THE VALUE AND REFORM OF BUDGET INSTITUTIONS

Stefania Fabrizio and Ashoka Mody[*]

In a recent paper, we presented empirical evidence to show that strong budget institutions (rules and procedures of the budget process) were associated with more fiscal discipline even when the politics was unfavorable to such discipline. What then are the conditions under which budget institutions themselves may be improved (reformed)? We find, tentatively, that fiscal deficits do not focus the attention of policymakers on undertaking reforms. To the contrary, the larger is the deficit, the lower the likelihood of reforms. It is as if large deficits imply strong claims on the budget and, hence, create unwillingness to compromise and impose self-discipline. Countries will tend, therefore, to move to two outcomes: small fiscal deficits and good institutions or large deficits and weak institutions. The findings do suggest that economic shocks (if they are large enough) can help build a constituency for improving budget institutions.

1 Introduction

We report on two themes in our ongoing research. In a recent paper (Fabrizio and Mody, 2006) that focused on countries in Central and Eastern Europe, we concluded that strong budget institutions (rules and procedures of budget formulation, authorization and implementation) can help improve budget outcomes by limiting the claims on scarce budget resources. Extension of that analysis confirms this finding for a broader sample of European countries (in line with earlier results of von Hagen and Harden, 1995; and Hallerberg and von Hagen, 1999). Our more recent research has focused on the determinants of the reforms of budget institutions.

If strong budget institutions are important, then the factors that lead to their strengthening are of obvious interest. Our preliminary findings suggest that the reform of budget institutions becomes less likely just when they are most needed, that is, when fiscal outcomes worsen.[1] This finding is consistent with the view that politics plays a central role in determining budget outcomes. In turn, the connection

---

[*] European Department, International Monetary Fund.

We are grateful to Mark Hallerberg for sharing his measures of fiscal institutions and to several colleagues in the European Department for helping update these measures. We draw on our earlier paper (Fabrizio and Mody, 2006) to document the relevance of budget institutions as a disciplining mechanism and report preliminary results (to be documented in a forthcoming paper) on the determinants of reforms of budget institutions**.** The paper was discussed at the 9th Banca d'Italia Workshop on Public Finance *Fiscal Policy: Current Issues and Challenges*, Perugia S.A.DI.BA. 29-31 March 2007.

The views expressed in this paper are those of the authors and should not be attributed to the IMF or its Executive Directors.

[1] We report more extensive background and results in a forthcoming paper.

between politics and budgets arises through the so-called common-pool problem (Shepsle and Weingast, 1981; and Weingast, Shepsle and Johnson, 1981). When many can claim access to a valuable resource for which they pay only a part of the cost, the pressure will be to overconsume that resource. In the context of a budget, a tendency will arise for public spending in favor of interest groups that bear only a fraction of the taxes needed to finance the expenditures that benefit them. Our findings imply that, when the common-pool problem is severe, budget deficits will be large and the appetite to constrain them will be small.

As such, deficits and institutions could slide a slippery slope. In that context, we examine if economic shocks could mitigate this unpleasant dynamics. We do find that higher unemployment rates and inflation make reform of institutions more likely. Larger current account deficits also help to instigate reform. However, our evidence also points to considerable inertia in institutions in some countries, reflecting historical and societal factors that we do not explicitly account for. The role of political leadership in breaking the deadlock may, therefore, sometimes be of crucial importance.

The rest of the paper is organized as follows. The next section briefly presents the theoretical background. This is followed by a summary of the effects of budget institutions on budgetary outcomes. Finally, we describe the preliminary findings of research on the determinants of budget institutions and offer some conclusions.

2 Theoretical background

The consequences of the common-pool problem for budget outcomes have been well documented. The larger the number of interest groups, the greater the spending that will be induced. In a dynamic model, Velasco (1999) concludes that the spending pressures will, in the short run, lead to a drawdown of the national wealth (or an accumulation of debt). A country will continue to run deficits even as debt is being accumulated and will respond to the eventual need to repay that debt only when it has crossed a certain threshold – when the “writing is on the wall”, at which point distortionary taxes will need to be raised.

In turn, the extent of the common-pool problem is the consequence of the underlying features of the society and its political institutions that determine the process and extent of political representation. The principal tension arises from the balance a democracy must strike between achieving broad representation while maintaining fiscal accountability. This tension is seen in the context of population diversity and electoral system design. Population diversity creates pressures for greater representation but potentially weakens fiscal discipline (Aghion, Alesina and Trebi, 2004). The electoral system, by defining the rules of political engagement, influences the formation of parties contesting elections and the eventual fragmentation of ruling coalitions, thereby establishing the balance between representation and accountability.

The feature of electoral systems that has drawn most attention is the proportionality of the electoral rule. However, electoral systems do differ in other important ways and, especially, Hallerberg and Marier (2004) caution that the relationships may be nonlinear (see Lijphart, 1994, for a classic treatment). In a majoritarian system, voters in a district elect one candidate to the legislature. Increasing proportionality (district magnitude) implies an increasing number of candidates elected per district (in proportion to the votes received) and, hence, increasing voice for an individual voter. Thus, proportional elections foster "representativeness", while majoritarian elections are thought to encourage "accountability".

Consistent with this view, Persson and Tabellini (2003 and 2004) find, in a cross-country setting, that majoritarian systems are associated with greater fiscal discipline than are proportional systems. Persson, Roland and Tabellini (2005) further conclude that electoral systems do not have a direct effect on fiscal outcomes; rather, the influence is indirect: greater proportionality induces more parties into the electoral process and into the ruling coalition, with a tendency to higher public expenditures.

However, as Persson, Roland and Tabellini (2005, p. 26) point out, "... there is considerable time variation in the type of government, which cannot be easily explained by sluggish electoral rule variables". This is true in our context, where, although, electoral rules have not changed during the sample period, the "within-country" variation in the degree of government fragmentation and government ideologies is significant. In an early contribution, Roubini and Sachs (1989) find a tendency for more fragmented government coalitions to run larger budget deficits, consistent with the proposition that more fragmentation allows greater scope for multiple constituencies to exercise claims on limited fiscal resources without their bearing the full cost of the taxation needed to cover the benefits received. Subsequent cross-country studies have validated this conclusion (Hahm, Kamlet and Mowery, 1996; and Alesina and others, 1999). Similarly, across states within the United States, greater political fragmentation has been associated with more intense public spending pressures (see Alt and Lowry, 1994; Poterba, 1994; and Besley and Case, 2003).

If a politically desirable increase in representation is accompanied by undesirable fiscal outcomes, can this unpleasant trade-off be alleviated? Fiscal institutions – the rules and procedures of budget formation – offer a possibility. These institutions, Poterba (1996, p. 47) suggests, are a form of "self control" imposed by fiscal actors on themselves. The aim, Eichengreen, Hausmann and von Hagen (1999, p. 425) note, is not to "depoliticize" fiscal decision making but rather to improve the quality of decisions. This leaves open the question of whether fiscal institutions can have real effects. In other words, even if sensible rules and procedures are set up, will self-interested political actors work around them to nullify their effectiveness? The international evidence and that from the U.S. states are that fiscal institutions do matter, as Alesina and Perotti (1999) report.

Surprisingly, given their relevance, there is, to our knowledge, no empirical examination of the determinants of budget institutions (or fiscal institutions). Our ongoing effort is to build a database that extends across a sufficient number of countries and over a large enough time period to help fill this gap. In conducting this empirical examination, we are guided by the theoretical insights of Alesina and Drazen (1991). Their analysis shows that, where the common-pool problem is severe and is, hence, the source of budget indiscipline, the attempt to consolidate will be resisted. This resistance they describe as a "war of attrition". Interest groups will hold out for their stake and thus reinforce the status quo. Such a status quo will be rendered more stable the more fractionalized the government is.

3 Self-discipline through budget institutions

In Fabrizio and Mody (2006), we constructed a quantitative index of the overall quality of budget institutions for 10 countries: Estonia, Bulgaria, the Czech Republic, Hungary, Latvia, Lithuania, Poland, Romania, the Slovak Republic and Slovenia. The three steps of the budget process are (i) the preparation stage, when the budget is drafted; (ii) the authorization stage, in which the draft budget is approved and formalized; and (iii) the implementation phase, when the budget is executed and may be modified/amended. A larger value of the index implies greater checks and balances in budget preparation, authorization and implementation. The proposition is that such checks and balances limit the lack of discipline that politics engenders.

Table 1 reports our principal findings. Briefly, a higher debt level apparently induces greater fiscal effort, increasing the primary balance. However, while the sign on this variable is always positive, it is not statistically significant at conventional levels. The unemployment rate, which is more often closer to statistical significance, has a negative sign, implying that an increase in the unemployment rate reduces the primary surplus (increases the deficit). A higher inflation rate is associated with a larger primary surplus, as if inflation reduces the real value of expenditures without compromising tax receipts. This result is consistent with that of Perotti and Kontopoulos (2002), although their finding is supported by a higher degree of statistical significance. Finally, country openness to external trade is sometimes significant, implying that countries that are more open also tend to greater fiscal conservatism. However, as we discuss below, and as is the case with the other economic variables, the significance tends to fall when pitted against the political variables.

With these controls in place, we add our overall index of the quality of budget institutions to the explanation of the primary balance. The results suggest that stronger budget institutions are associated with a larger primary surplus (or smaller deficit). The coefficient is significant at the 1 per cent level of significance.

Turning to political influences, we consider the time-varying variables of the "practice-of-democracy" variety rather than structural or constitutional variables,

Table 1

Economics, Politics and Fiscal Performance

	Primary balance-to-GDP ratio			
	(1)	(2)	(3)	(4)
Lagged debt-to-GDP ratio	0.05	0.04	0.02	
	(0.05)	*(0.04)*	*(0.05)*	
Unemployment rate	–0.34	–0.41	–0.31	–0.33
	(0.17)*	*(0.15)***	*(0.17)**	*(0.16)**
Inflation	0.06	0.14	0.12	0.12
	(0.06)	*(0.06)***	*(0.08)*	*(0.08)*
Openness index	4.78	7.89	8.8	8.96
	(4.91)	*(4.42)**	*(4.40)**	*(4.35)***
Fiscal Institutions index		7.52	6.2	6.15
		(2.08)***	*(2.13)****	*(2.10)****
Government fragmentation			–4.39	–4.66
			(2.84)	*(2.76)**
Government ideology:				
Fiscal centralization			0.38	0.36
			(0.24)	*(0.24)*
Nationalism			–0.46	–0.48
			(0.19)**	*(0.19)***
Left/Right			0.37	0.39
			(0.18)**	*(0.17)***
Observations	63	63	63	63
Number of nid	10	10	10	10
R-squared	0.2	0.39	0.49	0.48

Standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%.

which are considered via the nonlinear estimation in Fabrizio and Mody (2006). When considered by themselves, the fragmentation and the three ideological variables, though appearing with plausible signs, do not have especially high statistical significance (see Fabrizio and Mody, 2006). The statistical significance of all variables increases sharply when we place coalitional fragmentation alongside the three ideology variables. Since a larger coefficient on the fragmentation variable (1 minus the Herfindahl index derived from the shares of the coalitional partners) indicates more fragmentation, the negative sign on the coefficient indicates a larger surplus with reduced fragmentation.

Thus, the findings imply that fragmentation and ideology need to be examined together. Also, ideology is multifaceted. Considering these as a package provides stronger results, consistent with priors that have long existed in the literature. The ideology variables indicate that a coalition that leans to the right, that is not highly nationalist, and that favors centralization of public finances is likely to deliver a conservative budget. In our sample, leftist coalitions have been less fragmented, and some right-wing coalitions have had nationalistic tendencies. Only when these dimensions are simultaneously considered do the results show through. Again, when we add the budget institutions index, its coefficient maintains its strong statistical significance. However, the size of the coefficient is smaller, suggesting that the budget institutions are more correlated with political than with economic factors.

In our current research, we have extended the quantitative index of the overall quality of budget institutions to cover 23 European countries: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom. Once again, underlying the overall index are three phases of the budget process. While we have relied on a variety of sources of information (see Appendix), we build also on Fabrizio and Mody (2006) and Hallerberg, Strauch and von Hagen (2007) (see Appendix).[2]

Preliminary findings from this more extended sample confirm the results in Table 1.[3] Unemployment raises budget deficits, and inflation has the effect of reducing them. Government fragmentation has a more consistent and significant effect in the larger sample. Trade openness helps reduce deficits, but mainly when fragmentation is low. Larger debt appears to have a stronger effect in this larger sample. In all specifications, the budget institutions continue to play a significant self-disciplining role.

4 The determinants of budget institutions

The dependent variable is *change* in budget institutions two years ahead. Because the changes take discrete values, we categorize them into four groups: a large improvement, an improvement, no change, and a setback. For our larger sample of countries, Table 2 presents initial results on the reform of budget institutions. These are based on ordered logit regressions. As a control variable, we include the gap between the highest possible institutional quality and the country's state of fiscal institutions. This gap determines the scope of the subsequent improvements in quality of the fiscal institutions. Not surprisingly, the larger the gap in the quality of fiscal institutions at the beginning of the period, the greater the scope (and possibly the incentive) for further improvements in their quality.

---

2 We are especially grateful to Mark Hallerberg for sharing the tables from his forthcoming book and for continuing discussions on the construction of these indices.

3 Results are available upon request.

Table 2

What Triggers Budget Institutions Reform?

	Change of Budget Institutions Quality		
	(1)	(2)	(3)
Budget institutions quality gap	6.34	10.11	9.76
	(1.53)***	*(2.54)****	*(2.69)****
Lagged primary balance-to-GDP ratio	0.49	0.74	0.62
	(0.20)**	*(0.29)***	*(0.30)***
Government fragmentation	–2.09	–4.13	–5.14
	(2.26)	*(2.97)*	*(3.07)**
Current account balance-to-GDP ratio		–0.33	–0.36
		(0.15)**	*(0.16)***
Unemployment rate		0.89	0.76
		(0.38)**	*(0.39)***
Inflation		5.55	4.94
		(2.42)**	*(3.08)*
Public debt-to-GDP ratio			0.06
			(0.07)
Observations	102	100	93

Standard errors in brackets.
* significant at 10%; ** significant at 5%; *** significant at 1%.

A more intriguing result is that a poorer fiscal deficit situation delays budgetary reforms. Alternatively, a worse fiscal balance at time *t*–1 is associated with a smaller likelihood of improvements in fiscal institutions quality between *(t*+2*)* and *t*). This finding is consistent with a more intense war of attrition among policymakers when the budget situation is adverse and, by implication, the claims on the budget are large. Thus, a country experiencing large fiscal deficits will find it difficult to embark on reforms of fiscal institutions before the budget deficit itself is brought under greater control.

We find also, consistent with the war-of-attrition hypothesis, that a more fragmented government is less supportive of budget reforms. In Table 2, this is most evident when the full set of explanatory variables is included.

Thus, clearly, political influences matter, observed indirectly through large resource claims of multiple interest groups in the budget deficit or through evidence of the influence of political fragmentation. As such, the question arises whether this unfortunate possible dynamic of a worsening of the budget situation and controls can be halted and reversed. We find evidence, reported in Table 2, that a worsening of the domestic and external economic situation can raise the likelihood of reform. Note that a higher unemployment rate appears to help reform. However, as discussed above, a higher unemployment rate also raises the budget deficit, which, in turn, hurts reform prospects. Thus, the net effect of unemployment may not be strong. Inflation both reduces budget deficits and appears to raise the likelihood of reform. To that extent, periods of inflation can be associated with a push towards reform. The taming of inflation in recent years in these countries makes it less likely that inflation will be an ally in reform. Finally, an increase in external vulnerability through an increase in the current account deficit raises the likelihood of reform, as if, facing that external vulnerability, decision makers are willing to compromise. These results would suggest that a sharp change in external circumstances can create the needed political basis for an exit from a vicious cycle of bad fiscal performance and delays in implementing needed budget institution reforms.

Finally, the statistical analysis includes country dummies, that is, it allows for the possibility that unobserved influences (unobserved by us the econometricians) contribute to the likelihood of reform. We find that, in some cases, these fixed effects are of considerable importance. In other words, historical country features create inertia in institutions. While we have not attempted to identify the sources of this inertia, the implications are clear: overcoming it will require that leadership to make a special effort to undertake reforms.

5 Some conclusions

Our findings suggest that a country could enter a fiscal "virtuous" or "vicious" cycle, depending on its fiscal stance. In "favorable fiscal times", when fiscal performance is good, reforms are easier to undertake. But in "bad fiscal times", when reforms have significant distributional implications (e.g., when imposing stronger checks and controls to reduce a large budget deficit by containing expenditures hurts particular constituencies), reforms are actually delayed. These findings are in line with Alesina and Drazen (1991), who argue that, when budgetary resources are limited and there are many claimants, there is a war of attrition, no policymaker wants to give in so no reforms are pushed forward. These results would imply that a country could enter into a virtuous cycle, in which better fiscal institutions induce better fiscal performance; this, in turn, would facilitate reforms of fiscal institutions. Alternatively, the country could be trapped in a vicious cycle, in which reforms in budget institutions are delayed because of poor fiscal performance; this, in turn, would deteriorate further because of weak fiscal institutions.

How, then, can a country emerge from a vicious into a virtuous cycle? The analysis carried out in this chapter suggests that a worsening of the general economic conditions weakens intractable opposing political positions and so helps reforms. In other words, a deterioration of the economic situation would help undertake reforms and to move the country into a virtuous cycle, in which budget institutions help improve the fiscal stance; this, in turn, creates an environment that favors fiscal reforms. However, the findings also highlight the role of the role of political leadership in breaking the logjam, especially where long-standing historical forces create inertia in the reform of institutions.

APPENDIX
VARIABLES AND DATA SOURCES

Data for the exercise in Table 1 are from Fabrizio and Mody (2006).

The rest of this Appendix focuses on the variables used in the exercise undertaken in Table 2.

Dependent variable

Following Fabrizio and Mody (2006) and Hallerberg, Strauch and von Hagen (2007), we constructed a quantitative index of the overall quality of budget institutions for 23 European countries: Austria, Belgium, Bulgaria, the Czech Republic, Denmark, Estonia, Finland, Germany, Greece, Hungary, Italy, Latvia, Lithuania, Luxembourg, the Netherlands, Poland, Portugal, Romania, the Slovak Republic, Slovenia, Spain, Sweden and the United Kingdom. The goal is to consolidate the objective features of the budget process, such that a larger value implies greater checks and balances. Values were assigned to the three phases of the budget process:

(i) the preparation stage, when the budget is drafted;

(ii) the authorization stage, in which the draft budget is approved and formalized; and

(iii) the implementation phase, when the budget is executed and may be modified/amended.

Data sources include annual fiscal budget laws, Reports on the Observance of Standards and Codes (ROSC) Fiscal Transparency Module, produced by the International Monetary Fund, and direct contact with the countries' authorities.

Economic variables

Data for public debt as a percent of GDP, the unemployment rate, inflation, the current account balance as percent of GDP, and the primary fiscal balance-to-GDP ratio are from the IMF's World Economic Outlook. Data for the openness index (imports plus exports normalized by GDP) are also from the same source.

Political and institutional variables

Government fragmentation

This variable is constructed as 1 minus the Herfindhal index. The latter is the sum of squares of the shares of each party in the government coalition. The variable ranges in value from 0 (if one party forms the government) to 1 (in case of very fragmented coalitions).

Data sources are *Parties and Elections in Europe* (www.parties-and-elections.de) and *Elections around the World* (www.electionworld.org).

Budget institutions quality gap

The gap between the highest possible quality of budget institutions and the state of country's fiscal institutions.

REFERENCES

Aghion, P., A. Alesina and F. Trebbi (2004), "Endogenous Political Institutions", *Quarterly Journal of Economics*, Vol. 119, pp. 565-612, May.

Alesina, A. and A. Drazen (1991), "Why Are Stabilizations Delayed?", *American Economic Review*, Vol. 81, No. 5, pp. 1170-88.

Alesina, A., R. Hausmann, R. Hommes and E. Stein (1999), "Budget Institutions and Fiscal Performance in Latin America", *Journal of Development Economics*, Vol. 59, No. 2, pp. 253-73.

Alesina, A. and R. Perotti (1999), "Budget Deficits and Budget Institutions", in J. Poterba and J. von Hagen (eds.), *Fiscal Institutions and Fiscal Performance*, Chicago (IL), University of Chicago Press.

Alt, J. and R. Lowry (1994), "Divided Government, Fiscal Institutions, and Budget Deficits: Evidence from the States", *American Political Science Review*, Vol. 88, pp. 811-28.

Besley, T. and A. Case (2003), "Political Institutions and Policy Choices: Evidence from the United States", *Journal of Economic Literature*, Vol. 41, No. 1, pp. 7-73.

Eichengreen, B., R. Hausmann and J. von Hagen (1999), "Reforming Budgetary Institutions in Latin America: The Case for a National Fiscal Council", *Open Economies Review*, Vol. 10, pp. 415-42.

Fabrizio, S. and A. Mody (2006), "Can Budget Institutions Counteract Political Indiscipline?", *Economic Policy*, Vol. 21, No. 48, pp. 689-739.

Hahm, S., M. Kamlet and D. Mowery (1996), "The Political Economy of Deficit Spending in Nine Industrialized Parliamentary Democracies", *Comparative Political Studies*, Vol. 29, No. 1, pp. 52-77.

Hallerberg, M. and P. Marier (2004), "Executive Authority, the Personal Vote, and Budget Discipline in Latin American and Caribbean Countries", *American Journal of Political Science*, Vol. 48, No. 3, pp. 571-87.

Hallerberg, M., R. Strauch and J. von Hagen (2007), "The Design of Fiscal Rules and Forms of Governance in European Union Countries", forthcoming in *European Journal of Political Economy*.

Hallerberg, M. and J. von Hagen (1999), "Electoral Institutions, Cabinet Negotiations, and Budget Deficits in the European Union", in J. Poterba and J. von Hagen (eds.), *Fiscal Institutions and Fiscal Performance*, Chicago (IL), University of Chicago Press.

Lijphart, A. (1994), *Electoral Systems and Party Systems*, Oxford, Oxford University Press.

Perotti, R. and Y. Kontopoulos (2002), "Fragmented Fiscal Policy", *Journal of Public Economics*, Vol. 86, pp. 191-222.

Persson, T., G. Roland and G. Tabellini (2005), "Electoral Rules and Government Spending in Parliamentary Democracies", unpublished.

Persson, T. and G. Tabellini (2003), *The Economic Effects of Constitutions*, Cambridge (MA), MIT Press.

————— (2004), "Constitutional Rules and Fiscal Policy Outcome", *American Economic Review*, Vol. 94, pp. 25-45, March.

Poterba, J. (1994), "State Responses to Fiscal Crises: The Effects of Budgetary Institutions and Politics", *Journal of Political Economy*, Vol. 102, No. 4, pp. 799-821.

————— (1996), "Do Budget Rules Work?", National Bureau of Economic Research, Working Paper, No. 5550, Cambridge (MA).

Roubini, N. and J. Sachs (1989), "Government Spending and Budget Deficits in the Industrial Democracies", *Economic Policy*, Vol. 8, pp. 100-32.

Shepsle, K. and B. Weingast (1981), "Political Preferences for the Pork Barrel: A Generalization", *American Journal of Political Science*, Vol. 25, No. 1, pp. 96-111.

Velasco, A. (1999), "A Model of Endogenous Fiscal Deficits and Delayed Fiscal Reforms", in J. Poterba and J. von Hagen (eds.), *Fiscal Institutions and Fiscal Performance*, Chicago (IL), University of Chicago Press.

von Hagen, J. and I. Harden (1995), "Budget Processes and Commitment to Fiscal Discipline", *European Economic Review*, Vol. 39, pp.771-79, April.

Weingast, B., K. Shepsle and C. Johnson (1981), "The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics", *Journal of Political Economy*, Vol. 89, pp. 642-64.