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BUDGET DEFICITS AND BUDGET
INSTITUTIONS

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ABSTRACT

By discussing the available theoretical and empirical literature, this paper argues that budget procedures and budget institutions do influence budget outcomes. Budget institutions include both procedural rules and balanced budget laws. We critically assess theoretical contributions in this area and suggest several open and unresolved issues. We also examine the empirical evidence drawn from studies on samples of OECD countries, Latin American countries and US states.

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1. Introduction

In the last thirty years several (but not all) OECD economies have accumulated large public debts. Table 1 shows a very large variance in debt/GNP ratios in OECD countries, much larger today than twenty years ago. Several countries exhibit debt/GNP ratios close to or even greater than 100 percent, while others have ratios of about 30 percent. The increase in public debts has been accompanied by a marked transformation in the composition of government outlays. While twenty years ago purchases of goods and services were predominant in government budgets, in the last twenty years transfer programs have grown much more rapidly than government purchases of goods and services. Transfers are notoriously more difficult to cut, therefore this evolution of the composition of expenditures makes fiscal adjustments in the face of high debts particularly difficult .

In a previous paper (Alesina and Perotti (1995a)) we asked two questions: i) Why did certain countries accumulate large public debts and others did not? and ii) Why did these large debts appear in the last 20 years but not before?

In that paper we argued that economic variables alone cannot provide satisfactory answers to these questions, and we considered several politico-institutional explanations. In particular, we emphasized the role of electoral systems, party structure, government fragmentation and political polarization. For instance, we agreed with those authors¹ who

¹See Roubini and Sachs (1989a,b), Grilli, Masciandaro and Tabellini (1991) and Alesina and Perotti (1995b) for empirical work and Alesina and Drazen (1991) and Spolaore (1993) for theoretical work.

Table 1. Public Debt in OECD Countries

	1965	1975	1990	1994
Australia	n.a.	n.a.	23.5	36.1
Austria	19.4	23.9	58.3	65.7
Belgium	67.5	61.1	128.5	135.0
Canada	58.8	43.1	73.1	95.6
Denmark	11.3	11.9	68.0	81.1
Finland	17.7	8.6	16.8	62.3
France	53.1 <u>1/</u>	41.1	43.4	54.7
Germany	17.3	25.1	43.4	51.5
Greece	14.1	22.4	77.7	119.0
Ireland	n.a.	64.4	97.4	92.3
Italy	35.4	60.4	106.4	123.9
Japan	0.0	22.4	66.0	75.6
Netherlands	52.2	41.4	78.8	79.1
Norway	47.0 <u>1/</u>	44.7	32.5	43.5
Portugal	n.a.	n.a.	68.6	70.5
Spain	n.a.	n.a.	50.3	68.2
Sweden	30.5	29.5	44.3	79.5
United Kingdom	81.8 <u>1/</u>	63.7	39.3	54.5
United States	52.1	42.7	55.7	63.0

Source: OECD. Debt is gross as a share of GNP.

1/ 1970.

have argued that coalition governments, typical of countries with proportional electoral systems, tend to delay fiscal adjustments, so that public debts accumulate more rapidly in these countries. We also emphasized the role of political polarization and government fragility. We concluded that paper with a brief discussion on budget procedures. Based mostly on the evidence presented by von Hagen (1992) we suggested that budgetary procedures and institutions influence fiscal outcomes and, therefore, provide additional explanations of the cross country variance of debt/GNP ratios. "Budgetary institutions" are all the rules and regulations according to which budgets are prepared, approved and carried out.

In this paper we continue this discussion on procedures with a specific goal in mind: we discuss whether the budget procedures have significant macroeconomic effects on the size and composition of the budget and on the budget balance.² Specifically, we pose two related questions:

a) to what extent do budget institutions explain fiscal policy outcomes, and particularly, the budget balance? Can budget institutions explain why certain high debt countries have more difficulties in adjusting than others?

b) what are the most effective budget procedures to insure "fiscal responsibility?"³

²For a more comprehensive discussion of legal, organizational and economic aspects of budget procedures, see Wildasky (1986) and, in particular, Premchand (1983).

³While in both our previous paper and in the present one we mostly focus upon OECD countries, similar issues emerge in developing countries. In fact, even in this group of countries fiscal outcomes vary greatly across countries, and politico-institutional variables are likely to be important explanations.

This paper is organized as follows. Section 2 describes and summarizes our basic argument and provides an overview of the paper. This section briefly touches upon several issues which are then addressed in more details in the following sections. Section 3 reviews the theoretical literature. Section 4 discusses what is, in our view, the issues and problems left unsolved by the theoretical literature. Section 5 tackles a difficult but important issue, namely the transparency of the budget. Section 6 reviews the small empirical literature that can shed light on our first question.

2. Budgetary Institutions: An Overview.

This section describes our basic argument and provides an overview of the entire paper.

2.1. Are institutions endogenous?

Budgetary institutions are all the rules and regulations according to which budgets are drafted, approved and implemented. Since these institutions vary across countries, and, to a lesser extent, over time, they can potentially be used as an explanation of cross country differences in fiscal policy.

An obvious objection to this research strategy is that institutions are themselves endogenous. In particular institutions may be changed as a result of unsatisfactory fiscal performance, or the choice of different institutions may be a function of other socio-political-historical variables which may influence both the institutional choice and the fiscal outcome. If this is the case, institutions cannot be used as explanatory variables in regressions where fiscal outcomes are on the left hand side of the equation, which is the

procedure of the empirical literature reviewed below.

Clearly, to some extent institutions are indeed exogenous, particularly to past fiscal outcomes. However to the extent that institutions are reasonably costly to change, and therefore are changed relatively infrequently, they can be considered "exogenous" at least in the short to medium run. In other words, since it is costly and complex to change institutions, the existing ones have to be very unsatisfactory, before it is worth changing them; there is a strong "status quo" bias in institutional reforms.

Therefore, we feel that at least provisionally one can use institutional features as explanatory variables, even though an excellent topic of future research is the dynamic of reforms of budget institutions.

One can distinguish between two types of institutions: laws that prescribe numerical targets on the budget, and procedural rules.

2.2 Balanced budget laws.

The most typical example of a "numerical target" is a balanced budget law. Two theoretical arguments suggest that a balanced budget law would not be optimal. The first one is related to stabilization policies. Standard Keynesian anti-cyclical policies prescribe tax cuts, expenditure increases and deficits in recessions and tax increases expenditure cuts and surplus in economic expansions. Note, however, that the feasibility and opportunity of this kind of fine tuning fiscal policies have been questioned, starting with the

famous argument on "long and variable lags" by Milton Friedman.⁴

A second theoretical argument which runs against the idea of balanced budget laws is the tax smoothing theory of budget deficits (Barro (1979), Lucas and Stokey (1983)). According to this theory, budget deficits and surpluses should be used to "smooth" the distortionary cost of taxation, so that deficits should be permitted when spending is exceptionally and temporarily high, for instance during wars, natural calamities, emergencies etc. or revenues temporarily low, for instance during recessions. Thus, a law that prescribes a balanced budget in every year would excessively constrain the use of budget deficits and surpluses as the 'buffer' needed to implement the optimal tax smoothing policy.

Theoretically, one could think of a "contingent" budget balance law, with escape clauses to permit a certain amount of tax smoothing. However, a well understood argument in the debate on "rules vs. discretion" suggests that rules have to be simple.⁵ Complicated rules can easily be circumvented and present monitoring problems, so that in the end they are useless. They may even be deleterious if they create incentives to resort to "creative budgeting" and highly distorted policies chosen simply to circumvent the rules.

On the other hand, several arguments suggest that actual policies are not dictated by principles of optimal taxation, but are the result of various politically induced deficit bias; (see the survey by Alesina and Perotti (1995a)). In this case, a balanced budget law may

⁴Even though Friedman was concerned about monetary policy, his argument applies also to fiscal policy.

⁵See, for instance, Tanzi (1993a).

be a second best solution. One would have to trade-off the distortions of the balanced budget law on the optimal tax policies, against the reduction of politically induced distortions on actual policies.⁶

This paper argues that balanced budget laws at the national level are neither necessary nor sufficient to insure fiscal discipline. We argue that *appropriate* procedures may not require numerical targets, so that one may maintain flexibility on the budget balance front (needed to implement tax smoothing policies or stabilization policies) without giving up fiscal discipline. To evaluate this claim, we now turn to an over view of procedural issues.

2.3. Procedural Rules.

One can identify three phases in the budget process:

- 1) the formulation of a budget proposal within the executive;
- 2) the presentation and approval of the budget in the legislature; and
- 3) the implementation of the budget by the bureaucracy.

This paper focuses mostly on the first two aspects, although we will briefly touch upon the third one as well. An exhaustive treatment of the role and of the organization of a bureaucracy goes beyond the scope of this paper.⁷

Two issues are crucial in our view: the voting procedures leading to the formulation and approval of the budget; and the degree of transparency of the budget. Voting procedures are clearly important because they establish who (and when) has an influence

⁶See Corsetti and Roubini (1994) for a formalization of this argument.

⁷See Premchand (1983) on this point.

on the final budget outcome. The transparency is equally important since "creative budgeting" can circumvent even the most stringent voting procedures. In fact, the two issues are strictly connected: voting procedures have an impact on the final outcome if the latter can be monitored because it is transparent. We begin with voting procedures.

We focus upon a key trade-off between two types of institutions. One type, which we label, for lack of a better word *hierarchical*, has the property that it limits the democratic accountability of the budget process. The second type, which for lack of a better word, we call *collegial*, has the opposite features. *Hierarchical* institutions are those that, for instance, attribute strong prerogatives to the Prime Minister (or the Finance, or Treasury Minister) to overrule spending ministers within intra governmental negotiations on the formulation of the budget. Also *hierarchical* institutions limit in a variety of ways the capacity of the legislature to amend the budget proposed by the government. *Collegial* institutions emphasize the democratic rule in every stage, like the prerogatives of spending ministers within the government, the prerogatives of the legislature vis a vis the government and the rights of the minority opposition in the legislature.

We argue that there is a trade-off between these two types of institutions: *hierarchical* institutions are more likely to enforce fiscal restraint, avoid large and persistent deficits and implement fiscal adjustments more promptly. On the other hand, they are less respectful of the rights of the minority, and more likely to generate budgets heavily tilted in favor of the interests of the majority. *Collegial* institutions have the opposite features.

This trade-off can have important *positive* and *normative* implications. From a

positive standpoint we will argue, using the available evidence that indeed, *hierarchical* institutions promote fiscal restraints. From a *normative* point of view we discuss, what considerations should lead to a choice over this trade-off and how to "optimize" over it. Generally speaking, institutional choices close to the extremes of this institutional trade-off are unlikely to be optimal. Also, this institutional choice depends upon the "initial conditions". For example, a country with a high debt/GNP ratio, contemplating an institutional reform should look more favorably toward *hierarchical* institutions than, *ceteris paribus*, a country with a low debt/GNP ratio. The theoretical arguments underlying this trade-off are discussed in Sections 3 and 4.

The second important set of issues concern the transparency of the budget and the nature of those institutions which are supposed to "control" the budget process. Modern budgets of OECD countries are extremely complicated, sometimes unnecessarily so. One has to wonder whether the degree of complexity of a budget is unavoidable, or whether it is a way of creating opportunities for "creative budgeting". Typically, governments "hide" liabilities, by either shifting them to future budgets, or using funds which are "outside the budget". A related common practice is that of adopting over optimistic projections of macroeconomic variables, so that revenues are overestimated and spending needs are underestimated. Then, at the end of the fiscal year, "bad luck" is held responsible for the "unexpected" additional deficit.

One can think of two ways of dealing with the problem of transparency. One is to set certain standards to be followed. The other is to have independent agencies which provide a "check" on the accuracy of the budget. We will conclude in favor of the second

solution, in Section 5, which specifically addresses the issue of transparency.

3. Institutions, Procedures and the Budget: Theory.

3.1. General issues.

Without any restrictions on procedures, without any "structure" and rules, Arrow's impossibility theorem (Arrow (1951)) implies that a legislature would never produce a budget but only legislative "chaos". Influential work by Shepsle (1979a,b) shows that the restrictions ("structure") imposed by procedural rules generally solve Arrow's problem and lead to predictable legislative outcomes.

A vast literature in formal political science has studied how different voting procedures in legislatures lead to different outcomes, and a good portion of this research focuses on the budget. Typically this literature is inspired by American institutions and focuses almost exclusively on the legislature, namely on the American Congress. However, if viewed *cum grano salis*, this literature can shed light on institutions of other countries.

Much of this research is based, directly or indirectly, upon a view of the budget as the result of conflicting interests of representatives with geographically based constituencies. In particular, it addresses two problems: the determination of the size of the budget and the allocation of projects amongst different districts. Weingast, Shepsle and Johnsen (1991) provide one of the clearest discussions of these basic problems, specifically of the effects of geographically based constituencies on the overall size of the budget. They argue that representatives with geographically based constituencies ask for

spending programs which benefit their district and are financed nationwide. Thus, representatives systematically do not internalize the "true" costs of financing such projects. The idea is that the voters of the i th district receive benefits equal to B_i for a certain public project in their district, but have to pay $\frac{1}{N}$ of the total costs of this project, if N is the number of districts and if taxes are equally distributed amongst districts. A geographically elected representative does not fully internalize the effects of spending in his district on the tax burden of the country. The aggregate effect of rational representatives facing these incentives is an excessive demand of public goods with geographically targeted benefits and diffuse financing costs.

Weingast, Shepsle and Johnsen do not address directly the question of how all of these demands for pork barrel projects lead to an aggregate budget; that is, they do not explicitly characterize the voting equilibrium. The critical feature of a voting equilibrium which leads to an oversupply of pork barrel projects is "reciprocity". Namely, a representative of the i th district votes in favor of a project for district j , expecting the same favor in return from the representative of district j in the next vote. This kind of cooperative behavior amongst representatives, perhaps enforced by repeated votes, is left somewhat unexplored in this paper.

The literature on procedures has addressed three related questions: what procedural rules mitigate or aggravate the problem of oversupply of "pork barrel" projects? What procedural rules make the choice of projects, given a certain total budget, more or less efficient? How do different procedural rules influence the final allocation of net benefits amongst districts?

Two issues are particularly interesting for our purposes: a) the sequence of voting on the budget; b) the type of admissible amendments on the proposed budget.

3.2. Timing of Voting on the Budget.

One of the most important (or, at least, most advertised!) features of the 1974 Budget Act in the United States which substantially reformed budget procedures, was to change the sequence of Congressional votes on the budget. Until then, Congress would vote on a series of appropriation bills and the overall size of the budget was determined residually. After the Budget Act, Congress is required to vote at the beginning of the process on the overall size of the budget.

The motivation of this reform was to enforce an *ex ante* discipline on the legislature, so as to fix an agreed upon overall size of the budget, rather than letting it be determined by the accumulation of bills. The emergence of large budget deficits in the eighties raises some questions concerning the success of this reform.⁸

Motivated by this puzzle, Ferejohn and Krehbiel (1987) study theoretically the determination of the size of the budget under the two alternative voting procedures. They assume that the budget can be allocated to two projects and different legislators have different preferences over the relative benefits of these two projects. These authors reach a rather provocative conclusion: It is not always the case that the size of the budget is smaller when the legislatures vote first on the size and then on the composition, relative to the case in which the overall budget size is determined as a residual. While the size

⁸Naturally, one may argue that fiscal discipline in the US would have been even more relaxed without the Budget Act, but this is a difficult point to prove empirically.

of the budget is in general not independent of the order of votes, the relative size of the budget with different orders of votes depends upon the distribution of legislatures' preferences over the budget composition.

The intuition of this result is that rational legislators should be forward looking: for example, when voting on the first item of the budget, they will calculate how their first vote will affect the final outcome both in terms of size and of composition. Conversely, when voting on the size first, rational legislators can compute how a certain size will then lead to a certain composition in the following vote. These results are obtained with the assumption of perfect information: each legislator knows the distribution of preferences of the legislatures. Thus, at the moment of the first vote, the legislators can compute the final voting equilibrium. While this assumption is clearly not realistic, it is not obvious in which direction the results would change if one allowed for imperfect information.

An unfortunate feature of Ferejohn and Khreibhel's results is that they cannot really illuminate the question of which of the two procedures one should choose, to limit the spending bias of legislatures. In fact, it is hard to derive from their paper a simple link between certain observable characteristics of the distribution of legislatures' preferences and the policy outcomes under the two different procedures. Thus, one should read Ferejohn and Khreibhel's paper as a useful warning against oversimplifying the effect of certain procedures on final outcomes.

3.3. Amendment Rules

In an influential series of papers, Baron (1989), (1991), and Baron and Ferejohn (1989a,b) study the question of how legislatures reach an agreement on how to choose

"pork barrel" projects. Specifically, they study both how the legislature chooses the allocation of benefits of a certain budget amongst legislators representing different districts and how the legislature choose amongst different budgets, more or less efficient.

Overall efficiency of a budget is defined, for instance in Baron (1991), as the ratio of aggregate benefits over aggregate taxation of different programs.

This line of research emphasizes a distinction between *closed rules* and *open rules* in amendments. A *closed rule* is one in which a proposal made by a member of the legislature has to be voted immediately up or down. If it is approved, the "game is over"; if it is rejected a new member of the legislature can make another proposal, which, again is voted up or down. An *open rule* is one in which the proposal made by the member selected is subject to amendments on the floor. More specifically, the first selected member makes a proposal. Another member is then selected and he can either ask for a vote on the proposal as it is, or propose an amendment. In the second case the amendment is voted against the proposal. The winner is the new proposal on the floor and a new member is selected, etc.

In order to understand the workings of the two types of rule, suppose a proposal is on the floor. A proposal involves the choice of a budget and an allocation of benefits amongst districts, i.e., representatives. The critical differences between the two procedures is that a *closed rule* attributes more power to the first agenda setter. In fact, with a closed rule the agenda setter needs only to offer to the minimum majority (50 percent plus one) enough benefits to make them prefer the proposal to the continuation of the process with the proposal of another agenda setter, if the first proposal is rejected.

Each legislator knows that voting against the proposal on the floor, even if it generates relatively little benefit for his district, may lead to an even worse proposal next period. Thus, the threshold of acceptance is relatively low. This implies that relatively inefficient proposals can pass, and the agenda setter may obtain the lion's share of benefits within the winning majority. In fact, even a relatively inefficient budget (i.e., low aggregate benefits relative to taxation) is sufficient to keep a bare majority sufficiently happy relative to the continuation of the voting process.

With an *open rule* the power of the agenda setter is diminished, and he will take that into account when making a proposal. When making the first proposal the agenda setter faces a trade-off. If he offers a "universal" program, with benefits for every district, he may get immediate approval because no legislator would want to amend. However, this strategy is "expensive", since it saves relatively small benefits for the district of the agenda setter. On the other extreme, if the first agenda setter makes a proposal which distributes benefits to a bare majority, there is a relatively high chance that a member of the minority will be selected next period to make amendments, and he will object to the proposal, attempting to form another majority. Similar considerations apply to members of the first majority who receive relatively small net benefits from the first proposal. In equilibrium, those who are selected to be agenda setters and make proposals will balance these two incentives and will propose budgets which have some probability, between zero and one, to pass in the next vote, depending upon who is selected to make amendments.

These considerations provide the intuition for several results:

- 1) An *Open rule* creates delays in the approval of a proposal; where 'delays'

means that more than one vote is needed for a budget to pass.

2) A *Closed rule* leads to the adoption of more inefficient budgets, namely budgets where the ratio of appropriate benefits over aggregate taxation is lower.

3) A *Closed rule* leads to the adoption of "majoritarian" allocation rules. That is the benefits are allocated to a "50 percent plus one" fraction of the legislature. *Open rule* may lead to a distribution of benefits in which more than "the minimum majority" of legislators receive positive net benefits.

4) With an *Open rule* the distribution of benefits within the winning majority are more egalitarian than with a *closed rule*.

These results highlight very clearly several aspects of the trade-off between *hierarchical* and *collegial* procedures. With a *closed rule* you achieve quick approval of proposal, at the cost of implementing "unfair" and more inefficient budgets. Budgets are unfair in the sense that they are tilted in favor of those who make the first proposal, and always distribute benefits to the smallest possible majority.

Two implications on the choice of rules follow. First, a *closed rule* is preferable if avoiding delays is an important consideration. This is likely to be the case in high debt countries and/or in periods of macroeconomic instability when the rapid adoption of fiscal adjustments is critical. On the other hand in countries and time periods of low debt and fiscal stability, considerations of allocative efficiency and fairness may be predominant, leading to the adoption of an *open rule*.

Second, any procedural rule which limit the ability of the legislature to make amendments generate a quick approval of proposals very favorable to those who can

make the proposal.

For simplicity and tractability, in the formal literature reviewed here, the power to make proposals is attributed randomly, and every legislator has the same probability of being called to make the first proposal. In the actual practice of parliamentary democracy, the executive has the prerogative of making the first proposal. Thus, arrangements similar to a *closed rule* favor the executive while an *open rule* weakens it.

Finally, note that a vote on procedural choices is meaningful only *ex ante*, before the first proposal-maker is identified. Otherwise, the majority in favor of the first proposal would choose a *closed rule*. This observation exemplifies a point discussed above, namely that procedures have to be chosen *ex ante* and should not be changeable within the same process which leads to the choice of a policy outcome.

3.4. An analogy with electoral laws.

Before closing this section it is useful to highlight an analogy between the trade-off between *collegial* and *hierarchical* institutions and the trade-off between proportional and majoritarian electoral systems. Proportional electoral systems tend to produce multi-party systems with large coalition governments. Majoritarian systems tend to produce bi-party systems (or some approximation of it) and single party governments. Coalition governments are the analog of collegial procedures: they generate delays in policy making but avoid extreme partisanship. In fact, coalition governments require approval of several parties to govern and the veto power of each coalition member can delay the legislative process. Majoritarian systems have the opposite features, since they imply that, when in office, a party is unconstrained. Alesina and Drazen (1991) and Spolaore (1993)

provide formalization of these ideas. Grilli, Masciandaro and Tabellini (1991), Roubini and Sachs (1989) and Alesina and Perotti (1995b) discuss empirical evidence on fiscal deadlocks and delayed fiscal adjustments in coalition governments in OECD countries. A related discussion refers to "divided government" in the US, which occurs when the party of the President does not hold a majority in Congress. This situation can be a source of policy delays but also of policy moderation, as argued theoretically and empirically by Alesina and Rosenthal (1995).

In summary, the choice of an electoral law implies an institutional trade-off which is very similar to the one which we have highlighted for budget procedures.

4. Discussion

The formal literature discussed above has made important progress in analyzing legislatures in general and the US Congress in particular. For those, like us, who are interested in the effects of procedures on budget deficits in a comparative perspective, this literature leaves several questions open.

1) First, this literature addresses specifically the size and the geographical composition of the budget, while it is silent on the budget balance. One needs a dynamic model in order to analyze deficits, while the models reviewed so far are static. The technical difficulty lies in the fact that in a dynamic model each legislative vote determines the *state of the world* (in particular the level of public debt) inherited by the following legislature, or the following vote by the same legislature. Thus, rational legislators should vote today taking into account the effects of their decision on future voting equilibria, with

different levels of debt. This problem is hard to solve, except in very simple models where the complexity of procedural rules and of the composition of the legislature is vastly simplified.⁹

Chari and Cole (1993) make some progress in this direction, by considering together the insights of Weingast, Shepsle and Johnsen (1981), reviewed above, and the point made by Alesina and Tabellini (1990). The latter suggest that public debt can be used "strategically" by today's policy maker to influence the choice of tomorrow's policy makers if the two policy makers (today's and tomorrow's) have different spending priorities. Chari and Cole consider a legislature with the kind of bias emphasized by Weingast, Shepsle and Johnsen and show how this legislature will choose to issue debt to spend as much as possible in the first period. The reason for the high spending/high debt policy is a combination of the "district bias" argument, and the "strategic debt" argument.

Velasco (1994) proposes another dynamic extension of Shepsle, Weingast and Johnsen. He uses a model related to the "tragedy of the commons" framework and study a noncooperative game between multiple spending authorities drawing on a common amount of tax revenues. All of these spending authorities attempt to free ride on common public resources (tax revenues) to spend on the desired program.

In summary, one has to choose between models which are relatively rich in institutional details but are static, or dynamic models which are poor in institutional realism. For the empirical and policy oriented researcher this is a serious problem, since

⁹For example, see Alesina and Tabellini (1990), Persson and Svensson (1988), Tabellini and Alesina (1990), and Perotti (1993).

results on the size of spending do not necessarily translate into results on the size of deficits. In fact, one can point to examples of countries (e.g. France) with a large government sector, but low level of public debt.

2) The second limitation of this literature lies in its emphasis on "pork barrel projects," i.e., on public projects with geographically concentrated benefits. While this emphasis was empirically grounded two decades ago, it is less and less so in recent years. As argued above the share of OECD budgets devoted to projects that can be considered "pork barrel" and geographically based is shrinking, relative to transfer programs and entitlement which are broad based. Clearly, some transfer programs have a geographical base: for instance Florida has a high concentration of pensioners; disability pensions have been used in Italy as an indirect transfer from the North to the South.¹⁰ However, the emphasis placed by this formal literature on pork barrel projects is disproportionate relative to the current relevance of these projects in the budget. In fact, Alesina and Perotti (1995b) argue that the recent experience of fiscal adjustments in OECD countries shows that successful and long lasting fiscal consolidations can not avoid cuts in entitlement, broad based transfer programs and government wages and employment. Formal models of legislative votes on pork barrel projects cannot be directly applied to questions of spending allocation to transfer programs, social security and entitlement in general.

3) A third problem is the almost exclusive emphasis of this literature on the legislature, with reasonably little attention to the executive. One can argue whether or not this emphasis is justified for the case of the US, but, in our view, it is beyond doubt that

¹⁰See Emerson (1988) for data on this point.

one needs to focus more on the formulation of budget within the government, in Parliamentary democracies. Particularly in situations where the role of the legislature is limited in how it can amend the budget proposed by the executive, intra-government negotiations can be very important for the final outcome.

Some of the literature on committees, procedural rules, order of voting, *closed vs open rules*, can be applied *mutatis mutandis* to the decision process within the government. For example, our previous discussion on the order of voting (on the overall size first and the composition later) could be well applied to voting within a cabinet of ministers.

However, several additional issues arise when we consider the budget formation within the executive in parliamentary democracies. For instance, one crucial factor is the relative position, *de iure* or *de facto*, of the spending ministers versus the Treasury Minister and/or the Prime Minister. Specifically, the issue is whether the person who is ultimately responsible for presenting the budget to the legislature (typically the Treasury Minister) has a higher standing in the intra-government budget negotiations relative to the spending ministers. In some cases, more than one person is responsible for the preparation of the budget.¹¹ In what follows, we indicate with Treasury Minister the person(s) responsible for the overall budget. More *hierarchical* procedures grant to the Treasury Minister the higher standing relative to spending ministers, while more *collegial* procedures are more egalitarian, within the government. The constituencies of spending ministers are groups and industries who benefit from certain spending programs while, at

¹¹For instance in Italy the Treasury, Finance and Budget ministries are involved.

least in theory, the constituency of the Treasury Minister is the "average" tax-payer. Thus the spending ministers do not internalize the aggregate costs of certain spending programs, while the Treasury has an incentive to internalize.

One can think of an analogy with the case of the US. Spending ministers are like congressmen, whose constituencies favor specific spending programs. The President in the US, and the Treasury Minister in Parliamentary democracies should be more sensitive to the broad-based interests of the average tax payer. Chari, Jones and Marimon (1994) provide an interesting formalization of this idea for the case of the US. They argue that the American voters often prefer to elect a "big spender" (i.e., a Democrat) in their legislative district, but a "fiscal conservative" (i.e., a Republican) as President. By doing so, these voters maximize their chances of bringing spending to their districts keeping the overall size of the budget, thus the level of taxes, low.¹² The analogy with parliamentary governments is that the voters should favor "generous" spending ministers and a "conservative" Treasury Minister.

The incentives for "spending ministers" to increase the size of the budget are even stronger if we consider their role as heads of a bureaucracy. We know from the work by Niskanen (1971) and of the "public choice school" (see Mueller (1978) for a review) that bureaucracies strive to maximize their budget allocation. In fact the status, salary and influence of bureaucrats is often positively correlated with the size of the budget that they

¹²A devil's advocate may note that Democratic Presidents are sometimes elected and that the republican administrations in the eighties were far from "fiscally conservative" in a traditional sense. Also, the recent (November 1994) mid-term election has produced a configuration of divided government which is opposite from the one predicted by that paper.

manage.¹³

In summary, any procedural arrangement which increases the relative power of the Treasury Minister is likely to increase fiscal discipline.

4) A fourth set of issues which assumes somewhat different features in the American context and in parliamentary democracies, is the relationship between executive and legislature in the budget process. Typically, both in the US and in Parliamentary democracies legislators are viewed as big spenders, trying to undermine the attempt of governments to be more fiscally responsible. Thus, as argued above, procedures which limit the type of amendments that the legislature can propose should lead to fiscal restraint, of the cost of less collegiality. An important procedural aspect concerns the consequences of a rejection of the budget proposed by the executive. The consequences could be very "serious", implying *de iure* or *de facto*, the resignation of the government and, even, new elections. On the opposite extreme, the consequences can be very "mild", simply requiring a new budget proposal from the executive.

Von Hagen (1992) nicely captures a salient point by arguing that the more "serious" for the government are the consequences of a parliamentary defeat on the budget, "the more it is in government's interest to propose a budget than can be expected to find a solid majority in parliament" (Van Hagen (1992), p. 35). On the other hand, the legislature, and in particular, the parties supporting the government may refrain from defeating a budget proposal for fear of creating an institutional crisis. Which of the two arguments prevail may

¹³Fiorina and Noll (1978) discuss the interaction of bureaucrats interested in increasing the size of the budget and legislators interested in increasing the size of pork barrel programs for their districts.

depend on the circumstances. Generally, if the government can choose "what is at stake" in any given vote on the budget, it achieves a strategic advantage, turning a vote for or against the budget in a vote for or against the government. This choice may be helpful to "bring to order" parliamentary debates where members of the parties in government threaten to vote with the opposition on the budget. For instance, Huber (1992) discusses these types of procedures, (*the guillotine* and the *package vote*) for the case of France. He argues that these procedures are used quite frequently in the Fifth Republic and were introduced as a response to the cabinet fragility of the Fourth Republic. He suggests that the use of these procedures significantly helped the executive to pass the desired legislation, and these procedures were often used within the budget approval process.

5) Fifth, in Section 3.3, we discussed the relative merits of closed and open rules, but several additional issues are left open. In particular, the *open rule* regime can be of very different types. For instance, amendments can be permissible only if they do not increase the size of the deficit, and/or if they do not increase the size of spending. For instance, one can think of a *closed rule* on the size of the budget, and an *open rule* on its composition. This would strengthen the position of the executive when needed to implement fiscal adjustments, but preserve *collegiality* on purely allocative issues. Theoretical work on these points is not yet available.

5. Transparency of the Budget.

The budget of modern economies are very complex, sometimes unnecessarily so. This complexity, partly unavoidable, partly artificially created, helps in various practices that

"hide" the real balance (current and future), of costs and benefits for the taxpayers. Politicians have incentives to "hide" taxes, over emphasize the benefits of spending, and hide government liabilities, equivalent of future taxes. Politicians have little incentive to produce simple, clear, and transparent budgets.

At least two theoretical arguments support this claim. First the theory of "fiscal illusion", illustrated particularly clearly by Buchanan and Wagner (1977). According to this view, the voters typically overestimate the benefits of public spending and underestimate the costs of taxation, current and future. Lack of transparency of the budget can increase the voters' confusion and reduce politicians' incentives to be fiscally responsible. Elsewhere (Alesina and Perotti (1995a)) we have raised some doubts about the role of "fiscal illusion" as the main explanation of large and persistent deficits, such as those of countries with debt/GNP ratios of 100 percent or more. However, lack of transparency and voters' confusion can certainly interfere negatively with effective budget control, particularly when substantial fiscal adjustments are needed.

The second argument does not rely on voters' irrationality and confusion. Several papers, although in different context, (e.g. Cukierman and Meltzer (1986), Alesina and Cukierman (1991)) highlight the benefit for the policy makers of a certain amount of ambiguity even when they face a rational electorate. The idea is that by creating "confusion" and, in particular, by making it less clear how policies translate into outcomes, policy makers can retain a strategic advantage versus rational, but not fully informed voters. This informational advantage would disappear with "transparent" procedures: therefore, the policy makers would often choose to adopt *ambiguous* procedures. In

particular, at least up to a point, the less the electorate knows and understands about the budget process, the more the politicians can act strategically and use fiscal deficits and overspending to achieve opportunistic goals.

Rogoff and Sibert (1988) and Rogoff (1990) make a similar point in the context of political business cycle models. They show that if the voters cannot easily observe the composition of the budget (either on the spending and/or on the financing side), then policy makers can follow loose fiscal policies before elections and increase their chances of reappointment.

This literature reviewed in this section makes interesting points. However, it is quite distant from the details of the budget process, much more so than the literature on voting procedures reviewed in section 3. Once the policy makers' incentives to be strategically ambiguous are well understood, one is left with the rather difficult task of understanding how, in reality, policy makers obfuscate the budget and what to do about it.

A variety of "tricks" can serve the purpose of strategically influencing the beliefs and information of taxpayers/voters. For instance:

1) Overestimate the expected growth of the economy, so as to overestimate tax revenues, and underestimate the level of interest rates, so as to underestimate outlays. At the end of the fiscal year, the "unexpected" deficit can be attributed to unforeseen macroeconomic developments, for which the government can claim a lack of responsibility.

2) Over optimistic forecasts of the effect on the budget of various policies, so that for instance, a small new tax is forecasted to have major revenue effects, thus postponing to the following budget the problem of a real adjustment.

3) Keep various items off budget, with a creative use of the budget of other public organizations not incorporated in the national budget.

4) Strategic use of budget projections. For example, in all the discussions about future budgets, a key element is the "baseline". By inflating the baseline, politicians can claim to be fiscally conservative without really having to create real costs for the constituencies. In this way, they create an illusion: they appear "conservative" in the eyes of the taxpayers, worried about the size of the budget, but they do not really hurt key constituencies with spending cuts. Clearly, this illusion cannot last forever, since adjustment rigorous only relative to inflated baseline, in the end will not stop the growth of the debt. However, this procedure creates confusion, and, at the very least, delays the electorate's realistic perception of the actual state of public finance.

5) Strategic use of multi year budgeting. By announcing a, say, three year adjustment plan in which all the hard policies occur in year two and three, politicians can look responsible and can buy "time" ; then they can revise the next three year budget policies to further postpone the hard choices.

In an important contribution Tanzi (1995) compares budget institutions in several OECD countries and emphasizes the role of transparency and how different countries show very different level of it. Tanzi relates the degree of transparency with the feasibility of expenditure control.¹⁴

¹⁴Both Tanzi (1995) and Alesina, Mare and Perotti (1996) argue that Italy has one of the least transparent procedure, if not the least transparent in the OECD group of countries. These authors agree that lack of transparency has made expenditure control in Italy particularly difficult.

6. Budget Procedures and Fiscal Outcomes: Empirical Evidence

Von Hagen (1992) and Von Hagen and Harden (1994) provide the most comprehensive empirical analysis of the effects of procedures on fiscal outcomes in European countries. They construct several indices, which are meant to rank fiscal procedures from the most *hierarchical* to the most *collegial*, using our terminology. Their sample is given by all the countries member of the European Community, and they focus upon a wide range of information on budget procedures:

- i) the government preparation of a budget;
- ii) the legislative phase and the relationship between executive and legislature;
- iii) the implementation phase;
- iv) the degree of transparency of the budget;
- v) the existence of numerical targets (balance budget laws etc.);
- vi) the existence of multi-year budgeting.

They show that budget arrangements vary widely amongst EU countries, and this is encouraging for the theory, since debt/GNP ratios also are very different across these countries.

As for the government phase of budget preparation, they identify three types of procedures, which using our terminology, we can call *hierarchical*, *intermediate*, and *collegial*. The key variable on which they focus is the relative position of the Treasury Minister¹⁵ vis a vis the spending ministers. Interestingly, they argue that "France and the UK are the clearest example" of the *hierarchical* procedural type. The "superiority" of the

¹⁵Or of the minister(s) responsible for the preparation of the budget.

Prime Minister and the Finance Minister in France is *formally* established. In the case of the UK, the "superiority" of the Treasury is more *de facto*, and is based on seniority and accepted practice. Van Hagen and Harden (1994) write that "In France the strong position of the Prime Minister in budgetary matters is grounded in the constitution. ... the British Chancellor of the Exchequer ... derives most of his power from seniority and historical convention, the British equivalent of constitutions law". It is interesting to note that neither of these countries has a debt problem despite a very large public sector (France), and relatively low rate of economic growth in the last two decades (England). At the opposite extreme we find countries where the Treasury Minister has no special status, and these include Ireland, Italy, Belgium, Greece, Luxembourg and Portugal. The reader will recognize in the first three countries those that, at least until the early nineties, had the highest debt/GNP ratios in the OECD, and in the other two countries cases of rapidly rising debt/GNP ratios. (See Table 1).

The authors also look at the structure of negotiations ranking as more *collegial* countries where the negotiations are not bilateral between Treasury and each spending ministers, but cabinet wide. According to this indicator the most *collegial* countries are Greece, Ireland and Spain, and the most *hierarchical* are France, the Netherlands, Portugal and the UK.

As a matter of fact, it is not clear *a priori*, which of the two procedures is more conducive to fiscal discipline. On the one hand, Alt and Chrystal (1981) argue, with an eye on the British case, that bilateral negotiations give an opportunity to individual spending ministers to "strike deals" with the Treasury so that, in the end, the budget is inflated by

the accumulation of these bilateral deals since no spending minister has the opportunity nor the desire to "attack" another spending minister's deal. On the other hand, multilateral negotiations create an opportunity for the spending ministers to form a coalition "against" the Treasury. Also, as Van Hagen (1992) emphasizes, multilateral bargaining creates opportunity for reciprocity between spending ministers, namely incentive to favor each others spending programs. On balance, we agree with Von Hagen (1993) that bilateral negotiations are more likely to encourage fiscal discipline than multi-lateral ones.

As for the legislative phase, these authors look at the restrictions on amendments, and at the agenda setting power of the executive, i.e., what can the government do to influence voting in the legislature. For example they focus on what types of amendments are possible from the floor of the legislature and what are the restrictions (if any) on amendments which increase the deficit or the size of spending proposed by the Government. Classifying countries along these dimensions is not always straightforward. France is a clear example of an authoritarian procedure. According to the authors, Italy, Greece and Denmark "have procedures which are characterized by comparable degrees of openness".¹⁶

As for the implementation phase, they consider the degree of control that the Treasury Minister has on spending, how easy it is to increase actual spending over the planned level and how flexible are transfers of spending from one chapter to another. Interestingly, France appears, once again, as the country with the most restrictive

¹⁶Actually, our reading of the Italian case is a bit different. Using their own criterion, we would have classified Italy at the very least in the *intermediate* group, if not in the *hierarchical* one. See Alesina, Mare and Perotti (1996) for more discussion.

procedures.

The transparency of the budget, is measured by a variety of indicators, from responses of interviews (see page 71 of Von Hagen (1992)) to the existence of "special funds" in the budget, to the presentation of the budget in a single document etc. Interestingly, Italy and Ireland, two high debt countries, have the least transparent budgets.

Von Hagen (1992) finds support for what he calls the "structural hypothesis" namely that budgetary procedures which are more *hierarchical* (in our terminology) lead to greater fiscal discipline. This result is based on correlations between various aggregate indices of budget procedures and fiscal policy measures in his sample of European countries. These indices summarize in numerical scales all the information discussed above, and they turn out to be strongly correlated with cross-country differences in debt/GNP ratios and budget deficits in the eighties. Von Hagen and Harden (1994) also consider other fiscal indicators of fiscal policy, such as debt sustainability, the growth of open-ended programs and the role of fiscal policy in macroeconomic stabilization. Interestingly, concerning the last issue, they find that countries with more *hierarchical* institutions do not show a worse performance in terms of output stabilization, despite their more fiscally conservative policies.¹⁷

Alesina, Hausmann, Hommes and Stein (1996) consider a sample of almost all the Latin American countries. They construct an index of budget procedures on a hierarchical-collegial dimension, and on a transparent-non transparent one. They use both

¹⁷This result is reminiscent of findings concerning Central Bank independence. Alesina and Summers (1993) show that in OECD countries more independent central banks show lower inflation without an increase in output variability.

the written legislation and a survey conducted by means of questionnaires, answered by the budget directors' office of each country. The index is related but far from identical to the one constructed by von Hagen for OECD countries. The index by Alesina et. Al. focuses on several critical aspects: a) whether or not the budget is approved in the context of a binding macroeconomic program; b) the role of the Treasury minister, *de iure* or *de facto*, as the agenda setter in the budget process; c) the relationship between the government and the legislature in the budget process; d) the voting procedure in the legislature; and e) various proxies for the degree of transparency of the budget.

These authors find that for a sample 1980-1993, more hierarchical/transparent procedures are associated with lower primary deficits in Latin America, after controlling for several economic determinants of the government budget.

These results on both OECD and Latin American countries are quite suggestive but warrant further investigation in several dimensions. First, the classification of countries according to these criteria inevitably require some judgement calls, particularly when one must take into account *de facto* procedures.

Second, these aggregate indexes squeeze in a single number several different features of the budget process. Thus, different countries may receive similar aggregate values of the indices for very different reasons. For instance, in von Hagen' work France and Germany have high indexes (high meaning more *authoritarian* procedures) for different reasons. In France the high value of the index is due mostly to the strong role of the Prime Minister and its voting rules; in Germany it is mostly due to the transparency of the budget and the inflexibility of implementation. On the other hand, Italy receives a low

score mostly for the weak role of the Treasury Minister and the lack of transparency of the budget; Belgium receives a low score because of its voting procedures. Further analysis of these data and, perhaps, a case study approach may shed further light in a more disaggregate vein.¹⁸

Third, no attempt is made to compare the effect of budgetary procedures against the effects of other politico-economic variables. For instance, several authors (Grilli, Masciandaro and Tabellini (1991), Roubini and Sachs (1989a,b)) suggest that coalition governments are particularly subject to fiscal problems, because of their inability to agree quickly on stabilization plans. Alesina and Perotti (1995b) show that even when they try to implement adjustments, coalition governments typically fail to permanently consolidate the budget balance and the adjustment is soon reversed. Those authors who have studied party systems and fiscal policy have ignored budget institutions and vice-versa. The difficulty lies in disentangling the effect of several politico-institutional variables in a sample of relatively few countries. Problems of degrees of freedom for formal statistical analysis are binding. The next step in this research area is to expand the number of countries and take more advantage of time series variations within each country.

A fourth problem concerns the issue of when budget deficits appeared. As we argued above, much of the cross-country variance in debt/GNP ratios appears after the mid-seventies, while budget procedures are relatively stable over time. Perhaps, the answer to this question relies on an interaction between shocks (such as the first oil shock

¹⁸Alesina et al (1996) make some progress toward disentangling different effects of different components of the aggregate index, although results on this point are not conclusive for a variety of reasons discussed in that paper.

with the associated declining growth rates) and fiscal institutions.

A fifth problem, particularly relevant for Latin America, is the issue of institutional reforms. These studies have a cross-country nature and do not tackle sufficiently the issue of how to explain a time series variation of budget procedures within a country.

A related literature which can also shed light on the effect of budget procedures on fiscal outcome focuses on American States, which provide a sample with a large variance of institutional arrangement and fiscal performance. Several recent papers by Poterba (1994), Alt and Lowry (1994) Bayoumi and Eichengreen (1995) and Bohn and Inman (1995) are particularly relevant for our discussion.¹⁹

Poterba (1994) focuses on fiscal shocks, namely the difference between planned and actual spending and revenues, due to a variety of unexpected random events. While many states cannot plan to run deficits, unexpected deficits, as a result of fiscal shocks can, and do, materialize. American states have rather different provisions concerning state balance i.e., different budget laws. The Advisory Commission on Intergovernmental Relations (1987) scales them from 1 to 10 in terms of how restrictive they are for the state budget balance. Poterba studies whether the different degree of stringency of budget balance provisions affect the reaction of states to fiscal shocks. He finds that states with weak anti deficit rules adjust spending less in response to positive deficit shocks than their counterparts with strict anti deficit laws. More generally he concludes that "fiscal institutions affect the short run patterns of taxes and expenditures". Interestingly, Poterba also finds that adjustments to adverse fiscal shocks are less vigorous and prompt in states

¹⁹See also earlier work by Von Hagen (1991)

with divided government, where the governor does not belong to the party which holds a majority in the legislature.

Alt and Lowry (1994) using a somewhat different approach and sample reach very similar conclusions. They find that adjustments to fiscal imbalances are low in states with divided government and weak anti deficit rules.

Bayoumi and Eichengreen (1995) find that the response of deficits to income fluctuations is stronger in State with less stringent budget rules. These authors find that in States with tough rules, most of the budget adjustments occurs on the spending side, suggesting That stringent rules are effective at containing spending.

Bohn and Inman (1995) make a distinction between those balanced budget rule that require only a prospective or beginning of the year balance and those that require an end of the year balance. They find that soft, beginning of the year constraint are much less effective than the tougher end of the year ones at controlling deficits. These results are quite intriguing and they relate to the issue of transparency discussed above. Clearly beginning of the year requirements leave open the possibility of strategic use of projections and accounting to make a budget look balanced in theory but not with realistic forecasts of revenues and spending needs.

Several other authors have studied the effects on state budget of gubernatorial line item veto. The latter does not impose caps on state spending or deficit, but, at least theoretically, tilts the relative power in favor of the Governor against the legislature in the budget process. As a result, in principle, the line item veto should promote fiscal discipline. American states differ: many have the line item veto, several do not. They also

differ on what is the majority required in the legislature to overcome a gubernatorial veto. Clearly, the higher the majority required, the stronger the governor's relative power.

As pointed out in the survey by Carter and Schap (1990), the empirical effects of the line item veto of state budget are unclear. Holtz-Eakin (1989), for instance, find that in the long run the presence of the line item veto does not reduce spending or deficits. However, in the short run it has some effect, depending on the political context, and, in particular, the party affiliation of the President and the composition of the legislature. Alm and Evers (1991) describe similar findings and conclude that the line item veto has a small negative effect on the level of spending in the case of divided state government. Similar results are reached by Bohn and Inman (1995). Glen and Louth (1985) argue that the line item veto favors the passage of budgets closer to the ideological orientation of the governor.

Broadly speaking, one is struck by the similarity of some of the results between American States and OECD countries. First, in both cases, budget deficits seem to be the result of delayed fiscal adjustments of fragmented governments (coalition governments in OECD countries, divided government in American states). Second, budget institutions influence budget outcomes in the expected direction. Third, perhaps more *hierarchical* institutions are particularly necessary and useful in situation of government fragmentation.

Also one may note an analogy between the effect of budget institutions and government structure. *Collegial* institutions and fragmented governments do not cause budget deficits *per se*, but delay adjustments to fiscal imbalances which appear, for any reason. Thus, the interaction of the shocks in the seventies, the lower growth and the

demographic factors which posed a heavy burden on social security systems and certain budget procedures and fragmented government can answer both questions concerning the timing of deficits and the cross-country differences.

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