were less than 1/5 of the total adjustment.	Case studies and success rates.	165, 1971-01
Guichard et al. (2007)	Starts if the CAPB improves by at least 1% of potential GDP in one year or in two consecutive years with at least 0.5% improvement occuring in the first of the two years. Contines as long as CAPB improves allowing deterioration of no more than 0.3% in one year offset by 0.5% improvement next year and stop when CAPB stops increasing or improves less than 0.2% of GDP in one year and then deteriorates.	NA.	Probit.	24 (OECD), 1978-05
Miearau et al. (2007)	1) An improvement of the CAPB by 1.25% points in two consecutive years or an improvement of 1.5% points of the budget balance preceded by a positive change in the budgetary position. 2) Any period starting with an improvement of the budget balance by at least 0.25% in the first year, with a minimum duration of 2 years and a total improvement of 2%.	NA.	Conditional FE logit.	20 (OECD), 1970-03
Schaltegger and Feld (2009)	A period of fiscal adjustment is defined as a year in which the (cantonal and local) primary balance per GDP improves by at least 1%, or a period of two consecutive years in which the primary balance improves by at least 0.8%, in both years.	A period of fiscal adjustment is succesful if, in the three years after adjustment, the (cantonal and local) primary balance improved on average by at least 0.5%.	Probit model, but sample also includes years without adjustment.	Swiss cantons, 1981-01
Alesina and Ardagna (2010)	A period of fiscal adjustment (stimulus) is a year in which the CAPB improves (deteriorates) by at least 1.5% of GDP.	If the cumulative reduction of the debt-to-GDP ratio 3 years after the beginning of a fiscal adjustment is greater than 4.5% (the value of the 25th percentile of the change of the debt-to-GDP ratio empirical density in all episodes of fiscal adjustments).	OLS, growth regressions using only periods where an adjustment took place.	OECD, 1970-07
Biggs et al. (2010)	CAPB improves by at least 1.5% of GDP and data of Devries et al. (2011).	Debt to potential GDP ratio has declined three years following the first year of the consolidation by at least 4.5%.	No.	21 [15] (OECD), 1970-07 [1980-07]

Table A0: Literature review (continuation)

Paper	Fiscal Adjustment	Succesful fiscal adjustment	Multivariate analysis?	Sample
Barrios et al. (2010)	Improvement of at least 1.5% taking place in one single year or taking place over three years if each and every year the CAPB does not deteriorate by more than 0.5% of GDP.	If it brings down the public debt level by at least 5% of GDP in the three years following the attempt.	Two-stage probit.	27 (EU) plus 8 (OECD), 1970-08
Arin et al. (2011)	Attempts are episods where the Blanchard fiscal impulse (BFI) is above 1.5%. BFI measures the difference between a year CAPB and the unadjusted primary balance of the year before.	If at least one of the two criteria holds: 1) in the three years after the attempt, the ratio of cyclically adjusted primary deficit to GDP is on average at least 2% of GDP below the attempt year and 2) three years after the attempt, the ratio of debt to GDP is at least 5% of GDP below the level of the attempt year, as suggested by Alesina and Perotti 1997.	Probit model and IV regression with an instrument that varies only across countries.	28 (OECD), 1978-07
Lavigne (2011)	Need when cumulative total of central government deficits over the past five years is greater than or equal to 20% of GDP. An adjustment is defined as a continuous positive change in the primary balance amounting to at least 1.5% of GDP over a period of 5 years.	NA.	Logit model.	60 advanced and developing, 1985-02
Molnar (2012)	5 def. using underlying CAPB 1) continuous improvement in budget balance, 2) 1% fall in budget balance/GDP in a single year or in two years with at minumum 0.5 in the first year, 3) 1.5 fall in one or two year with at minimum 1.25 in each, 4) 1.5 fall in a single year or three with less than 0.5 deterioration in any year, 5) 2% fall in a single year or in two with a minimum of 1.5 in each.	Three definitions are used: debt stabilises 1) the year after 2) two years after 3) three years after the episode ends.	Probit, duration, truncated regression and bivariate Heckman selection models.	28 (OECD), 1960-09
Baldacci et al. (2012)	Authors do not provide definition of fiscal adjustments as their analysis focuses on public debt reduction, defined as periods of at least two consecutive years of continuos reduction in the ratio of public debt to GDP.	The length of succesful debt consolidation spell is the time interval between periods in which the ratio of debt to GDP declined from a high level to reach the prudent threshold. This threshold is 60% of GDP for advanced economies and 40% of GDP for emerging economies.	Survival analysis of the length of the succesful period.	120, 1980-10
Hernandez de Cos and Moral-Benito (2012)	A fiscal consolidation episode in a given year if the CAPB improves by at least 1.5% of GDP. Alternatively, we also consider the narrative approach.	NA.	OLS and IV regressions concerning expansionary adjustments.	20 (OECD), 1994-06
Alfonso and Jalles (2012)	Four different definitions, including those of Devries et al. (2011)	Improvement in the CAPB for two consecutive years is at least 1 standard deviation of the CAPB in the full panel.	Logit model.	18 (OECD), 1970-10
Alesina and Ardagna (2013)	Either (1): a 2-year period in which the CAPB improves in each year and the cumulative improvement is at least two points of the balance/GDP ratio or (2): a 3-year or more period in wich the CAPB improves in each year and the cumulative improvement is at least 3%.	If the debt to GDP ratio is 2 years after the end of a fiscal adjustment is lower than the debt to GDP ratio in the last year of the adjustment.	A growth regression on whether fiscal shocks impact growth (not fiscal adj.). All years are included, not only adjustment years.	21 (OECD), 1970-10
Holden and Larsson Midthjell (2013)	A period of fiscal adjustment (stimulus) is a year in which the CAPB improves (deteriorates) by at least 1.5% of GDP.	If the cumulative change in the debt/GDP ratio from the year of adjustment and two years forward is smaller than the 25th percentile of the same variable's density in all episodes of fiscal adjustments. Variables are measured as ratio to GDP for the two years prior to the adjustment, and as ratio to trend GDP for the adjustment year and the two years after the adjustment.	No.	24 (OECD), 1970-07

Table A0: Literature review (continuation)

Paper	Fiscal Adjustment	Succesful fiscal adjustment	Multivariate analysis?	Sample
Kaplanoglou et al. (2015)	Attempts are defined as an improvement in the CAPB of at least 1.5% of GDP taking place in one year or taking place over three years, if in each and every year the CAPB does not deteriorate by more than 0.5% of GDP.	At least one of the two following criteria holds: 1) in the three years after the attempt, the ratio of the cyclically adjusted primary deficit to GDP is on average at least 2% of GDP below the attempt year, 2) three years after the attempt, the ratio of the debt-to-GDP is at least 5% of GDP below the levelk of the attempt year. (following Alesina Perotti 1997)_	Logit model.	29 (OECD), 1971-09
Gupta et al. (2017)	Updates data of Devries et al. (2011).	Analyses difference between the size of planned fiscal adjustment and the size of the realized fiscal adjustment as measured by changes in the primary budget balance (all expressed in percent of GDP)	Analyses difference between planned and actual fiscal consolidations.	17 (OECD), 1978-15
Wiese et al. (2018)	BP test on cyclically adjusted fiscal balance to identify the beginning of an adjustment and then it continues as long as the change is positive.	BP test to the growth rate of the debt-to-GDP ratio. If fiscal adjustments are identified prior to, or simultaneously with the beginning of regimes with negative growth rates, and the periods are not more than 4 years apart, we code it as succesful.	Probit model with random effects pretesting using Mudlak approach.	20 (OECD), 1967-13

Appendix 2: Episodes of fiscal need and fiscal adjustment

Table 10: Adjustment need in advanced countries under current conditions

Country	Begin	End	Country	Begin	End
Australia	1992	1994	Japan	1994	1996
Australia	2010	2010	Japan	1999	2014
Austria	1994	1996	Latvia	2010	2010
Canada	1991	1994	Lithuania	2010	2010
Cyprus	2010	2013	Netherlands	2010	2012
Czech Republic	2001	2003	New Zealand	2010	2011
Czech Republic	2010	2010	Norway	1993	1994
Estonia	2009	2009	Portugal	1994	1994
Finland	1992	1996	Portugal	2005	2005
France	1992	1997	Portugal	2010	2014
France	2010	2010	Slovak Republic	2001	2002
Germany	1996	1997	Slovak Republic	2010	2010
Germany	2003	2003	Slovenia	2010	2013
Greece	1993	1993	Spain	1993	1995
Greece	2009	2015	Spain	2009	2014
Iceland	1993	1993	Sweden	1993	1995
Iceland	2009	2010	United Kingdom	1992	1995
Ireland	2009	2013	United Kingdom	2009	2013
Israel	2003	2003	United States	2009	2012

Table 11: Adjustment need in developing countries under current conditions

Country	Begin	End	Country	Begin	End
Angola	2015	2015	India	2012	2012
Argentina	1996	1996	Iraq	2014	2016
Argentina	1999	2004	Jordan	2012	2014

Armenia	2016	2016	Kazakhstan	2016	2016
Azerbaijan	2016	2016	Lebanon	1999	2001
Belarus	2016	2016	Mongolia	2014	2016
Belize	2013	2013	Morocco	2012	2012
Belize	2016	2017	Mozambique	2001	2001
Bolivia	1999	2003	Mozambique	2010	2010
Bolivia	2016	2017	Mozambique	2015	2016
Botswana	2004	2004	Namibia	2015	2016
Botswana	2008	2013	Nigeria	1999	1999
Botswana	2016	2017	Nigeria	2016	2016
Bulgaria	2010	2010	Pakistan	2013	2013
Bulgaria	2015	2015	Paraguay	1998	2002
Cameroon	2015	2017	Philippines	2001	2001
Colombia	1999	1999	Poland	2010	2010
Côte d'Ivoire	2000	2008	Romania	2010	2010
Croatia	2010	2015	Russian Federation	2016	2016
Ecuador	1996	1996	Saudi Arabia	2002	2002
Ecuador	1999	2000	Senegal	2000	2001
Ecuador	2014	2017	Senegal	2010	2015
Egypt, Arab Rep.	2003	2004	Serbia	2010	2010
Egypt, Arab Rep.	2012	2017	Serbia	2015	2015
El Salvador	2010	2010	South Africa	2013	2016
Ethiopia	1998	2002	Trinidad & Tobago	2015	2017
Gabon	2016	2016	Tunisia	2016	2017
Georgia	2010	2010	Ukraine	2014	2014
Georgia	2014	2016	Uruguay	2002	2002
Guatemala	2000	2000	Vanuatu	2001	2002
Honduras	2003	2003	Vanuatu	2015	2017
Honduras	2010	2010	Venezuela, RB	2012	2015
Honduras	2013	2013	Vietnam	2013	2016
India	1997	2002	Zambia	2015	2015

Table 12: Adjustment status in advanced countries using current conditions

Country	Begin	End	Country	Begin	End
Cyprus	2012	2013	Netherlands	2010	2012
France	1994	1997	Norway	1993	1994
Germany	1996	1997	Portugal	2011	2013
Greece	2010	2013	Spain	2010	2014
Iceland	2009	2010	Sweden	1994	1995
Ireland	2011	2013	United Kingdom	1994	1995
Japan	2004	2007	United Kingdom	2010	2011
Japan	2011	2014	United States	2010	2012

Table 13: Adjustment status in developing countries using current conditions

Country	Begin	End	Country	Begin	End
Argentina	2002	2004	Egypt, Arab Rep.	2016	2017

Belize	2016	2017	Georgia	2015	2016
Bolivia	1999	2000	India	1999	2000
Botswana	2010	2013	Mozambique	2015	2016
Botswana	2016	2017	Paraguay	1998	1999
Côte d'Ivoire	2000	2001	Senegal	2014	2015
Côte d'Ivoire	2007	2008	South Africa	2013	2015
Croatia	2012	2014	Vanuatu	2001	2002
Ecuador	1999	2000	Vietnam	2014	2015

Table 14: Adjustment need in developed countries using debt/revenue ratio

Country	Begin	End	Country	Begin	End
Australia	1993	1999	Korea, Rep.	2005	2007
Australia	2012	2017	Korea, Rep.	2010	2010
Austria	1995	1996	Korea, Rep.	2014	2017
Austria	2010	2016	Latvia	2010	2017
Belgium	1992	1999	Lithuania	2000	2001
Belgium	2012	2016	Lithuania	2010	2016
Canada	1994	1999	Luxembourg	1996	1998
Canada	2010	2017	Luxembourg	2009	2017
Cyprus	2003	2005	Malta	1999	1999
Cyprus	2013	2017	Malta	2004	2005
Czech Republic	2002	2004	Malta	2010	2014
Czech Republic	2010	2015	Netherlands	1991	1998
Denmark	1994	1999	Netherlands	2010	2016
Denmark	2011	2014	New Zealand	1991	1995
Estonia	1996	1997	New Zealand	2011	2016
Estonia	2003	2003	Norway	1992	1994
Estonia	2013	2017	Norway	2004	2010
Finland	1994	1998	Norway	2017	2017
Finland	2011	2017	Portugal	1991	1991
France	1996	1999	Portugal	1995	1996
France	2010	2017	Portugal	2011	2017
Germany	1996	1999	Singapore	1992	1992
Germany	2005	2005	Singapore	1999	1999
Germany	2010	2014	Singapore	2002	2005
Greece	1994	1997	Singapore	2009	2013
Greece	2001	2001	Singapore	2017	2017
Greece	2011	2017	Slovak Republic	2000	2004
Hong Kong SAR, China	2002	2002	Slovak Republic	2012	2017
Hong Kong SAR, China	2005	2005	Slovenia	2001	2002
Iceland	1994	1997	Slovenia	2013	2017
Iceland	2009	2014	Spain	1994	2000
Ireland	1991	1997	Spain	2012	2017
Ireland	2011	2014	Sweden	1994	1999
Israel	2002	2006	Sweden	2015	2016
Italy	1994	1999	Switzerland	1995	2000
Italy	2011	2017	Switzerland	2003	2005

Japan	2000	2005	United Kingdom	1994	1998
Japan	2010	2017	United Kingdom	2010	2017
Korea, Rep.	1991	1991	United States	2010	2017

Table 15: Adjustment need in developing countries using debt/revenue ratio

Country	Begin	End	Country	Begin	End
Afghanistan	2003	2005	Lesotho	1993	1994
Albania	1998	2000	Lesotho	1999	2002
Albania	2014	2017	Liberia	2001	2007
Algeria	1995	1996	Macedonia, FYR	2001	2005
Algeria	1999	2000	Macedonia, FYR	2013	2017
Algeria	2017	2017	Madagascar	1992	1993
Angola	2001	2004	Madagascar	1999	2005
Angola	2016	2017	Madagascar	2017	2017
Antigua & Barbuda	1991	1991	Malawi	2003	2005
Antigua & Barbuda	1999	2004	Malawi	2014	2017
Antigua & Barbuda	2014	2015	Malaysia	1991	1993
Argentina	2003	2006	Malaysia	2004	2004
Argentina	2016	2017	Malaysia	2010	2017
Armenia	1997	2003	Maldives	2002	2002
Armenia	2010	2017	Maldives	2010	2017
Azerbaijan	2000	2004	Mali	2001	2001
Azerbaijan	2016	2017	Mali	2004	2005
Bahamas, The	1994	1998	Mali	2016	2017
Bahamas, The	2011	2017	Marshall Islands	2002	2009
Bahrain	1999	2004	Mauritania	2001	2005
Bahrain	2016	2017	Mauritania	2016	2017
Bangladesh	2004	2009	Mauritius	2003	2005
Barbados	1996	1996	Mauritius	2011	2011
Barbados	2010	2017	Mauritius	2014	2017
Belarus	2010	2012	Mexico	1999	1999
Belarus	2016	2017	Mexico	2003	2003
Belize	2004	2007	Mexico	2014	2017
Belize	2017	2017	Micronesia, Fed. States	1996	1999
Benin	2000	2002	Micronesia, Fed. States	2009	2011
Benin	2016	2017	Micronesia, Fed. States	2014	2014
Bhutan	1994	1994	Moldova	1999	2002
Bhutan	2003	2006	Moldova	2015	2017
Bhutan	2014	2017	Morocco	1994	2002
Bolivia	2003	2005	Morocco	2014	2017
Bolivia	2017	2017	Mozambique	2000	2003
Bosnia & Herzegovina	1999	1999	Mozambique	2016	2017
Bosnia & Herzegovina	2011	2016	Myanmar	2001	2005
Botswana	2010	2015	Namibia	1999	1999
Brazil	2002	2005	Namibia	2004	2006
Brazil	2016	2017	Namibia	2016	2017
Brunei Darussalam	2012	2017	Nepal	2001	2006

Bulgaria	1999	2003	Nicaragua	2000	2005
Bulgaria	2015	2017	Niger	2000	2005
Burkina Faso	2003	2005	Niger	2016	2017
Burkina Faso	2016	2017	Nigeria	1991	1994
Burundi	2003	2008	Nigeria	2000	2004
Cabo Verde	1998	1998	Nigeria	2016	2017
Cabo Verde	2001	2005	Oman	1993	2003
Cabo Verde	2014	2017	Oman	2016	2017
Cambodia	2003	2006	Pakistan	2000	2003
Cambodia	2012	2013	Pakistan	2013	2017
Cameroon	1999	2005	Panama	1995	1996
Cameroon	2016	2017	Panama	2002	2006
Central African Rep.	2001	2005	Papua New Guinea	1998	2004
Central African Rep.	2015	2017	Papua New Guinea	2015	2017
Chad	2000	2003	Paraguay	1991	1992
Chad	2015	2017	Paraguay	2000	2004
Chile	1992	1994	Paraguay	2016	2017
Chile	2002	2003	Peru	2001	2006
Chile	2013	2017	Philippines	1994	1995
China	2003	2003	Philippines	2002	2006
China	2010	2010	Poland	1996	1997
China	2014	2017	Poland	2004	2006
Colombia	2001	2005	Poland	2010	2013
Colombia	2015	2017	Qatar	1995	2003
Comoros	1991	2000	Qatar	2012	2012
Congo, Dem. Rep.	2001	2007	Qatar	2016	2017
Congo, Rep.	2001	2004	Romania	2001	2003
Congo, Rep.	2016	2017	Romania	2011	2017
Costa Rica	1999	2005	Russian Federation	2000	2002
Costa Rica	2014	2017	Russian Federation	2015	2017
Côte d'Ivoire	1998	2002	Rwanda	1996	1996
Côte d'Ivoire	2006	2008	Rwanda	2000	2005
Croatia	2011	2017	Rwanda	2016	2017
Djibouti	2003	2010	Samoa	1999	2002
Dominica	2002	2006	Samoa	2013	2017
Dominica	2014	2015	São Tomé & Príncipe	2002	2006
Dominican Republic	2004	2004	Saudi Arabia	1996	2004
Dominican Republic	2013	2017	Saudi Arabia	2017	2017
Ecuador	2002	2007	Senegal	2001	2005
Ecuador	2016	2017	Senegal	2014	2017
Egypt, Arab Rep.	2003	2006	Serbia	2001	2001
Egypt, Arab Rep.	2014	2017	Serbia	2013	2017
El Salvador	1992	1993	Seychelles	1999	2004
El Salvador	2003	2004	Seychelles	2008	2008
El Salvador	2010	2017	Sierra Leone	2002	2006
Equatorial Guinea	1991	1995	Sierra Leone	2017	2017
Equatorial Guinea	2016	2017	Solomon Islands	2004	2009
Eritrea	2002	2003	South Africa	2001	2003
Eritrea	2008	2008	South Africa	2013	2017

Ethiopia	1994	1996	Sri Lanka	1991	1991
Ethiopia	2002	2005	Sri Lanka	2001	2004
Ethiopia	2016	2017	Sri Lanka	2016	2017
Fiji	1995	1997	St. Kitts & Nevis	2003	2012
Fiji	2007	2012	St. Lucia	2002	2006
Gabon	1991	1993	St. Lucia	2012	2017
Gabon	1999	2004	St. Vincent & the Grenadines	1991	1992
Gabon	2016	2017	St. Vincent & the Grenadines	2000	2001
Gambia, The	2002	2006	St. Vincent & the Grenadines	2005	2006
Gambia, The	2015	2017	St. Vincent & the Grenadines	2012	2017
Georgia	2001	2004	Sudan	1993	1995
Georgia	2010	2010	Sudan	2013	2013
Georgia	2016	2017	Sudan	2016	2017
Ghana	1995	1995	Suriname	1991	1993
Ghana	2000	2003	Suriname	2000	2005
Ghana	2014	2017	Suriname	2016	2017
Grenada	2003	2007	Eswatini	1999	2003
Grenada	2010	2014	Eswatini	2016	2017
Guatemala	2010	2017	Syrian Arab Republic	1991	1994
Guinea	2000	2006	Syrian Arab Republic	1998	2004
Guinea	2011	2011	Tajikistan	1999	2003
Guinea-Bissau	2001	2009	Tajikistan	2017	2017
Guyana	1998	2006	Tanzania	2002	2005
Haiti	2001	2006	Tanzania	2015	2017
Haiti	2016	2017	Thailand	1999	2005
Honduras	1991	1993	Thailand	2013	2017
Honduras	2003	2005	Togo	2006	2009
Honduras	2014	2017	Togo	2016	2017
Hungary	1996	1996	Tonga	2013	2016
Hungary	2009	2014	Trinidad & Tobago	1992	2002
India	1992	1994	Trinidad & Tobago	2016	2017
India	2002	2006	Tunisia	1994	1997
Indonesia	2001	2004	Tunisia	2000	2000
Indonesia	2017	2017	Tunisia	2004	2005
Iran, Islamic Rep.	1997	1998	Tunisia	2015	2017
Iran, Islamic Rep.	2003	2004	Turkey	2002	2005
Iran, Islamic Rep.	2016	2017	Turkmenistan	1998	2001
Iraq	2005	2007	Turkmenistan	2013	2017
Iraq	2017	2017	Tuvalu	2006	2006
Jamaica	2003	2005	Tuvalu	2016	2017
Jamaica	2010	2014	Uganda	2000	2005
Jordan	1991	1993	Uganda	2015	2017
Jordan	2003	2004	Ukraine	1999	2002
Jordan	2014	2017	Ukraine	2015	2017
Kazakhstan	2003	2004	United Arab Emirates	2009	2012
Kazakhstan	2015	2017	United Arab Emirates	2016	2017
Kenya	1999	1999	Uruguay	2003	2006
Kenya	2002	2004	Uzbekistan	2001	2005
Kenya	2015	2017	Vanuatu	1999	2004

Kiribati	1994	1997	Vanuatu	2016	2017
Kiribati	2016	2017	Venezuela, RB	2003	2004
Kosovo	2007	2008	Venezuela, RB	2012	2014
Kosovo	2016	2017	Vietnam	2010	2010
Kuwait	1992	1995	Vietnam	2013	2017
Kuwait	2017	2017	Yemen, Rep.	2000	2003
Kyrgyz Republic	2001	2005	Yemen, Rep.	2016	2017
Kyrgyz Republic	2016	2017	Zambia	2001	2004
Lao PDR	2002	2005	Zambia	2016	2017
Lao PDR	2015	2017	Zimbabwe	2009	2010
Lebanon	2004	2008	Zimbabwe	2017	2017
Lebanon	2017	2017			

Table 16: Fiscal adjustment in advanced countries using debt/revenue ratio

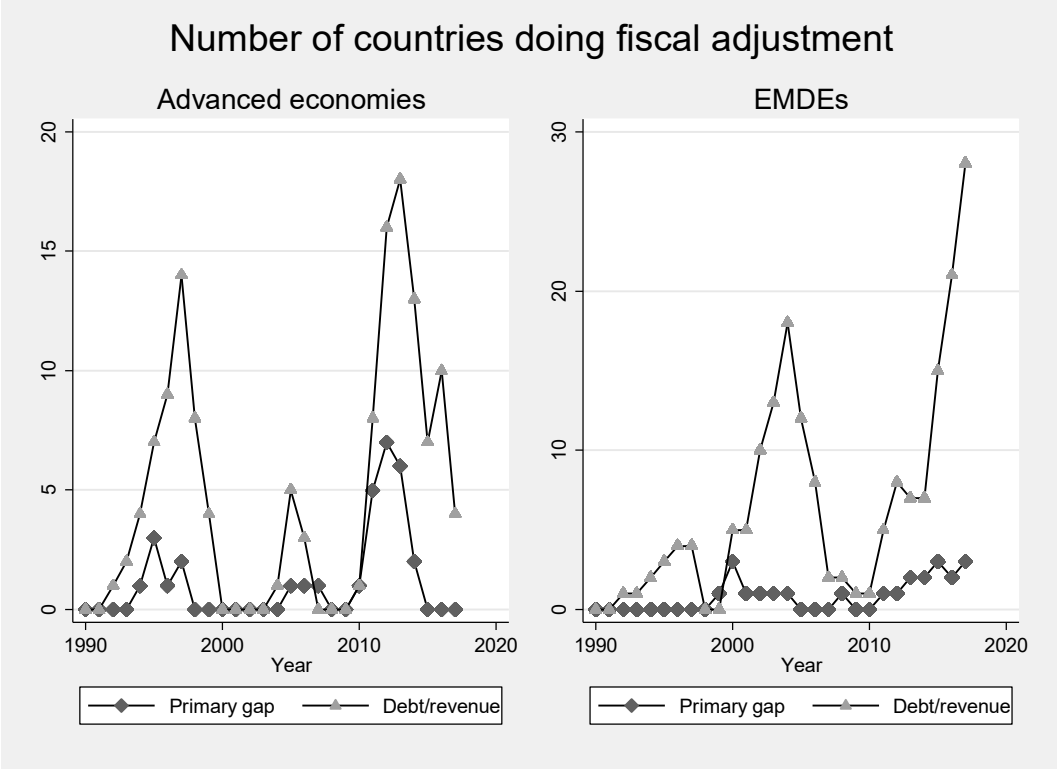
Country	Begin	End	Country	Begin	End
Australia	1994	1997	Japan	2004	2005
Australia	2012	2015	Japan	2011	2016
Austria	2010	2013	Korea, Rep.	2005	2006
Belgium	1993	1998	Korea, Rep.	2016	2017
Belgium	2012	2013	Latvia	2010	2012
Canada	1994	1997	Latvia	2015	2016
Canada	2011	2015	Lithuania	2014	2016
Cyprus	2004	2005	Luxembourg	1996	1997
Cyprus	2013	2014	Luxembourg	2011	2013
Czech Republic	2010	2012	Malta	2004	2005
Denmark	1995	1999	Malta	2010	2011
Denmark	2013	2014	Netherlands	2010	2013
Estonia	2013	2014	New Zealand	1992	1995
Finland	1996	1998	New Zealand	2011	2016
Finland	2015	2016	Norway	1993	1994
France	1996	1999	Norway	2004	2006
France	2011	2013	Portugal	2011	2013
France	2015	2017	Portugal	2015	2016
Germany	1996	1999	Slovak Republic	2012	2014
Germany	2011	2014	Slovak Republic	2016	2017
Greece	1994	1996	Slovenia	2014	2016
Greece	2011	2013	Spain	1996	1999
Iceland	1995	1997	Spain	2012	2014
Iceland	2009	2014	Sweden	1994	1998
Ireland	1991	1994	Sweden	2015	2016
Ireland	1996	1997	United Kingdom	1994	1998
Ireland	2011	2014	United Kingdom	2010	2011
Israel	2003	2006	United Kingdom	2015	2017
Italy	1995	1997	United States	2010	2015
Italy	2011	2013			

Table 17: Fiscal adjustment in emerging countries using debt/revenue ratio

Country	Begin	End	Country	Begin	End
Albania	2015	2016	Iran, Islamic Rep.	2003	2004
Algeria	1995	1996	Jamaica	2012	2013
Algeria	1999	2000	Jordan	2014	2017
Antigua & Barbuda	2002	2004	Kenya	2003	2004
Argentina	2003	2004	Kuwait	1992	1995
Armenia	2010	2012	Kyrgyz Republic	2001	2002
Armenia	2016	2017	Macedonia, FYR	2002	2003
Azerbaijan	2000	2001	Macedonia, FYR	2015	2017
Azerbaijan	2016	2017	Madagascar	2002	2003
Bahamas, The	1994	1995	Malaysia	2010	2013
Bahamas, The	2014	2016	Mauritania	2016	2017
Bahrain	1999	2000	Mexico	2015	2017
Bahrain	2003	2004	Moldova	2015	2017
Bahrain	2016	2017	Morocco	1995	1997
Bangladesh	2006	2007	Morocco	2014	2017
Barbados	2016	2017	Mozambique	2002	2003
Belarus	2010	2012	Mozambique	2016	2017
Belarus	2016	2017	Namibia	2005	2006
Belize	2004	2007	Namibia	2016	2017
Benin	2016	2017	Nepal	2002	2003
Bolivia	2003	2005	Nicaragua	2002	2003
Botswana	2010	2013	Niger	2016	2017
Brazil	2016	2017	Oman	1994	1997
Bulgaria	2015	2016	Oman	1999	2000
Cabo Verde	2001	2004	Pakistan	2000	2002
Cabo Verde	2014	2016	Pakistan	2013	2014
Cambodia	2003	2005	Panama	1995	1996
Cambodia	2012	2013	Panama	2005	2006
Chad	2000	2002	Paraguay	2003	2004
Chad	2015	2017	Peru	2001	2002
Comoros	1996	1997	Peru	2004	2006
Congo, Dem. Rep.	2001	2002	Philippines	2003	2006
Congo, Dem. Rep.	2004	2006	Poland	2004	2005
Congo, Rep.	2003	2004	Poland	2011	2013
Congo, Rep.	2016	2017	Romania	2011	2012
Costa Rica	2015	2016	Russian Federation	2016	2017
Côte d'Ivoire	2000	2001	Rwanda	2003	2004
Côte d'Ivoire	2007	2008	Saudi Arabia	1996	1997
Croatia	2012	2017	Saudi Arabia	1999	2000
Dominica	2002	2003	Saudi Arabia	2003	2004
Dominican Republic	2013	2015	Senegal	2014	2016
Egypt, Arab Rep.	2016	2017	Sierra Leone	2004	2006
El Salvador	2013	2017	South Africa	2013	2015
Equatorial Guinea	2016	2017	Sri Lanka	2001	2003
Eritrea	2002	2003	Sri Lanka	2016	2017
Ethiopia	2003	2004	St. Lucia	2013	2016

Gabon	1999	2000	St. Vincent & the Grenadines	2014	2016
Gambia, The	2002	2003	Sudan	1993	1994
Georgia	2001	2002	Thailand	2015	2016
Georgia	2016	2017	Togo	2007	2008
Ghana	2002	2003	Trinidad & Tobago	2000	2001
Ghana	2014	2015	Uganda	2003	2004
Guatemala	2011	2016	Uganda	2015	2017
Guinea	2004	2005	United Arab Emirates	2010	2012
Guinea-Bissau	2008	2009	United Arab Emirates	2016	2017
Honduras	1991	1992	Uruguay	2003	2004
Honduras	2004	2005	Uzbekistan	2003	2005
Honduras	2014	2017	Vanuatu	2001	2004
India	2004	2006	Vietnam	2014	2016
Indonesia	2001	2002	Zimbabwe	2009	2010

Figure A1: Countries doing fiscal adjustment



Appendix 3: Linear probability models:

Table 18

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.038***	0.032***	0.039***	0.032***	0.041***	0.041***	0.010	0.026
structural as % GDP	(0.007)	(0.006)	(0.006)	(0.006)	(0.008)	(0.014)	(0.020)	(0.016)
Economic factors								
GDP growth (t-1)		-2.034***		-1.901***	-1.807***	-1.869***	-1.860***	-1.909***
		(0.422)		(0.419)	(0.410)	(0.423)	(0.411)	(0.422)
Inflation (t-1)		-0.046		-0.001	-0.013	-0.004	-0.008	-0.003
		(0.063)		(0.052)	(0.056)	(0.052)	(0.056)	(0.054)
U.S. Interest rate		-0.016		-0.022*	-0.024*	-0.023*	-0.025**	-0.022*
		(0.011)		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Political factors								
Gini			0.007	0.006	0.005	0.007	0.006	0.006
			(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Rule of law			0.001	0.021	0.017	0.020	-0.026	0.021
			(0.031)	(0.032)	(0.031)	(0.031)	(0.035)	(0.032)
Margin of Majority			0.082	0.052	0.068	0.052	0.061	-0.030
			(0.128)	(0.129)	(0.128)	(0.130)	(0.129)	(0.152)
Election's year			0.021	0.029*	0.031**	0.029*	0.030*	0.029*
			(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Interactions								
EMEs * Deviation					-0.020*			
					(0.011)			
Gini * Deviation						-0.000		
						(0.000)		
Rule of law * Deviation							0.005	
							(0.004)	
Majority * Deviation								0.011
								(0.026)
Constant	-0.226***	-0.041	-0.581*	-0.379	-0.355	-0.446	-0.183	-0.327
	(0.065)	(0.070)	(0.323)	(0.295)	(0.281)	(0.340)	(0.268)	(0.290)
Observations	1,467	1,451	1,318	1,304	1,304	1,304	1,304	1,304
R-squared	0.104	0.164	0.118	0.171	0.179	0.172	0.176	0.172
Number of ifscode	83	83	74	74	74	74	74	74
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 19

Dependent variable: Need of fiscal adjustment based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.012**	0.009*	0.013*	0.009	0.036***	0.030	-0.026	0.017
structural as % GDP	(0.005)	(0.005)	(0.007)	(0.007)	(0.010)	(0.027)	(0.019)	(0.019)
Economic factors								
GDP growth (t-1)		-1.504***		-1.999***	-1.750***	-1.967***	-1.910***	-1.992***
		(0.363)		(0.353)	(0.367)	(0.360)	(0.371)	(0.354)
Inflation (t-1)		0.026		0.285**	0.273**	0.273**	0.262**	0.288**
		(0.145)		(0.128)	(0.128)	(0.129)	(0.129)	(0.128)
U.S. Interest rate		-0.008		-0.016	-0.020	-0.017	-0.020	-0.016
		(0.012)		(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Political factors								
Gini			0.007	0.007	0.007	0.010	0.007	0.007
			(0.006)	(0.005)	(0.005)	(0.007)	(0.005)	(0.005)
Rule of law			0.014	0.039	0.034	0.036	-0.033	0.039
			(0.044)	(0.050)	(0.051)	(0.050)	(0.061)	(0.050)
Margin of Majority			-0.162	-0.143	-0.129	-0.149	-0.135	-0.067
			(0.153)	(0.157)	(0.154)	(0.156)	(0.158)	(0.248)
Election's year			-0.010	-0.007	-0.004	-0.006	-0.005	-0.007
			(0.015)	(0.016)	(0.016)	(0.016)	(0.016)	(0.016)
Interactions								
EMEs * Deviation					-0.044***			
					(0.013)			
Gini * Deviation						-0.001		
						(0.001)		
Rule of law * Deviation							0.009*	
							(0.004)	
Majority * Deviation								-0.012
								(0.027)
Constant	0.274***	0.384***	0.021	0.068	0.072	-0.039	0.328	0.019
	(0.038)	(0.064)	(0.298)	(0.282)	(0.276)	(0.326)	(0.303)	(0.307)
Observations	2,799	2,738	1,949	1,918	1,918	1,918	1,918	1,918
R-squared	0.005	0.023	0.011	0.039	0.052	0.040	0.044	0.039
Number of ifscode	138	137	98	98	98	98	98	98
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 20

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure, CE	0.058***	0.052***	0.061***	0.053***	0.051***	0.053***	0.051***	0.053***
(% of GDP)	(0.015)	(0.013)	(0.014)	(0.013)	(0.014)	(0.014)	(0.014)	(0.013)
Rigid expenditure, SS	0.031***	0.029***	0.034***	0.029***	0.039***	0.029**	0.015	0.030**
(% of GDP)	(0.008)	(0.007)	(0.007)	(0.007)	(0.008)	(0.014)	(0.019)	(0.012)
Economic factors								
GDP growth (t-1)		-2.093***		-1.963***	-1.850***	-1.962***	-1.934***	-1.960***
		(0.424)		(0.427)	(0.408)	(0.429)	(0.415)	(0.436)
Inflation (t-1)		-0.016		0.021	-0.000	0.021	0.016	0.021
		(0.054)		(0.043)	(0.048)	(0.043)	(0.046)	(0.044)
U.S. Interest rate		0.002		-0.002	-0.000	-0.002	-0.002	-0.002
		(0.010)		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Political factors								
Gini			0.007	0.005	0.004	0.005	0.005	0.005
			(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Rule of law			0.032	0.023	0.014	0.023	-0.029	0.022
			(0.027)	(0.031)	(0.029)	(0.031)	(0.046)	(0.032)
Margin of Majority			0.050	0.041	0.057	0.041	0.057	0.060
			(0.123)	(0.125)	(0.124)	(0.126)	(0.129)	(0.165)
Election's year			0.020	0.028*	0.030**	0.028*	0.029**	0.028*
			(0.015)	(0.015)	(0.014)	(0.015)	(0.014)	(0.015)
Interactions								
EMEs * Rigidity					-0.020			
					(0.013)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidity							0.003	
							(0.003)	
Majority * Rigidity								-0.002
								(0.014)
Constant	-0.840***	-0.685***	-1.345***	-1.000***	-0.980***	-1.004***	-0.806**	-1.011***
	(0.199)	(0.175)	(0.308)	(0.283)	(0.280)	(0.337)	(0.324)	(0.292)
Observations	1,521	1,500	1,360	1,342	1,342	1,342	1,342	1,342
R-squared	0.115	0.172	0.134	0.179	0.184	0.179	0.181	0.179
Number of ifscode	84	84	75	75	75	75	75	75
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 21

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid CE minus structural as % GDP	0.064***	0.054***	0.068***	0.055***	0.054***	0.055***	0.056***	0.055***
	(0.015)	(0.012)	(0.015)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
Rigid SS minus structural as % GDP	0.031***	0.027***	0.031***	0.027***	0.036***	0.028**	0.010	0.026***
	(0.007)	(0.006)	(0.007)	(0.006)	(0.008)	(0.012)	(0.016)	(0.010)
Economic factors								
GDP growth (t-1)		-1.976***		-1.848***	-1.721***	-1.841***	-1.835***	-1.850***
		(0.427)		(0.425)	(0.407)	(0.427)	(0.422)	(0.434)
Inflation (t-1)		-0.054		-0.012	-0.036	-0.013	-0.018	-0.012
		(0.053)		(0.043)	(0.049)	(0.043)	(0.042)	(0.043)
U.S. Interest rate		-0.016		-0.021*	-0.025*	-0.022	-0.012	-0.021
		(0.011)		(0.012)	(0.013)	(0.013)	(0.013)	(0.013)
Political factors								
Gini			0.006	0.005	0.004	0.005	0.005	0.005
			(0.006)	(0.006)	(0.006)	(0.007)	(0.006)	(0.006)
Rule of law			0.001	0.020	0.011	0.020	-0.045	0.020
			(0.031)	(0.032)	(0.030)	(0.032)	(0.039)	(0.033)
Margin of Majority			0.085	0.054	0.073	0.055	0.076	0.043
			(0.124)	(0.126)	(0.126)	(0.127)	(0.127)	(0.162)
Election's year			0.021	0.028*	0.030**	0.028*	0.029*	0.028*
			(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Interactions								
EMEs * Rigidity					-0.020			
					(0.013)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidity							0.004	
							(0.003)	
Majority * Rigidity								0.001
								(0.012)
Constant	-0.255***	-0.071	-0.576*	-0.375	-0.248	-0.377	-0.324	-0.374
	(0.069)	(0.071)	(0.327)	(0.296)	(0.275)	(0.303)	(0.288)	(0.296)
Observations	1,467	1,451	1,318	1,304	1,304	1,304	1,304	1,304
R-squared	0.111	0.169	0.127	0.176	0.181	0.176	0.180	0.176
Number of ifscode	83	83	74	74	74	74	74	74
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 22

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure, CE	-0.020	-0.026	-0.028	-0.066	-0.048	-0.041	-0.060	-0.062
(% of GDP)	(0.063)	(0.055)	(0.062)	(0.060)	(0.064)	(0.061)	(0.060)	(0.055)
Rigid expenditure, SS	-0.025**	-0.038***	-0.026**	-0.034***	-0.022***	0.106*	-0.121***	-0.079**
(% of GDP)	(0.012)	(0.011)	(0.011)	(0.011)	(0.007)	(0.057)	(0.033)	(0.032)
Economic factors								
GDP growth (t-1)		-0.296		0.311	0.465	0.383	0.245	0.341
		(1.387)		(1.441)	(1.444)	(1.450)	(1.432)	(1.436)
Inflation (t-1)		2.625***		2.731***	3.609***	3.370***	3.701***	2.587**
		(0.774)		(0.996)	(1.048)	(0.999)	(0.997)	(1.074)
U.S. Interest rate		-0.129**		-0.167**	-0.175***	-0.197***	-0.201***	-0.180***
		(0.051)		(0.063)	(0.065)	(0.055)	(0.069)	(0.050)
Political factors								
Gini			0.008	0.007	0.009	0.054**	0.009	0.001
			(0.009)	(0.011)	(0.011)	(0.022)	(0.012)	(0.010)
Rule of law			-0.224***	0.092	0.129	0.122	-0.061	0.096
			(0.062)	(0.124)	(0.125)	(0.121)	(0.112)	(0.126)
Margin of Majority			0.437	0.154	0.118	0.272	0.150	-0.944*
			(0.383)	(0.357)	(0.361)	(0.339)	(0.351)	(0.550)
Election's year			-0.111	-0.087	-0.073	-0.068	-0.070	-0.074
			(0.079)	(0.075)	(0.070)	(0.071)	(0.075)	(0.080)
Interactions								
EMEs * Rigidity					-0.058*			
					(0.033)			
Gini * Rigidity						-0.004**		
						(0.002)		
Rule of law * Rigidity							0.018***	
							(0.006)	
Majority * Rigidity								0.088
								(0.059)
Constant	0.807	1.384**	1.247	1.180	0.972	-0.996	1.882**	1.948**
	(0.600)	(0.555)	(0.815)	(0.981)	(0.973)	(1.428)	(0.877)	(0.905)
Observations	185	183	165	163	163	163	163	163
R-squared	0.021	0.139	0.090	0.185	0.200	0.224	0.214	0.206
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 23

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid CE minus structural as % GDP	-0.039	-0.035	-0.030	-0.055	-0.037	-0.035	-0.044	-0.051
	(0.068)	(0.052)	(0.064)	(0.063)	(0.066)	(0.056)	(0.065)	(0.060)
Rigid SS minus structural as % GDP	-0.031***	-0.030***	-0.033***	-0.032***	-0.020***	0.107*	-0.110**	-0.077**
	(0.012)	(0.009)	(0.012)	(0.011)	(0.006)	(0.056)	(0.047)	(0.029)
Economic factors								
GDP growth (t-1)		0.053		0.143	0.424	0.332	0.195	0.129
		(1.340)		(1.527)	(1.573)	(1.544)	(1.536)	(1.520)
Inflation (t-1)		2.747***		3.224***	3.758***	3.453***	3.731***	3.265***
		(0.808)		(1.166)	(1.108)	(1.120)	(1.069)	(1.200)
U.S. Interest rate		-0.136**		-0.151**	-0.162**	-0.240***	-0.144**	-0.147**
		(0.051)		(0.066)	(0.067)	(0.059)	(0.068)	(0.058)
Political factors								
Gini			0.006	0.004	0.008	0.058**	0.003	-0.003
			(0.010)	(0.013)	(0.013)	(0.027)	(0.014)	(0.013)
Rule of law			-0.208***	0.115	0.131	0.120	-0.041	0.132
			(0.068)	(0.141)	(0.136)	(0.119)	(0.168)	(0.147)
Margin of Majority			0.386	0.143	0.115	0.313	0.120	-0.982*
			(0.385)	(0.373)	(0.376)	(0.355)	(0.381)	(0.515)
Election's year			-0.111	-0.081	-0.071	-0.069	-0.069	-0.065
			(0.079)	(0.077)	(0.071)	(0.072)	(0.075)	(0.082)
Interactions								
EMEs * Rigidity					-0.061			
					(0.037)			
Gini * Rigidity						-0.004**		
						(0.002)		
Rule of law * Rigidity							0.016*	
							(0.008)	
Majority * Rigidity								0.089
								(0.057)
Constant	0.599**	0.907***	0.956	0.354	0.437	-0.483	0.486	0.779
	(0.231)	(0.253)	(0.718)	(0.940)	(0.905)	(0.982)	(0.937)	(0.897)
Observations	182	180	164	162	162	162	162	162
R-squared	0.035	0.157	0.100	0.181	0.196	0.225	0.201	0.202
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Appendix 4: Logit models:

Table 24

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.003**	-0.000	0.007***	0.004***	0.004**	-0.002	0.005*	0.008**
(% of GDP)	(0.001)	(0.001)	(0.002)	(0.001)	(0.002)	(0.004)	(0.003)	(0.004)
Economic factors								
GDP growth (t-1)		-1.953***		-1.329***	-1.294***	-1.318***	-1.329***	-1.286***
		(0.346)		(0.288)	(0.286)	(0.280)	(0.288)	(0.285)
Inflation (t-1)		-0.326		-0.384**	-0.474***	-0.425***	-0.411**	-0.364**
		(0.248)		(0.158)	(0.144)	(0.160)	(0.163)	(0.154)
U.S. Interest rate		-0.021**		-0.013*	-0.011	-0.012	-0.013*	-0.013*
		(0.010)		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Political factors								
Gini			0.003**	0.003**	0.002**	-0.001	0.003**	0.003***
			(0.002)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)
Rule of law			-0.026***	-0.019**	-0.011	-0.019**	-0.010	-0.019**
			(0.009)	(0.008)	(0.008)	(0.008)	(0.016)	(0.008)
Margin of Majority			0.189**	0.162***	0.149***	0.150***	0.162***	0.337***
			(0.081)	(0.055)	(0.050)	(0.056)	(0.056)	(0.130)
Election's year			0.037***	0.037***	0.035***	0.036***	0.036***	0.036***
			(0.014)	(0.012)	(0.012)	(0.012)	(0.011)	(0.012)
Interactions								
EMEs					0.040			
					(0.075)			
EMEs * Rigidity					0.001			
					(0.002)			
Gini * Rigidity						0.000		
						(0.000)		
Rule of law * Rigidity							-0.000	
							(0.001)	
Majority * Rigidity								-0.008
								(0.005)
Observations	1,521	1,500	1,360	1,342	1,342	1,342	1,342	1,342
Country FE	No	No	No	No	No	No	No	No
r2_p	0.0121	0.121	0.0738	0.182	0.194	0.187	0.183	0.187

Robust standard errors clustered by country in parentheses

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

Table 25

Dependent variable: Need of fiscal adjustment based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.003***	0.002***	0.003***	0.001	0.006	0.005	-0.005	0.008
(% of GDP)	(0.001)	(0.001)	(0.001)	(0.001)	(0.004)	(0.006)	(0.004)	(0.005)
Economic factors								
GDP growth (t-1)		-1.568***		-1.939***	-1.862***	-1.923***	-1.890***	-1.918***
		(0.352)		(0.361)	(0.370)	(0.363)	(0.369)	(0.359)
Inflation (t-1)		-0.065		0.064	0.088	0.066	0.078	0.060
		(0.107)		(0.110)	(0.108)	(0.109)	(0.106)	(0.108)
U.S. Interest rate		-0.006		-0.005	-0.007	-0.006	-0.007	-0.005
		(0.010)		(0.011)	(0.012)	(0.012)	(0.012)	(0.011)
Political factors								
Gini			0.002	0.002	0.002	0.004	0.002	0.002
			(0.002)	(0.002)	(0.001)	(0.003)	(0.001)	(0.001)
Rule of law			0.008	0.016	0.018	0.015	-0.018	0.014
			(0.010)	(0.011)	(0.013)	(0.011)	(0.024)	(0.011)
Margin of Majority			-0.046	-0.039	-0.034	-0.033	-0.029	0.154
			(0.081)	(0.084)	(0.089)	(0.085)	(0.087)	(0.183)
Election's year			-0.011	-0.017	-0.014	-0.017	-0.015	-0.018
			(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Interactions								
EMEs					0.189			
					(0.129)			
EMEs * Rigidity					-0.007*			
					(0.004)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidity							0.001*	
							(0.001)	
Majority * Rigidity								-0.011
								(0.008)
Observations	3,046	2,911	2,066	2,007	2,007	2,007	2,007	2,007
Country FE	No	No	No	No	No	No	No	No
r2_p	0.00427	0.0180	0.00586	0.0219	0.0248	0.0221	0.0232	0.0229

Robust standard errors clustered by country in parentheses

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

Table 26

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.010***	0.004	0.017***	0.010***	0.014***	0.003	0.010**	0.021***
structural as % GDP	(0.003)	(0.003)	(0.003)	(0.002)	(0.003)	(0.007)	(0.005)	(0.007)
Economic factors								
GDP growth (t-1)		-1.701***		-1.117***	-1.078***	-1.144***	-1.117***	-1.058***
		(0.381)		(0.272)	(0.257)	(0.272)	(0.272)	(0.274)
Inflation (t-1)		-0.296		-0.433***	-0.465***	-0.456***	-0.433**	-0.399**
		(0.220)		(0.165)	(0.139)	(0.169)	(0.173)	(0.159)
U.S. Interest rate		-0.021**		-0.011	-0.010	-0.010	-0.011	-0.010
		(0.010)		(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
Political factors								
Gini			0.004**	0.003***	0.002**	0.001	0.003***	0.003***
			(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Rule of law			-0.024***	-0.020***	-0.008	-0.019***	-0.020	-0.019***
			(0.009)	(0.007)	(0.008)	(0.007)	(0.013)	(0.007)
Margin of Majority			0.192**	0.163***	0.136***	0.158***	0.163***	0.310***
			(0.084)	(0.055)	(0.045)	(0.055)	(0.055)	(0.093)
Election's year			0.034**	0.035***	0.034***	0.034***	0.035***	0.035***
			(0.014)	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Interactions								
EMEs					0.112*			
					(0.063)			
EMEs * Deviation					-0.004			
					(0.004)			
Gini * Deviation						0.000		
						(0.000)		
Rule of law * Deviation							-0.000	
							(0.001)	
Majority * Deviation								-0.017
								(0.011)
Observations	1,467	1,451	1,318	1,304	1,304	1,304	1,304	1,304
Country FE	No	No	No	No	No	No	No	No
r2_p	0.0374	0.125	0.114	0.211	0.227	0.213	0.211	0.216

Robust standard errors clustered by country in parentheses

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

Table 27

Dependent variable: Need of fiscal adjustment based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.006***	0.003	0.006*	0.001	0.014*	0.019	-0.018*	0.010
structural as % GDP	(0.002)	(0.002)	(0.004)	(0.004)	(0.008)	(0.015)	(0.010)	(0.013)
Economic factors								
GDP growth (t-1)		-1.670***		-2.131***	-1.948***	-2.084***	-2.042***	-2.120***
		(0.382)		(0.376)	(0.388)	(0.383)	(0.390)	(0.376)
Inflation (t-1)		-0.066		0.099	0.127	0.096	0.112	0.100
		(0.108)		(0.109)	(0.107)	(0.109)	(0.105)	(0.108)
U.S. Interest rate		-0.009		-0.011	-0.015	-0.013	-0.015	-0.011
		(0.011)		(0.012)	(0.012)	(0.013)	(0.013)	(0.012)
Political factors								
Gini			0.002	0.002	0.002	0.005*	0.002	0.002
			(0.001)	(0.001)	(0.001)	(0.003)	(0.001)	(0.001)
Rule of law			0.006	0.017	0.018	0.015	-0.022	0.016
			(0.010)	(0.012)	(0.014)	(0.012)	(0.022)	(0.012)
Margin of Majority			-0.089	-0.075	-0.067	-0.061	-0.064	0.022
			(0.080)	(0.084)	(0.091)	(0.084)	(0.087)	(0.170)
Election's year			-0.011	-0.010	-0.006	-0.010	-0.007	-0.011
			(0.015)	(0.015)	(0.016)	(0.015)	(0.016)	(0.015)
Interactions								
EMEs					0.200*			
					(0.106)			
EMEs * Deviation					-0.022**			
					(0.009)			
Gini * Deviation						-0.000		
						(0.000)		
Rule of law * Deviation							0.005**	
							(0.002)	
Majority * Deviation								-0.015
								(0.019)
Observations	2,799	2,738	1,949	1,918	1,918	1,918	1,918	1,918
Country FE	No	No	No	No	No	No	No	No
r2_p	0.00308	0.0185	0.00510	0.0252	0.0313	0.0264	0.0281	0.0256

Robust standard errors clustered by country in parentheses

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

Table 28

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.005*	0.005*	0.006	0.003	0.011	0.047***	-0.034*	0.002
(% of GDP)	(0.003)	(0.003)	(0.005)	(0.006)	(0.009)	(0.018)	(0.017)	(0.024)
Economic factors								
GDP growth (t-1)		-0.454		-0.966	-0.575	-1.118	-1.086	-0.968
		(1.115)		(1.359)	(1.278)	(1.294)	(1.261)	(1.356)
Inflation (t-1)		-0.131		0.751	1.583	0.953	1.678*	0.744
		(0.654)		(0.890)	(0.973)	(0.837)	(0.938)	(0.896)
U.S. Interest rate		-0.034		-0.051	-0.070**	-0.074**	-0.088**	-0.051
		(0.028)		(0.036)	(0.034)	(0.032)	(0.040)	(0.036)
Political factors								
Gini			0.008**	0.008**	0.009***	0.040***	0.008**	0.008*
			(0.004)	(0.004)	(0.003)	(0.011)	(0.004)	(0.004)
Rule of law			0.063	0.113***	0.088*	0.115***	-0.147	0.113***
			(0.042)	(0.041)	(0.051)	(0.036)	(0.136)	(0.043)
Margin of Majority			0.061	0.075	0.157	0.136	0.075	0.033
			(0.246)	(0.348)	(0.348)	(0.335)	(0.324)	(1.040)
Election's year			-0.094*	-0.102*	-0.085	-0.089*	-0.081	-0.102*
			(0.052)	(0.055)	(0.059)	(0.053)	(0.059)	(0.055)
Interactions								
EMEs					0.408			
					(0.335)			
EMEs * Rigidity					-0.024			
					(0.015)			
Gini * Rigidity						-0.001***		
						(0.000)		
Rule of law * Rigidity							0.009**	
							(0.004)	
Majority * Rigidity								0.002
								(0.042)
Observations	185	183	165	163	163	163	163	163
Country FE	No	No	No	No	No	No	No	No
r2_p	0.0183	0.0338	0.0718	0.110	0.156	0.146	0.149	0.110

Robust standard errors clustered by country in parentheses

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

Table 29

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.006***	0.006***	0.006***	0.005***	0.007**	0.010	-0.006	0.008
(% of GDP)	(0.001)	(0.001)	(0.002)	(0.002)	(0.003)	(0.008)	(0.006)	(0.007)
Economic factors								
GDP growth (t-1)		0.017		-0.210	-0.190	-0.201	-0.215	-0.203
		(0.266)		(0.480)	(0.481)	(0.479)	(0.480)	(0.480)
Inflation (t-1)		-0.170		-0.405	-0.332	-0.402	-0.357	-0.404
		(0.239)		(0.273)	(0.259)	(0.272)	(0.257)	(0.271)
U.S. Interest rate		-0.017*		-0.028**	-0.030**	-0.030**	-0.034**	-0.028**
		(0.010)		(0.013)	(0.013)	(0.013)	(0.013)	(0.012)
Political factors								
Gini			0.002	0.002	0.002	0.005	0.002	0.002
			(0.002)	(0.002)	(0.002)	(0.005)	(0.002)	(0.002)
Rule of law			0.023	0.027	0.020	0.026	-0.033	0.027
			(0.019)	(0.020)	(0.022)	(0.021)	(0.037)	(0.020)
Margin of Majority			-0.191	-0.189	-0.183	-0.184	-0.177	-0.119
			(0.130)	(0.126)	(0.125)	(0.123)	(0.122)	(0.245)
Election's year			-0.037	-0.042	-0.040	-0.042	-0.039	-0.042
			(0.029)	(0.029)	(0.030)	(0.029)	(0.030)	(0.030)
Interactions								
EMEs					0.067			
					(0.142)			
EMEs * Rigidity					-0.005			
					(0.005)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidity							0.002*	
							(0.001)	
Majority * Rigidity								-0.004
								(0.010)
Observations	1,121	1,081	771	755	755	755	755	755
Country FE	No	No	No	No	No	No	No	No
r2_p	0.0296	0.0353	0.0533	0.0676	0.0705	0.0681	0.0726	0.0678

Robust standard errors clustered by country in parentheses

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

Table 30

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.006	0.006	-0.004	-0.009	-0.002	0.069**	-0.063*	-0.001
structural as % GDP	(0.006)	(0.006)	(0.010)	(0.010)	(0.014)	(0.030)	(0.034)	(0.055)
Economic factors								
GDP growth (t-1)		-0.630		-1.331	-0.747	-1.437	-1.456	-1.335
		(1.036)		(1.348)	(1.248)	(1.256)	(1.334)	(1.345)
Inflation (t-1)		0.155		1.345	1.755	1.320	1.661	1.380
		(0.752)		(1.057)	(1.103)	(1.151)	(1.156)	(1.054)
U.S. Interest rate		-0.035		-0.051	-0.062*	-0.068**	-0.070*	-0.051
		(0.030)		(0.038)	(0.036)	(0.033)	(0.039)	(0.037)
Political factors								
Gini			0.005	0.006	0.007**	0.027***	0.005	0.006
			(0.004)	(0.004)	(0.003)	(0.007)	(0.004)	(0.004)
Rule of law			0.096**	0.145***	0.094*	0.149***	0.022	0.147***
			(0.048)	(0.039)	(0.055)	(0.037)	(0.106)	(0.040)
Margin of Majority			-0.067	-0.023	0.116	0.045	-0.054	0.122
			(0.225)	(0.327)	(0.359)	(0.321)	(0.318)	(0.847)
Election's year			-0.099*	-0.112**	-0.095	-0.094*	-0.101*	-0.112**
			(0.054)	(0.054)	(0.059)	(0.052)	(0.055)	(0.054)
Interactions								
EMEs					0.090			
					(0.275)			
EMEs * Deviation					-0.036			
					(0.023)			
Gini * Deviation						-0.002***		
						(0.001)		
Rule of law * Deviation							0.012	
							(0.008)	
Majority * Deviation								-0.015
								(0.096)
Observations	182	180	164	162	162	162	162	162
Country FE	No	No	No	No	No	No	No	No
r2_p	0.00706	0.0236	0.0630	0.115	0.169	0.155	0.138	0.116

Robust standard errors clustered by country in parentheses

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

Table 31

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.011***	0.010***	0.007	0.004	0.004	0.005	-0.014	0.010
structural as % GDP	(0.003)	(0.003)	(0.004)	(0.005)	(0.008)	(0.020)	(0.014)	(0.018)
Economic factors								
GDP growth (t-1)		-0.070		-0.370	-0.324	-0.371	-0.387	-0.360
		(0.287)		(0.509)	(0.512)	(0.509)	(0.511)	(0.509)
Inflation (t-1)		-0.188		-0.376	-0.318	-0.377	-0.358	-0.372
		(0.238)		(0.257)	(0.245)	(0.258)	(0.250)	(0.258)
U.S. Interest rate		-0.019*		-0.033**	-0.034**	-0.033**	-0.037***	-0.033***
		(0.011)		(0.013)	(0.014)	(0.013)	(0.013)	(0.013)
Political factors								
Gini			0.001	0.001	0.002	0.002	0.002	0.001
			(0.002)	(0.002)	(0.002)	(0.005)	(0.002)	(0.002)
Rule of law			0.041**	0.045**	0.031	0.045**	0.013	0.045**
			(0.019)	(0.021)	(0.024)	(0.021)	(0.035)	(0.021)
Margin of Majority			-0.259*	-0.260**	-0.254*	-0.260**	-0.257**	-0.190
			(0.134)	(0.129)	(0.132)	(0.128)	(0.127)	(0.243)
Election's year			-0.040	-0.047	-0.047	-0.047	-0.046	-0.048
			(0.030)	(0.030)	(0.031)	(0.030)	(0.031)	(0.031)
Interactions								
EMEs					-0.024			
					(0.145)			
EMEs * Deviation					-0.006			
					(0.011)			
Gini * Deviation						-0.000		
						(0.001)		
Rule of law * Deviation							0.004	
							(0.003)	
Majority * Deviation								-0.010
								(0.028)
Observations	1,015	1,003	713	709	709	709	709	709
Country FE	No	No	No	No	No	No	No	No
r2_p	0.0166	0.0246	0.0394	0.0581	0.0614	0.0581	0.0606	0.0583

Robust standard errors clustered by country in parentheses

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

Appendix 5: Conditional logit models:

Table 32

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.361***	0.400***	0.386***	0.398***	0.589***	0.672***	0.125	0.336***
(% of GDP)	(0.036)	(0.044)	(0.040)	(0.046)	(0.093)	(0.139)	(0.091)	(0.076)
Economic factors								
GDP growth (t-1)		-26.752***		-26.493***	-24.799***	-26.180***	-25.308***	-26.841***
		(3.563)		(3.836)	(3.859)	(3.923)	(3.824)	(3.850)
Inflation (t-1)		-12.167***		-11.215***	-9.861***	-11.526***	-9.756***	-10.992***
		(3.716)		(3.829)	(3.658)	(3.843)	(3.513)	(3.810)
U.S. Interest rate		-0.064		-0.076	-0.159	-0.153	-0.155	-0.090
		(0.087)		(0.101)	(0.110)	(0.109)	(0.108)	(0.101)
Political factors								
Gini			0.098***	0.077**	0.068*	0.238***	0.072*	0.073*
			(0.035)	(0.038)	(0.037)	(0.085)	(0.038)	(0.038)
Rule of law			0.326	0.169	0.095	0.168	-1.825***	0.195
			(0.269)	(0.339)	(0.341)	(0.343)	(0.697)	(0.340)
Margin of Majority			1.539	1.919*	1.914*	2.125*	1.895*	-0.810
			(1.076)	(1.155)	(1.148)	(1.174)	(1.135)	(2.936)
Election's year			0.239	0.441*	0.452*	0.427*	0.462*	0.441*
			(0.214)	(0.237)	(0.237)	(0.236)	(0.237)	(0.236)
Interactions								
EMEs * Rigidity					-0.304***			
					(0.112)			
Gini * Rigidity						-0.007**		
						(0.003)		
Rule of law * Rigidity							0.073***	
							(0.022)	
Majority * Rigidity								0.109
								(0.108)
Observations	1,080	1,065	960	948	948	948	948	948
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.203	0.344	0.233	0.352	0.366	0.360	0.370	0.354

Standard errors in parentheses

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

Table 33

Dependent variable: Need of fiscal adjustment based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.104***	0.107***	0.117***	0.107***	0.269***	0.086*	0.012	0.139***
(% of GDP)	(0.012)	(0.014)	(0.016)	(0.017)	(0.036)	(0.044)	(0.034)	(0.029)
Economic factors								
GDP growth (t-1)		-6.476***		-7.620***	-6.558***	-7.644***	-7.398***	-7.518***
		(1.116)		(1.485)	(1.475)	(1.487)	(1.483)	(1.483)
Inflation (t-1)		0.060		1.077*	1.061*	1.091*	0.968	1.098*
		(0.397)		(0.630)	(0.615)	(0.631)	(0.619)	(0.628)
U.S. Interest rate		0.027		0.005	-0.013	0.006	-0.010	0.003
		(0.029)		(0.038)	(0.039)	(0.038)	(0.038)	(0.038)
Political factors								
Gini			0.031**	0.028**	0.026**	0.019	0.030**	0.028**
			(0.012)	(0.012)	(0.012)	(0.021)	(0.012)	(0.012)
Rule of law			0.115	0.152	0.093	0.157	-0.432**	0.148
			(0.104)	(0.118)	(0.119)	(0.119)	(0.217)	(0.119)
Margin of Majority			-0.441	-0.360	-0.355	-0.354	-0.335	0.543
			(0.392)	(0.404)	(0.400)	(0.404)	(0.403)	(0.775)
Election's year			-0.043	-0.058	-0.050	-0.058	-0.055	-0.062
			(0.103)	(0.106)	(0.107)	(0.106)	(0.106)	(0.106)
Interactions								
EMEs * Rigidity					-0.228***			
					(0.041)			
Gini * Rigidity						0.001		
						(0.001)		
Rule of law * Rigidity							0.024***	
							(0.008)	
Majority * Rigidity								-0.053
								(0.039)
Observations	3,046	2,911	2,066	2,007	2,007	2,007	2,007	2,007
Number of ifscode	147	145	103	102	102	102	102	102
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.0235	0.0373	0.0276	0.0432	0.0581	0.0433	0.0478	0.0440

Standard errors in parentheses

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

Table 34

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.341***	0.367***	0.369***	0.375***	0.606***	0.787***	-0.042	0.403***
structural as % GDP	(0.037)	(0.045)	(0.041)	(0.047)	(0.094)	(0.186)	(0.124)	(0.140)
Economic factors								
GDP growth (t-1)		-26.612***		-25.740***	-24.202***	-25.364***	-24.277***	-25.700***
		(3.497)		(3.720)	(3.774)	(3.834)	(3.759)	(3.727)
Inflation (t-1)		-12.074***		-10.558***	-9.418**	-10.984***	-9.698**	-10.616***
		(3.597)		(3.754)	(3.732)	(3.769)	(3.837)	(3.770)
U.S. Interest rate		-0.146*		-0.199**	-0.305***	-0.271**	-0.298***	-0.197**
		(0.084)		(0.100)	(0.108)	(0.105)	(0.106)	(0.100)
Political factors								
Gini			0.108***	0.094***	0.077**	0.173***	0.083**	0.095***
			(0.033)	(0.036)	(0.036)	(0.050)	(0.036)	(0.037)
Rule of law			0.144	0.196	0.128	0.198	-0.875*	0.192
			(0.259)	(0.332)	(0.336)	(0.334)	(0.453)	(0.332)
Margin of Majority			1.266	1.561	1.705	1.702	1.720	2.033
			(1.043)	(1.118)	(1.118)	(1.135)	(1.112)	(2.476)
Election's year			0.229	0.406*	0.446*	0.431*	0.435*	0.408*
			(0.211)	(0.231)	(0.233)	(0.232)	(0.233)	(0.231)
Interactions								
EMEs * Deviation					-0.383***			
					(0.114)			
Gini * Deviation						-0.010**		
						(0.004)		
Rule of law * Deviation							0.107***	
							(0.031)	
Majority * Deviation								-0.047
								(0.220)
Observations	1,065	1,053	957	947	947	947	947	947
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.161	0.307	0.193	0.320	0.341	0.329	0.342	0.320

Standard errors in parentheses

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

Table 35

Dependent variable: Need of fiscal adjustment based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.051***	0.037**	0.058***	0.042**	0.173***	0.132*	-0.121**	0.070
structural as % GDP	(0.014)	(0.015)	(0.018)	(0.019)	(0.034)	(0.069)	(0.054)	(0.050)
Economic factors								
GDP growth (t-1)		-7.299***		-9.008***	-8.035***	-8.914***	-8.732***	-8.978***
		(1.166)		(1.526)	(1.523)	(1.529)	(1.527)	(1.526)
Inflation (t-1)		0.044		1.358**	1.234*	1.289**	1.191*	1.370**
		(0.400)		(0.644)	(0.631)	(0.644)	(0.633)	(0.644)
U.S. Interest rate		-0.032		-0.067*	-0.088**	-0.073*	-0.086**	-0.067*
		(0.030)		(0.039)	(0.039)	(0.039)	(0.039)	(0.039)
Political factors								
Gini			0.029**	0.029**	0.027**	0.042***	0.030**	0.029**
			(0.012)	(0.013)	(0.013)	(0.016)	(0.013)	(0.013)
Rule of law			0.062	0.178	0.153	0.163	-0.161	0.180
			(0.108)	(0.121)	(0.122)	(0.122)	(0.160)	(0.121)
Margin of Majority			-0.714*	-0.633	-0.572	-0.660	-0.597	-0.337
			(0.406)	(0.419)	(0.418)	(0.419)	(0.419)	(0.639)
Election's year			-0.043	-0.036	-0.026	-0.032	-0.029	-0.038
			(0.105)	(0.107)	(0.108)	(0.107)	(0.107)	(0.107)
Interactions								
EMEs * Deviation					-0.210***			
					(0.043)			
Gini * Deviation						-0.002		
						(0.002)		
Rule of law * Deviation							0.040***	
							(0.012)	
Majority * Deviation								-0.048
								(0.078)
Observations	2,798	2,738	1,949	1,918	1,918	1,918	1,918	1,918
Number of ifscode	137	137	98	98	98	98	98	98
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.00444	0.0209	0.00939	0.0338	0.0460	0.0347	0.0389	0.0340

Standard errors in parentheses

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

Table 36

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.085	-0.117	-0.082	-0.161	-0.127	0.710	-0.551	-0.481**
(% of GDP)	(0.097)	(0.133)	(0.112)	(0.162)	(0.255)	(0.493)	(0.389)	(0.237)
Economic factors								
GDP growth (t-1)		-1.308		1.757	2.106	3.416	2.141	1.373
		(7.427)		(8.017)	(8.324)	(8.739)	(8.525)	(8.293)
Inflation (t-1)		20.772*		25.758**	25.280**	27.675**	20.914	28.117**
		(10.786)		(12.509)	(12.744)	(13.258)	(12.981)	(13.476)
U.S. Interest rate		-0.768**		-1.130***	-1.134***	-1.322***	-1.292***	-1.374***
		(0.307)		(0.421)	(0.422)	(0.451)	(0.458)	(0.483)
Political factors								
Gini			0.070	0.089	0.094	0.626*	0.089	-0.026
			(0.127)	(0.278)	(0.278)	(0.341)	(0.270)	(0.184)
Rule of law			-1.195	1.231	1.223	1.426	-1.258	1.753
			(0.735)	(1.120)	(1.115)	(1.154)	(2.405)	(1.259)
Margin of Majority			4.471	3.348	3.417	5.389	4.741	-13.440
			(3.234)	(3.620)	(3.655)	(4.026)	(3.992)	(9.192)
Election's year			-0.697	-0.480	-0.459	-0.316	-0.325	-0.428
			(0.512)	(0.550)	(0.563)	(0.576)	(0.570)	(0.581)
Interactions								
EMEs * Rigidity					-0.058			
					(0.346)			
Gini * Rigidity						-0.021*		
						(0.013)		
Rule of law * Rigidity							0.090	
							(0.077)	
Majority * Rigidity								0.592*
								(0.317)
Observations	111	110	98	97	97	97	97	97
Number of ifscode	21	21	18	18	18	18	18	18
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.0103	0.160	0.102	0.238	0.239	0.272	0.255	0.278

Standard errors in parentheses

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

Table 37

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.026	-0.042	-0.053	-0.066	-0.059	-0.030	-0.200**	-0.125*
(% of GDP)	(0.030)	(0.033)	(0.038)	(0.041)	(0.059)	(0.091)	(0.095)	(0.067)
Economic factors								
GDP growth (t-1)		-3.374		-1.430	-1.380	-1.383	-1.189	-1.478
		(2.492)		(3.026)	(3.041)	(3.027)	(3.032)	(3.033)
Inflation (t-1)		-0.095		0.277	0.267	0.278	0.144	0.220
		(0.849)		(1.592)	(1.596)	(1.594)	(1.613)	(1.601)
U.S. Interest rate		-0.130**		-0.159**	-0.162**	-0.166**	-0.197**	-0.158**
		(0.060)		(0.074)	(0.075)	(0.075)	(0.078)	(0.074)
Political factors								
Gini			0.024	0.024	0.024	0.042	0.027	0.027
			(0.027)	(0.027)	(0.027)	(0.049)	(0.027)	(0.027)
Rule of law			-0.273	-0.092	-0.095	-0.101	-0.911	-0.087
			(0.246)	(0.270)	(0.271)	(0.272)	(0.591)	(0.271)
Margin of Majority			1.786*	1.995*	1.999*	1.977*	2.157**	-0.049
			(1.036)	(1.073)	(1.074)	(1.076)	(1.090)	(2.107)
Election's year			-0.234	-0.270	-0.270	-0.271	-0.264	-0.268
			(0.209)	(0.211)	(0.211)	(0.211)	(0.211)	(0.212)
Interactions								
EMEs * Rigidity					-0.015			
					(0.081)			
Gini * Rigidity						-0.001		
						(0.002)		
Rule of law * Rigidity							0.029	
							(0.019)	
Majority * Rigidity								0.099
								(0.089)
Observations	798	790	583	579	579	579	579	579
Number of ifscode	102	102	75	75	75	75	75	75
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.00118	0.0127	0.0178	0.0297	0.0297	0.0301	0.0348	0.0322

Standard errors in parentheses

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

Table 38

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.279**	-0.264*	-0.300*	-0.324*	-0.172	1.029	-1.088*	-0.707
structural as % GDP	(0.139)	(0.154)	(0.161)	(0.177)	(0.282)	(0.692)	(0.568)	(0.497)
Economic factors								
GDP growth (t-1)		-0.957		-0.168	1.374	3.592	1.757	0.078
		(8.219)		(8.383)	(9.042)	(9.841)	(9.446)	(8.447)
Inflation (t-1)		19.399*		25.158**	24.763*	29.131**	20.231	25.211**
		(11.390)		(12.745)	(12.844)	(14.276)	(13.535)	(12.840)
U.S. Interest rate		-0.940***		-1.090***	-1.125***	-1.220***	-1.327***	-1.183***
		(0.351)		(0.423)	(0.433)	(0.450)	(0.478)	(0.449)
Political factors								
Gini			0.021	0.010	0.028	0.412	0.010	-0.007
			(0.125)	(0.250)	(0.294)	(0.338)	(0.325)	(0.219)
Rule of law			-1.132	1.229	1.216	1.359	-0.528	1.509
			(0.741)	(1.109)	(1.115)	(1.171)	(1.660)	(1.184)
Margin of Majority			3.731	3.076	3.489	6.204	5.454	-3.350
			(3.460)	(3.909)	(4.070)	(4.703)	(4.608)	(8.392)
Election's year			-0.675	-0.414	-0.336	-0.282	-0.253	-0.391
			(0.526)	(0.562)	(0.572)	(0.591)	(0.578)	(0.569)
Interactions								
EMEs * Deviation					-0.240			
					(0.376)			
Gini * Deviation						-0.032*		
						(0.018)		
Rule of law * Deviation							0.176	
							(0.112)	
Majority * Deviation								0.606
								(0.723)
Observations	106	105	98	97	97	97	97	97
Number of ifscode	20	20	18	18	18	18	18	18
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.0598	0.224	0.149	0.272	0.277	0.315	0.300	0.280

Standard errors in parentheses

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

Table 39

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.055	-0.077**	-0.098**	-0.122**	-0.108*	-0.028	-0.238	-0.210*
structural as % GDP	(0.033)	(0.038)	(0.044)	(0.050)	(0.063)	(0.161)	(0.166)	(0.128)
Economic factors								
GDP growth (t-1)		-3.049		-1.913	-1.893	-1.943	-1.975	-1.971
		(2.533)		(3.101)	(3.105)	(3.103)	(3.101)	(3.102)
Inflation (t-1)		-0.123		-0.164	-0.245	-0.220	-0.374	-0.203
		(0.857)		(1.647)	(1.670)	(1.653)	(1.685)	(1.652)
U.S. Interest rate		-0.152**		-0.189**	-0.194**	-0.200**	-0.207**	-0.188**
		(0.063)		(0.079)	(0.080)	(0.081)	(0.083)	(0.079)
Political factors								
Gini			0.027	0.026	0.025	0.042	0.027	0.028
			(0.027)	(0.028)	(0.028)	(0.038)	(0.028)	(0.028)
Rule of law			-0.349	-0.154	-0.152	-0.164	-0.386	-0.172
			(0.261)	(0.282)	(0.283)	(0.284)	(0.427)	(0.284)
Margin of Majority			2.404**	2.732**	2.749**	2.720**	2.785**	1.576
			(1.101)	(1.156)	(1.159)	(1.161)	(1.166)	(1.913)
Election's year			-0.238	-0.273	-0.274	-0.278	-0.270	-0.271
			(0.214)	(0.217)	(0.217)	(0.217)	(0.217)	(0.217)
Interactions								
EMEs * Deviation					-0.034			
					(0.096)			
Gini * Deviation						-0.003		
						(0.004)		
Rule of law * Deviation							0.025	
							(0.035)	
Majority * Deviation								0.149
								(0.199)
Observations	758	750	554	550	550	550	550	550
Number of ifscode	100	100	74	74	74	74	74	74
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
r2_p	0.00456	0.0181	0.0303	0.0478	0.0481	0.0486	0.0490	0.0491

Standard errors in parentheses

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

Appendix 6: Model with sample selection correction

Table 40

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)					
Variables	(1)	(2)	(3)	(4)	(5)
Rigid expenditure	0.020**	0.027**	0.035*	-0.010	0.038
(% of GDP)	(0.009)	(0.013)	(0.018)	(0.017)	(0.023)
Economic factors					
GDP growth (t-1)	-7.068**	-5.267*	-6.461**	-5.847*	-6.908**
	(3.007)	(3.067)	(3.015)	(3.022)	(2.977)
Inflation (t-1)	-1.174	-0.506	-0.937	-0.046	-1.107
	(0.988)	(1.223)	(1.054)	(1.123)	(0.973)
U.S. Interest rate	-0.107***	-0.107***	-0.116***	-0.121***	-0.104***
	(0.036)	(0.034)	(0.034)	(0.036)	(0.036)
Political factors					
Gini	0.020***	0.016**	0.031**	0.017**	0.021***
	(0.007)	(0.006)	(0.012)	(0.007)	(0.008)
Rule of law	0.001	0.030	0.013	-0.171*	0.002
	(0.057)	(0.051)	(0.056)	(0.094)	(0.057)
Margin of Majority	0.852**	0.622	0.795**	0.689*	1.514*
	(0.387)	(0.382)	(0.368)	(0.389)	(0.890)
Interactions					
EMEs		0.619			
		(0.441)			
EMEs * Rigidity		-0.018			
		(0.012)			
Gini * Rigidity			-0.000		
			(0.001)		
Rule of law * Rigidity				0.007**	
				(0.003)	
Majority * Rigidity					-0.029
					(0.027)
lambda	0.668**	0.477	0.591*	0.521*	0.659**
	(0.307)	(0.309)	(0.308)	(0.310)	(0.308)
Constant	-2.163**	-2.081**	-2.427***	-1.053	-2.635**
	(0.839)	(1.001)	(0.693)	(0.999)	(1.173)
Observations	163	163	163	163	163
R-squared	0.120	0.153	0.149	0.152	0.120
Country FE	No	No	No	No	No

Standard errors in parentheses

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

Table 41

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)
Rigid expenditure	0.003	-0.008	0.001	0.005	-0.008
(% of GDP)	(0.003)	(0.011)	(0.010)	(0.010)	(0.014)
Economic factors					
GDP growth (t-1)	3.803	4.782	3.811	4.094	3.957
	(2.999)	(3.212)	(2.997)	(3.187)	(2.911)
Inflation (t-1)	-0.332**	-0.385*	-0.335**	-0.349*	-0.333**
	(0.168)	(0.200)	(0.170)	(0.188)	(0.165)
U.S. Interest rate	-0.018	-0.011	-0.018	-0.018	-0.018
	(0.012)	(0.016)	(0.013)	(0.016)	(0.012)
Political factors					
Gini	-0.003	-0.005	-0.004	-0.004	-0.004
	(0.004)	(0.005)	(0.008)	(0.005)	(0.004)
Rule of law	-0.008	-0.032	-0.008	0.005	-0.006
	(0.030)	(0.036)	(0.029)	(0.044)	(0.026)
Margin of Majority	-0.059	-0.045	-0.067	-0.062	-0.357
	(0.110)	(0.108)	(0.105)	(0.104)	(0.312)
Interactions					
emes		-0.461			
		(0.379)			
EMEs * Rigidity		0.014			
		(0.014)			
Gini * Rigidity			0.000		
			(0.000)		
Rule of law * Rigidity				-0.001	
				(0.003)	
Majority * Rigidity					0.016
					(0.019)
lambda	-1.202	-1.540	-1.207	-1.312	-1.257
	(0.892)	(0.992)	(0.899)	(0.973)	(0.874)
Constant	1.559	2.378	1.601	1.658*	1.834
	(1.042)	(1.452)	(1.172)	(0.938)	(1.235)
Observations	755	755	755	755	755
R-squared	0.074	0.081	0.075	0.082	0.075
Country FE	No	No	No	No	No

Standard errors in parentheses

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

Table 42

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)
Rigid expenditure minus	0.026	0.014	0.073**	-0.021	0.047
structural as % GDP	(0.022)	(0.024)	(0.030)	(0.034)	(0.046)
Economic factors					
GDP growth (t-1)	-4.827**	-2.283	-4.534*	-3.709	-4.139*
	(2.415)	(2.214)	(2.499)	(2.454)	(2.249)
Inflation (t-1)	-0.216	0.866	-0.002	0.757	0.056
	(1.044)	(1.150)	(1.087)	(1.164)	(0.991)
U.S. Interest rate	-0.083***	-0.075**	-0.095***	-0.088***	-0.076**
	(0.032)	(0.029)	(0.031)	(0.032)	(0.031)
Political factors					
Gini	0.015**	0.009	0.028***	0.012	0.014**
	(0.007)	(0.006)	(0.008)	(0.007)	(0.007)
Rule of law	0.055	0.063	0.060	-0.021	0.067
	(0.051)	(0.044)	(0.051)	(0.069)	(0.049)
Margin of Majority	0.577	0.302	0.563	0.408	0.864
	(0.362)	(0.320)	(0.358)	(0.369)	(0.699)
Interactions					
EMEs		0.126			
		(0.305)			
EMEs * Deviation		-0.027			
		(0.019)			
Gini * Deviation			-0.001		
			(0.001)		
Rule of law * Deviation				0.009*	
				(0.005)	
Majority * Deviation					-0.043
					(0.054)
lambda	0.453*	0.170	0.402	0.303	0.377
	(0.271)	(0.240)	(0.279)	(0.279)	(0.254)
Constant	-1.556*	-0.677	-1.900***	-0.725	-1.612
	(0.802)	(0.836)	(0.717)	(0.910)	(0.975)
Observations	162	162	162	162	162
R-squared	0.113	0.150	0.149	0.128	0.110
Country FE	No	No	No	No	No

Standard errors in parentheses

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

Table 43

Dependent variable: Fiscal adjustment when needed based on debt/revenue					
Variables	(1)	(2)	(3)	(4)	(5)
Rigid expenditure minus	0.001	-0.045	-0.046	0.039	-0.013
structural as % GDP	(0.005)	(0.029)	(0.043)	(0.039)	(0.025)
Economic factors					
GDP growth (t-1)	4.911	6.502*	4.915	5.473	5.097
	(3.956)	(3.774)	(3.983)	(4.096)	(3.905)
Inflation (t-1)	-0.416*	-0.567**	-0.414*	-0.472*	-0.428*
	(0.222)	(0.270)	(0.222)	(0.256)	(0.225)
U.S. Interest rate	-0.004	0.021	0.001	0.007	-0.003
	(0.023)	(0.032)	(0.027)	(0.032)	(0.023)
Political factors					
Gini	-0.004	-0.006	-0.013	-0.006	-0.004
	(0.004)	(0.005)	(0.012)	(0.005)	(0.004)
Rule of law	-0.002	-0.042	0.003	0.071	-0.002
	(0.036)	(0.042)	(0.033)	(0.052)	(0.035)
Margin of Majority	-0.013	0.043	-0.042	-0.009	-0.161
	(0.173)	(0.165)	(0.156)	(0.166)	(0.178)
Interactions					
EMEs		-0.794*			
		(0.440)			
EMEs * Deviation		0.073			
		(0.045)			
Gini * Deviation			0.001		
			(0.001)		
Rule of law * Deviation				-0.010	
				(0.010)	
Majority * Deviation					0.022
					(0.036)
lambda	-1.435	-2.013*	-1.467	-1.647	-1.489
	(1.077)	(1.115)	(1.108)	(1.162)	(1.068)
Constant	1.758	3.036**	2.134	1.734*	1.923
	(1.116)	(1.492)	(1.422)	(0.942)	(1.240)
Observations	709	709	709	709	709
R-squared	0.063	0.070	0.063	0.067	0.064
Country FE	No	No	No	No	No

Standard errors in parentheses

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

Appendix 7: Linear probability model controlling for size of the need (primary gap)

Table 44

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.015	-0.023***	-0.014	-0.027***	-0.016**	0.073**	-0.080***	-0.063***
(% of GDP)	(0.013)	(0.008)	(0.011)	(0.008)	(0.008)	(0.029)	(0.028)	(0.020)
Primary gap (t-1)	-0.004	0.003	0.001	-0.003	-0.004	-0.004	-0.003	-0.004
	(0.010)	(0.006)	(0.010)	(0.008)	(0.008)	(0.007)	(0.008)	(0.008)
Economic factors								
GDP growth (t-1)		-0.307		0.736	0.848	0.731	0.611	0.725
		(1.360)		(1.246)	(1.224)	(1.252)	(1.227)	(1.279)
Inflation (t-1)		2.579***		2.706**	3.066***	2.976***	3.203***	2.552**
		(0.931)		(1.042)	(1.057)	(1.032)	(0.965)	(1.113)
U.S. Interest rate		-0.124**		-0.159**	-0.178**	-0.206***	-0.194**	-0.174***
		(0.051)		(0.064)	(0.074)	(0.060)	(0.073)	(0.052)
Political factors								
Gini			0.010	0.013	0.016	0.081***	0.015	0.007
			(0.011)	(0.012)	(0.012)	(0.023)	(0.012)	(0.011)
Rule of law			-0.218**	0.110	0.167	0.183	-0.106	0.113
			(0.086)	(0.142)	(0.162)	(0.144)	(0.139)	(0.143)
Margin of Majority			0.509	0.269	0.259	0.474	0.258	-1.475*
			(0.443)	(0.397)	(0.387)	(0.366)	(0.384)	(0.794)
Election's year			-0.111	-0.097	-0.089	-0.078	-0.087	-0.083
			(0.080)	(0.078)	(0.075)	(0.075)	(0.079)	(0.081)
Interactions								
EMEs * Rigidity					-0.034			
					(0.030)			
Gini * Rigidity						-0.003***		
						(0.001)		
Rule of law * Rigidity							0.011**	
							(0.005)	
Majority * Rigidity								0.073*
								(0.042)
Constant	0.611	1.191***	0.791	0.314	0.164	-2.660**	1.288	1.447
	(0.395)	(0.305)	(0.971)	(1.004)	(0.962)	(1.293)	(1.016)	(0.983)
Observations	185	183	165	163	163	163	163	163
R-squared	0.009	0.115	0.073	0.160	0.169	0.192	0.178	0.189
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 45

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.011	-0.009	-0.010	-0.008	-0.009	-0.012	-0.018	-0.021
(% of GDP)	(0.007)	(0.008)	(0.008)	(0.008)	(0.012)	(0.022)	(0.018)	(0.014)
Primary gap (t-1)	0.001	0.006	0.001	0.004	0.004	0.004	0.004	0.005
	(0.003)	(0.005)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Economic factors								
GDP growth (t-1)		-0.669		-0.271	-0.284	-0.276	-0.233	-0.301
		(0.835)		(0.872)	(0.879)	(0.874)	(0.892)	(0.868)
Inflation (t-1)		-0.038		0.031	0.026	0.031	0.046	-0.013
		(0.206)		(0.201)	(0.205)	(0.201)	(0.208)	(0.200)
U.S. Interest rate		-0.028*		-0.026	-0.026	-0.025	-0.030	-0.027
		(0.017)		(0.019)	(0.021)	(0.020)	(0.022)	(0.020)
Political factors								
Gini			0.006	0.006	0.006	0.004	0.006	0.006
			(0.007)	(0.007)	(0.007)	(0.014)	(0.007)	(0.007)
Rule of law			-0.027	0.001	0.001	0.000	-0.062	0.003
			(0.061)	(0.071)	(0.071)	(0.070)	(0.108)	(0.071)
Margin of Majority			0.456*	0.442*	0.440*	0.438*	0.442*	-0.086
			(0.234)	(0.231)	(0.231)	(0.234)	(0.232)	(0.379)
Election's year			-0.031	-0.030	-0.030	-0.030	-0.030	-0.027
			(0.041)	(0.042)	(0.042)	(0.042)	(0.042)	(0.041)
Interactions								
EMEs * Rigidity					0.002			
					(0.016)			
Gini * Rigidity						0.000		
						(0.000)		
Rule of law * Rigidity							0.002	
							(0.004)	
Majority * Rigidity								0.023
								(0.019)
Constant	0.613***	0.689***	0.226	0.178	0.183	0.287	0.451	0.476
	(0.184)	(0.231)	(0.511)	(0.525)	(0.528)	(0.715)	(0.568)	(0.545)
Observations	562	559	504	503	503	503	503	503
R-squared	0.005	0.013	0.014	0.021	0.021	0.021	0.021	0.024
Number of ifscode	84	84	75	75	75	75	75	75
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 46

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.034***	-0.030***	-0.033***	-0.035***	-0.023***	0.083**	-0.098***	-0.067
structural as % GDP	(0.011)	(0.008)	(0.009)	(0.010)	(0.006)	(0.035)	(0.032)	(0.051)
Primary gap (t-1)	-0.005	0.002	-0.001	-0.003	-0.004	-0.004	-0.003	-0.003
	(0.009)	(0.006)	(0.009)	(0.007)	(0.007)	(0.007)	(0.007)	(0.008)
Economic factors								
GDP growth (t-1)		-0.095		0.369	0.532	0.419	0.424	0.377
		(1.325)		(1.323)	(1.327)	(1.336)	(1.318)	(1.341)
Inflation (t-1)		2.832***		3.213***	3.493***	3.486***	3.531***	3.166***
		(0.873)		(1.120)	(1.109)	(1.091)	(1.090)	(1.154)
U.S. Interest rate		-0.136**		-0.148**	-0.160**	-0.164***	-0.170**	-0.155**
		(0.051)		(0.065)	(0.067)	(0.061)	(0.069)	(0.059)
Political factors								
Gini			0.006	0.006	0.006	0.030**	0.006	0.005
			(0.011)	(0.013)	(0.013)	(0.014)	(0.014)	(0.012)
Rule of law			-0.203**	0.119	0.162	0.168	0.064	0.128
			(0.084)	(0.150)	(0.151)	(0.146)	(0.142)	(0.151)
Margin of Majority			0.393	0.170	0.126	0.248	0.131	-0.331
			(0.419)	(0.387)	(0.383)	(0.367)	(0.379)	(0.619)
Election's year			-0.111	-0.086	-0.075	-0.055	-0.082	-0.084
			(0.079)	(0.077)	(0.073)	(0.074)	(0.076)	(0.080)
Interactions								
EMEs * Deviation					-0.042			
					(0.025)			
Gini * Deviation						-0.003***		
						(0.001)		
Rule of law * Deviation							0.013**	
							(0.006)	
Majority * Deviation								0.059
								(0.097)
Constant	0.561***	0.905***	0.927	0.161	0.143	-0.968	0.565	0.477
	(0.149)	(0.200)	(0.923)	(1.029)	(1.000)	(1.054)	(1.027)	(0.912)
Observations	182	180	164	162	162	162	162	162
R-squared	0.040	0.157	0.100	0.180	0.192	0.212	0.195	0.185
Number of ifscode	60	60	53	53	53	53	53	53
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 47

Dependent variable: Fiscal adjustment when needed based on debt/revenue

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.024***	-0.022**	-0.025***	-0.022**	-0.018	-0.011	-0.022	-0.047*
structural as % GDP	(0.007)	(0.009)	(0.008)	(0.009)	(0.012)	(0.028)	(0.029)	(0.025)
Primary gap (t-1)	-0.000	0.004	-0.001	0.003	0.003	0.003	0.003	0.003
	(0.003)	(0.005)	(0.003)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
Economic factors								
GDP growth (t-1)		-0.445		-0.271	-0.216	-0.257	-0.271	-0.317
		(0.838)		(0.918)	(0.939)	(0.922)	(0.951)	(0.921)
Inflation (t-1)		0.064		0.131	0.154	0.141	0.131	0.066
		(0.209)		(0.202)	(0.212)	(0.208)	(0.209)	(0.213)
U.S. Interest rate		-0.035**		-0.035*	-0.037*	-0.037*	-0.035	-0.037*
		(0.017)		(0.020)	(0.021)	(0.021)	(0.023)	(0.021)
Political factors								
Gini			0.005	0.005	0.005	0.008	0.005	0.006
			(0.007)	(0.007)	(0.007)	(0.009)	(0.007)	(0.007)
Rule of law			-0.044	-0.008	-0.005	-0.007	-0.008	-0.006
			(0.062)	(0.075)	(0.076)	(0.076)	(0.089)	(0.075)
Margin of Majority			0.508**	0.491**	0.502**	0.495**	0.491**	0.135
			(0.239)	(0.237)	(0.238)	(0.238)	(0.238)	(0.323)
Election's year			-0.029	-0.027	-0.028	-0.028	-0.027	-0.024
			(0.043)	(0.044)	(0.044)	(0.044)	(0.044)	(0.043)
Interactions								
EMEs * Deviation					-0.011			
					(0.016)			
Gini * Deviation						-0.000		
						(0.001)		
Rule of law * Deviation							0.000	
							(0.007)	
Majority * Deviation								0.045
								(0.041)
Constant	0.548***	0.675***	0.298	0.242	0.234	0.139	0.242	0.433
	(0.070)	(0.108)	(0.474)	(0.506)	(0.509)	(0.574)	(0.519)	(0.517)
Observations	534	531	480	479	479	479	479	479
R-squared	0.015	0.025	0.027	0.037	0.038	0.037	0.037	0.039
Number of ifscode	83	83	74	74	74	74	74	74
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Appendix 8: Linear probability model with dependent variable identified as Lavigne (2011)

Table 48

Dependent variable: Need of fiscal adjustment based on Lavigne (2011)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.029***	0.032***	0.041***	0.043***	0.041***	0.037***	0.031***	0.040***
(% of GDP)	(0.006)	(0.006)	(0.005)	(0.006)	(0.009)	(0.011)	(0.011)	(0.009)
Economic factors								
GDP growth (t-1)		-0.217		-0.136	-0.152	-0.140	-0.111	-0.144
		(0.231)		(0.266)	(0.261)	(0.267)	(0.262)	(0.263)
Inflation (t-1)		0.358**		0.601***	0.606***	0.604***	0.581***	0.604***
		(0.146)		(0.130)	(0.129)	(0.129)	(0.128)	(0.130)
U.S. Interest rate		0.009		-0.002	-0.002	-0.002	-0.003	-0.002
		(0.011)		(0.013)	(0.012)	(0.012)	(0.012)	(0.013)
Political factors								
Gini			-0.007***	-0.006**	-0.006**	-0.009*	-0.006**	-0.006**
			(0.003)	(0.003)	(0.003)	(0.005)	(0.003)	(0.003)
Rule of law			0.025	0.030	0.031	0.031	-0.040	0.030
			(0.040)	(0.041)	(0.041)	(0.041)	(0.066)	(0.041)
Margin of Majority			0.015	0.033	0.034	0.037	0.034	-0.041
			(0.106)	(0.111)	(0.111)	(0.111)	(0.112)	(0.212)
Election's year			-0.003	-0.001	-0.001	-0.001	-0.001	-0.000
			(0.011)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Interactions								
EMEs * Rigidity					0.003			
					(0.011)			
Gini * Rigidity						0.000		
						(0.000)		
Rule of law * Rigidity							0.003	
							(0.003)	
Majority * Rigidity								0.004
								(0.011)
Constant	-0.384***	-0.495***	-0.542**	-0.651***	-0.648***	-0.553**	-0.418	-0.609**
	(0.129)	(0.144)	(0.225)	(0.231)	(0.233)	(0.278)	(0.267)	(0.249)
Observations	2,474	2,462	1,824	1,819	1,819	1,819	1,819	1,819
R-squared	0.076	0.086	0.129	0.143	0.143	0.143	0.146	0.143
Number of ifscode	127	127	97	97	97	97	97	97
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 49

Dependent variable: Fiscal adjustment when needed based on Lavigne (2011)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	-0.002	-0.003	-0.005*	-0.007*	-0.008	-0.005	0.000	-0.005
(% of GDP)	(0.001)	(0.002)	(0.003)	(0.003)	(0.005)	(0.005)	(0.004)	(0.003)
Economic factors								
GDP growth (t-1)		-0.022		-0.057	-0.081	-0.056	-0.095	-0.055
		(0.130)		(0.175)	(0.166)	(0.175)	(0.175)	(0.175)
Inflation (t-1)		-0.279		-0.389	-0.387	-0.387	-0.397	-0.389
		(0.209)		(0.260)	(0.262)	(0.261)	(0.260)	(0.260)
U.S. Interest rate		-0.006		-0.010	-0.010	-0.010	-0.010	-0.010
		(0.007)		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Political factors								
Gini			0.000	-0.000	-0.000	0.000	-0.001	-0.000
			(0.000)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Rule of law			-0.016	0.000	0.001	-0.000	0.050	0.001
			(0.018)	(0.025)	(0.024)	(0.026)	(0.040)	(0.025)
Margin of Majority			-0.067	-0.071	-0.065	-0.074	-0.054	-0.028
			(0.050)	(0.055)	(0.053)	(0.061)	(0.052)	(0.072)
Election's year			-0.017*	-0.023**	-0.023**	-0.023**	-0.023**	-0.023**
			(0.010)	(0.010)	(0.010)	(0.010)	(0.010)	(0.009)
Interactions								
EMEs * Rigidity					0.002			
					(0.006)			
Gini * Rigidity						-0.000		
						(0.000)		
Rule of law * Rigidity							-0.002	
							(0.001)	
Majority * Rigidity								-0.002
								(0.004)
Constant	0.073**	0.135**	0.250*	0.328**	0.326**	0.311**	0.158	0.305**
	(0.033)	(0.061)	(0.130)	(0.141)	(0.142)	(0.128)	(0.125)	(0.126)
Observations	687	677	485	482	482	482	482	482
R-squared	0.002	0.016	0.013	0.041	0.041	0.041	0.046	0.041
Number of ifscode	88	87	65	64	64	64	64	64
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 50

Dependent variable: Need of fiscal adjustment based on Lavigne (2011)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.023***	0.024***	0.032***	0.033***	0.029***	0.026	0.021	0.032**
structural as % GDP	(0.006)	(0.006)	(0.006)	(0.006)	(0.011)	(0.019)	(0.018)	(0.013)
Economic factors								
GDP growth (t-1)		-0.333		-0.289	-0.328	-0.297	-0.263	-0.289
		(0.232)		(0.262)	(0.267)	(0.262)	(0.264)	(0.261)
Inflation (t-1)		0.353**		0.627***	0.642***	0.634***	0.605***	0.627***
		(0.155)		(0.139)	(0.138)	(0.138)	(0.138)	(0.137)
U.S. Interest rate		0.002		-0.014	-0.014	-0.014	-0.016	-0.014
		(0.011)		(0.013)	(0.013)	(0.013)	(0.013)	(0.013)
Political factors								
Gini			-0.006*	-0.005*	-0.005*	-0.006	-0.005*	-0.005*
			(0.003)	(0.003)	(0.003)	(0.004)	(0.003)	(0.003)
Rule of law			0.026	0.042	0.043	0.043	0.020	0.042
			(0.042)	(0.045)	(0.045)	(0.045)	(0.046)	(0.045)
Margin of Majority			0.038	0.057	0.058	0.060	0.056	0.053
			(0.114)	(0.118)	(0.117)	(0.117)	(0.120)	(0.171)
Election's year			0.000	0.001	0.000	0.000	0.001	0.001
			(0.012)	(0.011)	(0.011)	(0.011)	(0.011)	(0.011)
Interactions								
EMEs * Deviation					0.007			
					(0.013)			
Gini * Deviation						0.000		
						(0.000)		
Rule of law * Deviation							0.003	
							(0.004)	
Majority * Deviation								0.001
								(0.021)
Constant	0.061	0.041	0.083	0.005	0.001	0.040	0.088	0.007
	(0.046)	(0.072)	(0.186)	(0.189)	(0.188)	(0.213)	(0.188)	(0.197)
Observations	2,372	2,367	1,760	1,757	1,757	1,757	1,757	1,757
R-squared	0.040	0.046	0.067	0.085	0.085	0.085	0.086	0.085
Number of ifscode	124	124	95	95	95	95	95	95
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 51

Dependent variable: Fiscal adjustment when needed based on Lavigne (2011)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.003	-0.004*	-0.006*	-0.008*	-0.007	0.005	-0.004	-0.006
structural as % GDP	(0.002)	(0.002)	(0.004)	(0.004)	(0.004)	(0.010)	(0.008)	(0.004)
Economic factors								
GDP growth (t-1)		-0.042		-0.085	-0.058	-0.083	-0.104	-0.090
		(0.136)		(0.172)	(0.154)	(0.172)	(0.166)	(0.174)
Inflation (t-1)		-0.307		-0.434	-0.442	-0.431	-0.432	-0.432
		(0.216)		(0.272)	(0.278)	(0.273)	(0.273)	(0.273)
U.S. Interest rate		-0.003		-0.006	-0.006	-0.007	-0.006	-0.006
		(0.007)		(0.012)	(0.012)	(0.012)	(0.012)	(0.012)
Political factors								
Gini			0.000	-0.000	-0.000	0.002	-0.001	-0.000
			(0.001)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)
Rule of law			-0.003	0.010	0.010	0.009	0.016	0.010
			(0.015)	(0.025)	(0.025)	(0.024)	(0.025)	(0.025)
Margin of Majority			-0.057	-0.054	-0.058	-0.073	-0.050	-0.032
			(0.046)	(0.053)	(0.055)	(0.068)	(0.053)	(0.053)
Election's year			-0.016	-0.021**	-0.021**	-0.022**	-0.021**	-0.021**
			(0.011)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
Interactions								
EMEs * Deviation					-0.003			
					(0.007)			
Gini * Deviation						-0.000		
						(0.000)		
Rule of law * Deviation							-0.001	
							(0.002)	
Majority * Deviation								-0.004
								(0.008)
Constant	0.053***	0.092**	0.127	0.178**	0.178**	0.133*	0.151*	0.168**
	(0.016)	(0.041)	(0.082)	(0.087)	(0.088)	(0.070)	(0.090)	(0.081)
Observations	648	645	464	463	463	463	463	463
R-squared	0.004	0.018	0.013	0.043	0.044	0.046	0.044	0.043
Number of ifscode	84	83	62	61	61	61	61	61
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Appendix 9: Linear probability model with need under stressed conditions

Table 52

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.028***	0.022***	0.030***	0.022***	0.031***	0.013	0.007	0.024***
(% of GDP)	(0.005)	(0.005)	(0.006)	(0.005)	(0.010)	(0.017)	(0.008)	(0.008)
Economic factors								
GDP growth (t-1)		-1.412***		-1.474***	-1.385***	-1.499***	-1.424***	-1.466***
		(0.275)		(0.276)	(0.265)	(0.278)	(0.276)	(0.273)
Inflation (t-1)		-0.122***		-0.144*	-0.145*	-0.144*	-0.146	-0.144*
		(0.035)		(0.085)	(0.086)	(0.085)	(0.090)	(0.086)
U.S. Interest rate		-0.043***		-0.058***	-0.060***	-0.057***	-0.061***	-0.058***
		(0.012)		(0.013)	(0.014)	(0.013)	(0.014)	(0.013)
Political factors								
Gini			-0.001	-0.002	-0.002	-0.007	-0.001	-0.001
			(0.006)	(0.005)	(0.005)	(0.011)	(0.005)	(0.005)
Rule of law			0.013	0.068**	0.062**	0.070**	-0.020	0.068**
			(0.025)	(0.029)	(0.029)	(0.029)	(0.051)	(0.029)
Margin of Majority			-0.054	-0.102	-0.108	-0.103	-0.107	-0.031
			(0.096)	(0.088)	(0.086)	(0.088)	(0.088)	(0.205)
Election's year			0.000	0.002	0.003	0.001	0.002	0.001
			(0.015)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Interactions								
EMEs * Rigidity					-0.014			
					(0.012)			
Gini * Rigidity						0.000		
						(0.000)		
Rule of law * Rigidity							0.004*	
							(0.002)	
Majority * Rigidity								-0.004
								(0.010)
Constant	-0.350***	0.026	-0.408	-0.064	-0.072	0.132	0.276	-0.107
	(0.124)	(0.139)	(0.316)	(0.315)	(0.313)	(0.504)	(0.333)	(0.322)
Observations	1,825	1,772	1,597	1,555	1,555	1,555	1,555	1,555
R-squared	0.064	0.127	0.074	0.158	0.162	0.159	0.163	0.158
Number of ifscode	84	84	75	75	75	75	75	75
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 53

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure	0.002	-0.005	0.002	-0.005	0.005	0.016	-0.022**	-0.026**
(% of GDP)	(0.005)	(0.006)	(0.006)	(0.006)	(0.010)	(0.020)	(0.010)	(0.010)
Economic factors								
GDP growth (t-1)		-1.494***		-1.145**	-1.056**	-1.106**	-1.103**	-1.180**
		(0.482)		(0.488)	(0.468)	(0.495)	(0.474)	(0.518)
Inflation (t-1)		-0.186**		0.427	0.419	0.446	0.426	0.350
		(0.082)		(0.291)	(0.286)	(0.290)	(0.264)	(0.286)
U.S. Interest rate		-0.025		-0.053**	-0.054**	-0.056***	-0.056***	-0.056**
		(0.016)		(0.021)	(0.021)	(0.021)	(0.021)	(0.021)
Political factors								
Gini			0.008	0.008*	0.008*	0.022*	0.008*	0.007*
			(0.005)	(0.004)	(0.004)	(0.013)	(0.004)	(0.004)
Rule of law			0.028	0.104**	0.093**	0.102**	-0.018	0.103**
			(0.037)	(0.044)	(0.046)	(0.043)	(0.098)	(0.043)
Margin of Majority			-0.075	-0.001	0.009	0.019	-0.008	-0.918***
			(0.118)	(0.126)	(0.130)	(0.129)	(0.134)	(0.323)
Election's year			-0.011	-0.017	-0.016	-0.018	-0.016	-0.012
			(0.031)	(0.031)	(0.031)	(0.031)	(0.032)	(0.031)
Interactions								
EMEs * Rigidity					-0.018			
					(0.011)			
Gini * Rigidity						-0.001		
						(0.000)		
Rule of law * Rigidity							0.004	
							(0.003)	
Majority * Rigidity								0.038***
								(0.014)
Constant	0.122	0.470**	-0.237	-0.188	-0.170	-0.739	0.281	0.364
	(0.142)	(0.189)	(0.388)	(0.312)	(0.309)	(0.578)	(0.416)	(0.354)
Observations	638	624	558	546	546	546	546	546
R-squared	0.000	0.032	0.006	0.046	0.052	0.049	0.052	0.056
Number of ifscode	68	68	61	61	61	61	61	61
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 54

Dependent variable: Need of fiscal adjustment based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	0.031***	0.026***	0.034***	0.026***	0.029**	0.015	-0.002	0.024**
structural as % GDP	(0.006)	(0.006)	(0.006)	(0.006)	(0.012)	(0.024)	(0.014)	(0.011)
Economic factors								
GDP growth (t-1)		-1.425***		-1.533***	-1.503***	-1.560***	-1.458***	-1.535***
		(0.260)		(0.273)	(0.264)	(0.276)	(0.271)	(0.271)
Inflation (t-1)		-0.102**		-0.111	-0.115	-0.107	-0.126	-0.111
		(0.048)		(0.084)	(0.085)	(0.081)	(0.089)	(0.084)
U.S. Interest rate		-0.047***		-0.064***	-0.064***	-0.063***	-0.067***	-0.064***
		(0.013)		(0.014)	(0.015)	(0.014)	(0.015)	(0.014)
Political factors								
Gini			-0.001	-0.001	-0.001	-0.003	-0.001	-0.001
			(0.007)	(0.006)	(0.006)	(0.008)	(0.006)	(0.006)
Rule of law			0.008	0.066**	0.065**	0.068**	0.012	0.066**
			(0.024)	(0.029)	(0.029)	(0.029)	(0.040)	(0.029)
Margin of Majority			-0.092	-0.142	-0.140	-0.142	-0.141	-0.173
			(0.098)	(0.086)	(0.086)	(0.087)	(0.086)	(0.138)
Election's year			0.002	0.003	0.004	0.003	0.005	0.004
			(0.016)	(0.015)	(0.015)	(0.015)	(0.015)	(0.015)
Interactions					-			
EMEs * Deviation					-0.005			
					(0.014)			
Gini * Deviation						0.000		
						(0.001)		
Rule of law * Deviation							0.007*	
							(0.003)	
Majority * Deviation								0.005
								(0.017)
Constant	0.079	0.369***	0.090	0.294	0.298	0.370	0.517	0.313
	(0.051)	(0.071)	(0.313)	(0.301)	(0.299)	(0.359)	(0.320)	(0.307)
Observations	1,753	1,707	1,538	1,502	1,502	1,502	1,502	1,502
R-squared	0.059	0.130	0.071	0.166	0.166	0.166	0.172	0.166
Number of ifscode	83	83	74	74	74	74	74	74
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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

Table 55

Dependent variable: Fiscal adjustment when needed based on Escolano et al. (2014)

Variables	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Rigid expenditure minus	-0.005	-0.013**	-0.005	-0.011**	-0.001	0.018	-0.027**	-0.029**
structural as % GDP	(0.005)	(0.005)	(0.006)	(0.005)	(0.010)	(0.026)	(0.013)	(0.013)
Economic factors								
GDP growth (t-1)		-1.530***		-1.204**	-1.100**	-1.166**	-1.167**	-1.185**
		(0.489)		(0.490)	(0.483)	(0.491)	(0.485)	(0.506)
Inflation (t-1)		-0.190**		0.455	0.434	0.465	0.460	0.396
		(0.083)		(0.298)	(0.299)	(0.294)	(0.291)	(0.307)
U.S. Interest rate		-0.031*		-0.055**	-0.055***	-0.058***	-0.058***	-0.056***
		(0.015)		(0.021)	(0.020)	(0.020)	(0.020)	(0.021)
Political factors								
Gini			0.006	0.007	0.006	0.013*	0.006	0.006
			(0.005)	(0.004)	(0.004)	(0.007)	(0.004)	(0.004)
Rule of law			0.021	0.104**	0.095**	0.101**	0.066	0.104**
			(0.039)	(0.046)	(0.047)	(0.045)	(0.064)	(0.045)
Margin of Majority			-0.067	0.009	0.032	0.032	0.025	-0.313
			(0.120)	(0.126)	(0.131)	(0.131)	(0.130)	(0.233)
Election's year			-0.014	-0.020	-0.019	-0.019	-0.020	-0.018
			(0.032)	(0.032)	(0.031)	(0.031)	(0.032)	(0.032)
Interactions								
emes = o,					-			
EMEs * Deviation					-0.017			
					(0.011)			
Gini * Deviation						-0.001		
						(0.001)		
Rule of law * Deviation							0.004	
							(0.004)	
Majority * Deviation								0.034*
								(0.020)
Constant	0.238***	0.485***	-0.053	-0.159	-0.129	-0.377	-0.004	0.046
	(0.051)	(0.094)	(0.323)	(0.255)	(0.261)	(0.330)	(0.313)	(0.291)
Observations	619	607	541	531	531	531	531	531
R-squared	0.002	0.041	0.007	0.054	0.059	0.058	0.057	0.058
Number of ifscode	67	67	60	60	60	60	60	60
Country FE	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

Robust standard errors clustered by country in parentheses

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