IMF WORKING PAPER

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WP/96/78   INTERNATIONAL MONETARY FUND

Fiscal Affairs Department

Budget Processes and Commitment to Fiscal Discipline

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July 1996

Abstract

This paper develops a political-economy model of the budget process focusing on the common pool problem of the public budget. We show that the externality arising from the fact that public spending tends to be targeted at individual groups in society while the tax burden is widely dispersed creates a bias towards excessive expenditures and debt. This bias can be reduced by introducing elements of centralization in the budget process, that is, institutional structures that strengthen a comprehensive view of the budget over the particularistic view of the spending ministers and the members of parliament. Using examples from EC countries, we show how budget processes lack or possess such elements. We then present empirical evidence supporting the claim that centralizing elements reduce the deficit bias. The last section concludes with models for reform of the budget process.

JEL Classification Numbers:

D71, D73, H61, H62, H72

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Summary

High and rising levels of public debt and large and persistent government deficits are matters of concern in most OECD countries. Public spending, taxation, and borrowing result from the government budget process. This process is a system of rules governing the decision making that leads to the formulation of a budget by the executive, its passage through the legislature, and its implementation. These rules determine which steps are taken and when they are taken; they also assign roles to the participants, regulate the flow of information among them, and thus distribute strategic influence and create or destroy opportunities for collusion. Political economy views the budget process as a mechanism for resolving conflicts among competing interests. The widespread belief that the budget process itself can shape the decisions made according to its rules generates interest in the process.

A general characteristic of modern public finances is that government activities tend to be targeted at specific groups while being paid for by the general taxpayer. The incongruence between those who benefit and those who pay implies that policymakers systematically overestimate the net marginal benefit of increasing public spending and, hence, tend to increase spending beyond the level that equates social marginal costs and benefits. The first part of this paper shows that this problem--the common pool problem of government budgeting--results in excessive spending and deficits.

Spending and deficits can be reduced by introducing elements of centralization into the budget process, namely, institutional provisions that promote a more comprehensive view of the marginal costs and benefits of public activities and diminish the power of special interests. One way to introduce centralization is to create a dominant player in the budget process, usually the finance minister, who is vested with strategic prerogatives over the spending ministers. Similarly, this approach involves vesting the executive branch of government with strategic superiority over the legislative branch. The other approach is to achieve centralization through collective negotiation among the relevant policymakers to determine binding budget targets early in the budget process.

In the second part of the paper, empirical evidence from the European Community governments is presented to support the claim that centralization of the budget process promotes fiscal discipline. European budget processes are characterized on the basis of an index of centralization. The empirical results show a strong negative correlation between rankings in this index and fiscal discipline as measured by deficit and debt ratios. Countries ranking high on this centralization index have run significantly smaller deficits and accumulated significantly smaller debts on average over the 1980s than countries ranking low on the index. This outcome suggests that reforming the budget process in countries where it is weak is a promising avenue for improving fiscal performance. The paper ends with some suggestions for reform.

I. Introduction

High and rising levels of public debt and large and persistent government deficits are matters of concern in most OECD countries. Deficits and debt have reached levels in some countries that are high enough to raise doubts about the soundness of their currencies. Debt service obligations have reduced the governments' ability to serve more pressing social needs. In Europe, high and rising deficits and debts raise additional concerns as the EU member states have committed to avoiding "excessive government deficits" in the upcoming Economic and Monetary Union. 1/

Public spending, taxation, and borrowing are outflows of the government budget process. Formally, the budget is a list of revenues and expenses conveying what the government expects and is authorized to do during a certain time period. The budget process, in the broadest sense, is a system of rules, both formal and informal, governing the decision-making process that leads to the formulation of a budget by the executive, its passage through the legislature, and its implementation. These rules divide this process into steps and determine which steps are taken when. The rules also assign roles and responsibilities to the participants and regulate the flow of information among them and thus distribute strategic influence and create or destroy opportunities for collusion. Political economy views the budget process as a mechanism through which political interest groups "bargain over conflicting goals, make side-payments, and try to motivate one another to accomplish their objectives" (Wildavsky, 1975, p. 4).

Interest in the budget process derives from the widespread belief that the process itself can shape the decisions made according to its rules (for example, Rubin, 1993). In particular, by changing the institutional rules that form the budget process, a government's fiscal performance can be changed in a predictable way. This belief is strongly reflected in Article 3 of the Protocol on the Excessive Deficit Procedure of the Maastricht Treaty which commits the member states of the EC to put in place "national procedures in the budgetary area" that "enable them to meet their obligations in this area deriving from this Treaty." These obligations are to keep budget deficits and public debt below a certain level.

A general characteristic of modern public finances is that government activities tend to be targeted at specific groups while being paid for by the general taxpayer. 2/ The incongruence between those who benefit and *those who pay has important implications. Policymakers representing* spending agencies or groups benefiting from particular public activities take into account the full benefit from expanding the programs they are concerned with, but recognize only that part of the costs that falls on their constituencies. As a result, policymakers systematically over-estimate the net marginal benefit of increasing public spending and, hence, use their political clout to increase spending beyond the level that would equate social marginal costs and benefits. For example, a member of parliament representing a local electoral district will appreciate the full

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1/ This commitment is contained in Article 104c of the Maastricht Treaty.
2/ See, for example, Buchanan and Tullock (1962) and Olson (1965).

value of road improvements for the local economy. But since his district pays only a small portion of the central government's tax revenues, he will ask for more road improvements when the central government pays for them than when they have to be paid for by local taxes. As all policymakers have reasons to behave in the same way, the result is excessive spending. Even if current spending is divided efficiently between current and future taxes, this leads to excessive deficits and debts, too. We call this the "common pool" problem of government budgeting, because the nature of the problem is not unlike that of a common resource exploited by uncoordinated private parties. 1/

The main claim of this paper is that the importance of the common pool problem and, therefore, the risk of excessive spending and deficits can be reduced by introducing elements of **centralization** into the budget process, that is, institutional provisions that promote a more comprehensive view of the marginal costs and benefits of public activities and diminish the power of special interests. To support this claim, we present empirical evidence from the EC governments covering the 1970s and 1980s. 2/

We develop an index of centralization of the budget process, a numerical gauge of how strong elements of centralization are in different countries. Our empirical results show a strong correlation between our index of centralization and fiscal discipline. Specifically, countries ranking high on our index have run significantly lower deficits and accumulated significantly lower debts on average over the 1980s than countries ranking low on the index. This suggests that reform of the budget process where it is weak is a promising avenue for improving fiscal performance.

Recent research into the political economy of government deficits has concentrated on the structure of political conflicts within society as a determinant of deficits and debt: strong polarization of political preferences and pronounced distributional conflicts tend to result in excessive deficits and fast accumulation of debts. For a recent review of that literature and a discussion of its empirical relevance see Alesina and Perotti (1995). That literature looks at the **incentives** to run large deficits; it takes the institutional environment as given. Our analysis complements that literature by taking the political incentives as given and focusing instead on the institutions in which the relevant decision makers operate. Thus, we do not deny the importance of political incentives, rather we ask to what extent budget processes facilitate or prevent these incentives to manifest themselves in actual outcomes.

The paper proceeds as follows. Section II presents a basic model of the budget process and discusses the common pool problem of public budgeting

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1/ See Ostrom, Gardner, and Walker (1993) for an excellent discussion of the common pool problem.
2/ Our sample does not include the new entrants of 1995.

and the importance of institutional centralization to contain the resulting bias towards excessive spending. It also reviews the budget processes of the EC member states and shows how different types of processes can be distinguished. Section III reports our empirical results and provides a link with related political economy research. Section IV concludes with proposals for reform of the budget process.

II. A Model of the Budget Process

1. Stages and actors in the budget process

Budget cycles can be analyzed as sequences of four stages: a planning process in government (the **government stage**) culminating in the submission of a draft budget law to parliament; a **parliamentary stage**, ending with a formal budget act; an **implementation stage** during which the budget act is put into effect and revisions may occur; and an **ex post control stage**. At any particular point in time, different stages of at least two, often three successive budgets will have been reached. This is illustrated in Table 1. During year t, the current budget is in the implementation stage, next year's budget in the government or the parliamentary stage, and the previous year's budget is being subject to an accountability process. 1/ Our analysis focuses on the first three stages.

Table 1. Stages of the Budget Process

Government and Parliamentary Stage	Implementation	Ex post control		
	Government and Parliamentary Stage	Implementation	Ex post control	
		Government and Parliamentary Stage	Implementation	Ex post control
year t-2	year t-1	year t	year t+1	year t+2

1/ Multi-year frameworks for budget preparation and lengthy accounting and discharge procedures may create even more overlap.

In EC countries, the government stage usually begins 11 or 12 months before the start of the financial year; the parliamentary stage commonly covers the last 3 to 4 months before the beginning of the budget year and concludes just before it. In the United Kingdom and Ireland, the parliamentary stage is prolonged into the financial year and is more closely intertwined with the planning stage than elsewhere. The implementation stage covers the financial year, which is the calendar year for all EC states except the United Kingdom, where it runs from April 1 to March 31.

The range of actors in the process varies with the different stages. The government stage is normally conducted exclusively within the executive branch of government. Recent reforms in Italy let the legislature decide on an overall spending target at this stage already; in Luxembourg, the legislature has a consultative role on the same matter at this stage. By the time the government stage reaches its end, decisions must have been made about the level of aggregate spending, allocations to spending agencies, the overall revenue target, and changes to the rates and incidence of taxation.

Within the executive branch, the ministry of finance is involved, with various degrees of authority, in the organization of all steps of the government stage. In some countries, this function is spread over different ministries. 1/ Subsequently, we use the term finance ministry to describe the institution executing this function. Spending ministers elaborate and submit budget bids for their departments. As members of the cabinet, they may also take part in decisions on budget aggregates and on the fate of their own spending bids and those of others.

The parliamentary stage comprises the bargaining process between the government and the legislature over the budget law. All parliaments of EC member states considered here have rules of procedure for the budget law that are different from the procedures for ordinary laws. 2/ These special procedures are intended to assure that the budget law is passed in time, that is, before the beginning of the next financial year, by limiting parliamentary debate and, in some cases, allowing the executive to speed up the process. Parliament generally has the power to reject the budget entirely and to amend parts of it.

1/ In Denmark, separate ministries prepare macroeconomic estimates and tax policy and revenue analysis. In Greece, the broad thrust and the coordination of economic and fiscal policies, as well as the preparation and implementation of a budget for public investments are the responsibility of the Ministry of the National Economy rather than the Ministry of Finance. In Italy, responsibilities in the planning stage are shared between the Treasury, the Finance Ministry, and the Budget Ministry; the Treasury Ministry is mainly responsible for the expenditure side while the Ministry of Finance monitors tax revenue.

2/ In Italy, such a separate procedure was introduced only in 1978.

The implementation of the budget during the financial year is again primarily the responsibility of the executive branch of government. Parliament may be involved in this stage, particularly in approving supplementary appropriations.

Table 2 lays out the basic structure of a budget process. Step G1 begins with the formulation of budget guidelines and norms. It includes the circulation of purely technical guidelines to be followed in the drafting process as well as the presentation of the main assumptions about macro economic trends and developments for the year under consideration to all ministries concerned. In addition, this step may include the determination of important targets for the budget under consideration, for example, for total expenditures or the total deficit.

Table 2. Main Steps of Budget Process

Step	Action
	Government Stage
G1	Formulation of budget targets and guidelines
G2	Preparation of budget bids
G3	Compilation of budget draft
G4	Reconciliation
G5	Finalization of budget proposal
	Parliamentary Stage
P1	Debate, amendment of, and vote on budget proposal
P2	Reconciliation between upper and lower houses
P3	Approval by government
	Implementation and Revision
I1	Execution of the budget act
I2	In-year changes of the budget
	Ex post Control and Accountability

Step G2 contains the preparation of the individual budget bids by the spending departments. It commonly evolves within the spending ministries on the basis of the budget guidelines and targets determined in the first step. Spending ministries must formulate priorities and justifications for their

bids and develop defense strategies against the finance minister's efforts to reduce bids and against competing bids by other spending departments. Spending ministries may communicate with the finance ministry during this step, but rarely do spending ministries communicate with other ministries on a formal basis.

Step G3 includes the compilation of the first draft of the budget, commonly a responsibility of the finance ministry. It may also include rounds of bilateral negotiations between the spending ministries and the finance ministry. The drafting of the revenue budget is commonly the responsibility of the finance ministry.

Step G4 consists of attempts to reconcile conflicts arising between the finance ministry and the spending ministries and between different spending departments. Reconciliation either involves only the prime minister acting as an arbiter among the spending ministers, or a selected cabinet committee, or the entire cabinet. Step G5 ends this stage with the final approval of the budget draft in cabinet, after which the draft bill is handed over to the parliament.

The structure of the budget decision in parliament (P1) depends heavily on the country's constitutional framework. In bicameral parliaments, budget processes differ significantly in the way budgetary powers are shared between the upper and the lower houses. Arrangements in the EC range from equal powers of both houses, as in Italy and Belgium, over a prerogative of the lower house over the upper house, as in France, Germany or Spain, to a monopoly of budgetary powers for the lower house, in the United Kingdom and Ireland.

In most European countries, an outright rejection of the budget is politically equivalent to the government's losing a vote of confidence and will lead to the resignation of the government. This is reflected by the practice that the first reading of the budget is often a debate over the government's general policies followed by a first vote on the budget draft. The budget itself is then treated in detail in the subsequent readings, when amendments can be received and passed. Amendments may be restricted by provisions prohibiting certain changes to the budget proposal. Only in Germany is there a formal requirement that the Government approves the budget law as passed by the Parliament; in all other countries, the budget becomes law at the end of step P1 or P2.

Once the budget act has become law, the budget process enters the implementation stage. Since implementation is primarily a responsibility of the government, the principal actors here are again the spending ministries and the finance ministry, although outside bodies such as audit institutions may be involved. Implementation may overlap with the planning stages of the process in government and parliament. In Ireland and the United Kingdom, the budget provisions are only enacted into law after the budget has already come into operation. Such practices require preliminary spending authorizations which are derived from the preceding year's estimates.

Overlap also comes from the possibility to revise the budget during the relevant fiscal year by proposing, and passing through parliament, supplementary budgets. Supplementary budgets are commonly subject to the same steps as ordinary budgets.

2. Budgeting with a common pool problem

In this section, we characterize the common pool problem of government budgeting and point out the role of institutional centralization as a way to reduce its impact on government fiscal discipline. Since budget processes in practice are complex bargaining processes, the development of a complete model of the budget processes is beyond the scope of this paper. Instead, we present a simple framework to highlight the main differences in alternative institutional designs of the budget process. Our discussion will use data from EC government budget processes to provide more detail.

Consider a government whose task it is to decide on a budget allocating public funds x_i to the financing of public activities $i = 1, \ldots, n$. For each activity, the government has a spending target, x_i^*. For the sake of simplicity, we interpret these spending targets as reflecting the preferences of the government's constituency. All public activities are financed from a general tax fund, B. We assume that the excess burden of taxation increases quadratically in the amount of taxes raised.

We look at budgeting in a one-period context and abstract from the possibility of borrowing. In the appendix, we show formally that the common pool problem leads to excess spending and excessive deficits simultaneously; since both are aspects of the same problem, it suffices here to focus on excessive spending. The government's task is to minimize the gap between actual spending and the spending targets, while keeping the tax burden small. This amounts to maximizing the preference function:

$$V = -\sum_{i=1}^{n} \frac{\alpha}{2} (x_i - x_i^*)^2 - \frac{m}{2} B^2 \tag{1}$$

where $m \leq 1$ is the part of the total tax burden falling on the government's *constituency*.

If the government consisted of a single planner, the optimal level of spending, B_c, would be:

$$B_c = \frac{\alpha n x^*}{\alpha + nm} , \tag{2}$$

where, for simplicity, we have assumed $x_i^* = x^*$ for all i.

In practice, democratic governments consist of many individuals, so that this can only serve us as a reference case for what is optimal for the government collectively. Consider now a government that consists of n

individuals, the spending ministers. Spending ministers are characterized by three assumptions. First, each minister is responsible for one policy dimension, that is, spending minister i wishes to minimize the gap between government spending in his jurisdiction, x_i, and the corresponding spending target, x_i^*, taking spending in the other dimensions as given.

Second, following traditional public choice theory (Niskanen, 1971) we assume that the spending ministers derive some private utility from the sheer size and spending volume of their departments, reflecting, for example, the political response of their constituencies to greater benefits or the prestige from commanding over larger resources.

Third, government activities are targeted at specific interest groups that form the political constituency of the spending departments. Considering the financing of the activities of his department, each spending minister only takes into account that part $m_i < m$ of the tax burden that falls on his constituency. The resulting incongruence between the group that benefits and the group that pays is the essence of the common pool problem. For example, the minister of agriculture recognizes that increasing farm subsidies will raise the farmers' tax bill. However, the farmers pay only a portion of the total increase in taxes required, so that their net benefit is larger than the net benefit to society.

Taking these three characteristics together results in the following preference function of the individual spending minister,

$$U_i = \gamma x_i - \frac{\alpha}{2}(x_i - x_i^*)^2 - \frac{m_i}{2}B^2 . \tag{3}$$

Here, γx_i, $\gamma > 0$, reflects the minister's private gain from obtaining a large budget.

The budget is now determined by a group of people with partly conflicting interests. To see the full force of the common pool problem, consider a fully decentralized budgeting process, that is, one in which each spending minister bids for and obtains the funds maximizing his preference function taking the level of spending in the other dimensions as given. Assuming $m_i = m/n$, such a decentralized decision-making procedure leads to the following aggregate spending and deficit,

$$B_d = \frac{n(\alpha x^* + \gamma)}{\alpha + m} > B_c . \tag{4}$$

It is now obvious that a decentralized budget process leads to a spending bias. The spending bias results from two sources. One is the private gain from commanding a large budget emphasized in traditional public choice theory, reflected by the terms including γ. The other source is the common pool problem. Specifically, the budget process involves an externality operating through the common tax fund. Increasing the allocation for an individual activity x_i affects not only the decision maker directly

concerned, but also all others through the increase in the general tax burden. However, under a decentralized budget process, each individual decision maker fails to recognize that externality and, hence, aims at more spending than what is collectively optimal. Formally, this is reflected by the smaller denominator making B_d larger than B_c even when the private incentive for excess spending is zero, $\gamma = 0$.

Our discussion suggests that excess spending and excessive deficits can be mitigated by introducing elements into the budget process that strengthen the collective interest of the group over the individual interest. We now show how this can be achieved by structuring budgeting decisions appropriately.

a.   Centralization at the government stage

Centralization at the government stage occurs by common agreement among all spending ministers on a budget, or as a result of a strategically influential position of an individual member of the government. Consider, first, a budget process starting with negotiations among all spending ministers over binding limits on their allocations. Once these limits have been agreed upon, they must be observed during the remainder of the government stage. The outcome of these negotiations can be characterized as follows: 1/

$$B_n = \frac{n(\alpha x^* + \gamma)}{nm + \alpha} < B_d .$$ (5)

Bargaining among the spending ministers reduces the spending bias due to the common pool problem. Formally, this is reflected in the larger denominator of B_n. However, bargaining in cabinet does not eliminate the bias from the individual gains from spending. Thus, centralization by means of bargaining among the spending ministers reduces only one source of excessive spending and deficits.

In addition to spending ministers, governments typically comprise ministers without portfolio, including the prime minister and the finance minister, that are not bound by the particular interests of a spending department. These members can, therefore, be assumed to give more weight to the collective interest of the government. Another approach to strengthening the collective interest in the budget process is to vest these members with special strategic powers that enable them to play a central role in the budget process. In practice, this takes two forms, one in which the main budgeting decisions are made in bilateral negotiations between the finance minister and the individual spending ministers, and one in which the finance minister serves as the agenda setter or has veto powers in cabinet meetings where budget decisions are made collectively.

1/ We can apply the Nash solution for bargaining processes to this problem.

Consider the first version of this approach. Here, the finance minister enters into a series of bargains with the spending ministers to determine their budget allocations. As these bargains take place simultaneously, the spending ministers do not communicate with each other during the process. Let δ be the bargaining weight of the finance minister in these bilateral bargains. Each bargaining process has the equilibrium outcome: 1/

$$-\frac{\delta}{1-\delta}(\alpha(x_i - x_i^*) + mB) + \theta(\gamma - \alpha(x_i - x_i^*) - m_iB) = 0 , \qquad (6)$$

where:

$$\theta = (\frac{V}{U_i})^\delta \qquad (7)$$

is the relative utility minister i obtains. The equilibrium budget is:

$$B_p = \frac{(\delta+(1-\delta)\theta)(nm+\alpha)}{\delta(\alpha+nm)+(1-\delta)(\alpha+nm)\theta}B_o + \frac{\theta(1-\delta)}{\delta(\alpha+nm)+(1-\delta)\theta(\alpha+nm)}n\gamma. \qquad (8)$$

As the bargaining power of the finance minister increases ($\delta \rightarrow 1$), the budget approaches the collectively optimal one, B_o. In contrast, diminishing his bargaining power shifts the outcome towards the decentralized solution, B_d. Note that the bilateral bargaining process reduces the spending bias from both sources, the common pool problem and the private gain from increasing the size of a minister's department.

As agenda setter in cabinet meetings, the finance minister submits his proposal to the cabinet for a vote. If the finance minister could get his way entirely, his proposal would be the collectively optimal one. The weaker his agenda-setting power, the more he must cater to the interests of the spending ministers to get his proposal passed. Thus, a weak finance minister must take into account each spending minister's incentive to raise spending beyond the collectively optimal level.

Formally, the finance minister's proposal maximizes the combined preference function: 2/

1/ Here we can use again the Nash equilibrium concept to determine the bargaining solution.

2/ A more direct way to characterize this situation would let the finance minister maximize the function V subject to the constraint that the spending ministers obtain a level of utility U^* large enough to assure the passing of his proposal. Both formulations lead to the same solution; a higher δ indicates a lower level of U^* guaranteed for the spending ministers.

$$U_{MF} = (1-\delta)\sum_{i=1}^{n} U_i + \delta V .\tag{9}$$

The resulting budget is:

$$B_a = \frac{n(\alpha x^* + (1-\delta)\gamma)}{nm + \alpha} .\tag{10}$$

Even when the finance minister has little strategic power (δ close to zero), this process overcomes the externality problem because the finance minister presents a more comprehensive view of the budget to the cabinet. In addition, raising his strategic power ($\delta > 0$) reduces the impact the individual gains from his spending on the budget.

With a ministries budget that gives the finance minister veto power over the spending ministers' proposals, each spending minister picks the level of spending maximizing his preference function under the constraint that the proposal must not be vetoed by the finance minister, and taking the bids for spending in the other policy dimensions as given. This yields:

$$B_v = \frac{n(\alpha x^* + (1-\delta)\gamma}{\alpha + m(n-(1-\delta)(n-1))} .\tag{11}$$

Since $m(n-(1-\delta)(n-1)) \leq mn$, vesting the finance minister with veto powers rather than agenda-setting powers leaves a greater role for the common pool problem of the budget. This suggests that the type of powers the finance minister is vested with matters together with their strength.

Our discussion shows that structuring budget decisions through procedural rules can be used to curb excess spending and, by implication, excessive deficits. Furthermore, it leads to the distinction between two alternative approaches: Under a **target-based** approach, the government collectively negotiates a set of binding, numerical targets for the budget. Under a **strategic dominance-based** approach, the budget process vests the finance minister and, possibly, other ministers without portfolio with special strategic powers. Both serve to internalize the external effects created by the common pool property of the budget. The dominance-based approach in addition reduces spending bias arising from private utility gains from spending, if the dominant player has agenda setting power or sufficiently large veto power. We return to this distinction in our policy conclusions. 1/

1/ As discussed in von Hagen and Harden (1995), information asymmetries between the spending ministers and the finance minister affect the choice between these two approaches.

b.   Evidence from European budget processes 1/

        We now turn to a review of European budget processes to identify and
illustrate centralizing elements. The institutional data presented below
was gathered from legal sources and questionnaires and interviews with
practitioners involved in the budget processes of the various countries.
Our data characterizes the budget practices in the 1970s through the 1980s.
With a view towards the empirical analysis below, we do not include changes
in the budget processes that have taken place in some European countries in
the early 1990s.

        Table 3 distinguishes between three prototypes of a budget process at
the government stage. The first is a strategically centralized procedure,
characterized by the existence of a strong central power shaping the outcome
of the process. The second type is a guided decentralized procedure. It
contains a weaker, but still significant central force and has elements that
guide the participants through the procedure. The third, a decentralized
procedure has no significant centralizing mechanism.

        France and the United Kingdom provide the clearest examples of the
dominance-based approach to centralizing the budget process. The French
process starts with the determination of budget targets by the prime
minister and the finance minister. These targets are communicated in the
framework letter to the spending ministries. The finance minister conducts
bilateral negotiations with the spending ministers about the their budget
bids, contentious issues are arbitrated by the prime minister and the
finance minister. Throughout the government stage, the finance minister and
the prime minister together assure that the budget targets are achieved.

        The British process puts less emphasis on formal guidelines 2/ and
relies instead heavily on the Treasury's desire to keep spending within firm
limits and on its strategic predominance relative to the spending ministers.
Treasury's predominance is based both on seniority within cabinet, the fact
that all communication between government and individual spending
departments during the planning stage goes by way of the Treasury, and
Treasury's strong involvement with the spending departments in the
implementation stage. 3/ Reconciliation of conflicts between the Treasury
and individual spending departments is usually achieved in a cabinet
committee of senior ministers without portfolio. Since the latter
represents no spending interests, this committee tends to strengthen the
Treasury's position further.

    1/ This section is based on von Hagen and Harden (1994) and von Hagen
(1992).
    2/ Another difference between the British and the French case is that
procedural regulations are based on traditions in the former and written law
in the latter.
    3/ This involvement results from the fact that the top civil servant in
each spending department is accountable to the Treasury, though loyal to his
own minister.

Table 3. Structure of Government Stage

Step		Type of Procedure		
		strategically centralized	guided decentralized	decentralized
	Event	Participants		
G1	Budget Targets and Guidelines	Type A: Prime Minister or Finance Minister Type B: binding target from collective bargaining	strong but alterable guideline adopted by Cabinet based on proposal or information by Finance Minister	Cabinet no binding target adopted
G2	Budget Bids	********** Spending Ministries *************		
G3	Compilation of Draft	Finance Minister in bilateral negotiations	Finance Minister serving as intermediary between spending ministers and cabinet	Finance Minister, simply collecting bids
G4	Reconcilia-tion	Prime Minister or Senior Cabinet Committee	Senior Cabinet Committee or Cabinet	Cabinet
G5	Finalization	************* Cabinet *********************		

The Danish process is an example of the target-based approach. Here, the Finance Minister does not enjoy the same predominance as in France or the United Kingdom. Instead, the process is governed by a firm commitment to a set of numerical budget targets adopted in cabinet at the beginning of the process. Once these targets have been approved by the government, their achievement is considered essential by all participants at the government stage. Reconciliation involves a cabinet committee of senior members before going to the full government.

The Netherlands provide a good example for a guided decentralized type of process. There is neither as strong a central player as in France or the United Kingdom, nor an equally firm commitment to an overall target as in Denmark. The budget process is managed by the Finance Minister who sets the agenda for critical cabinet decisions, yet without being able to precondition them strongly. The elevated position of the Finance Minister results mainly from his role as communicator between the individual spending departments and the cabinet. In this function, he presents to the government his view of unsettled issues and reports to the spending ministries his view of the cabinet decisions. Arbitration of contentious issues, however, takes place within the entire government. While there is not an equally firm commitment to a budget target as in the Danish case, Dutch Governments have pursued multi-annual fiscal targets as part of their coalition agreements.

The Irish Government stage provides an example for a decentralized process. Irish Government evolves under the principle of collective responsibility. In the budget process, this principle is reflected by the fact that all critical decisions are taken collectively by the entire cabinet. The process starts with cabinet approving nonbinding targets for the main budget parameters. During the process, arbitration of unsettled issues is done in cabinet. There is no strong political commitment to the targets formulated in the beginning of the procedure. 1/

As argued above, the strategic role of the finance minister is an important element of centralization. Belgium, Greece, Ireland, Italy, Luxembourg, and Portugal give no formal or special authority to the finance minister. 2/ In Denmark, the Finance Minister has a somewhat elevated role due only to his membership in all cabinet committees of financial relevance. The Dutch Finance Minister has a similar informal, but elevated position. In contrast, the German Finance Minister has a formal veto power granted by law for government decisions of financial concern. His veto can only be overruled by a cabinet majority including the chancellor. The German Finance Minister can also change budget proposals by the spending ministers in his own right before presenting them in cabinet meetings. In France, the strong position of the Prime Minister in budgetary matters is grounded in the constitution, while the Finance Minister's strong position is grounded in an ordonnance with statutes of organic law, a class of law of

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1/ It is worth pointing out that, beginning in 1987, the Irish Government has managed to reduce their deficits and debt substantially. Since the early 1990s, an important element in these efforts was the commitment to the Maastricht process of the European Monetary Union, which requires the member countries to fulfill numerical entry conditions for deficits and debt. Thus, target-oriented centralization was provided externally through commitment to an international agreement.

2/ Note, however, that the position of the finance ministry in Luxembourg can be elevated if the prime minister also acts as finance minister, as under the current government.

constitutional character. The British Chancellor of the Exchequer, finally, derives most of his power from historical convention.

Where cabinet committees play a role in the budget process, they perform rather distinct strategic roles. In Denmark, the Netherlands, and the United Kingdom, cabinet committees are used mainly to prepare cabinet decisions settling disputes between the finance minister and a spending department. They consist of senior ministers whose role it is to strengthen the finance minister's position in these debates. In contrast, cabinet committees in Greece, Spain, and Italy bring together representatives of spending departments for coordination of their policies. While the purpose of these committees is a stronger program-orientation of public expenditures across departments, it is plausible to assume that these committees also provide occasions to forge deals for mutually increased spending bids among the participants.

During the Belgian budget process, meetings of the **conclave** are used to prepare government decisions. 1/ The **conclave** combines senior ministers with representatives of the main parties in parliament. A similar practice has developed recently in Germany under the label of **coalition meetings** (Koalitionsrunden) which involves the representatives of the coalition parties. Informed observers of such meetings deplore this practice because it dilutes accountability by confusing executive and legislative decision making.

c.   Centralization at the parliamentary stage

While members of parliament in Europe have little or no private gain from the sheer size of spending departments to expect (that is, $\gamma = 0$ in their utility functions),2/ the incongruence between the constituencies of individual members of parliament and the general taxpaying public is even larger, as members of parliament represent electoral districts or smaller interest groups than those represented by the government as a whole. In European parliaments, party discipline mitigates this problem to some extent, as parties tend to internalize the externalities caused by individual decisions within larger constituencies (Olson, 1965). Yet, parties are unlikely to internalize all such externalities completely. Thus, the argument of excessive spending and deficits in decentralized decisions carries over.

In European parliaments, governments present the budget law to the legislature for amendment and approval. Centralization at this stage is

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1/ We refer here to the Belgian budget process prevailing during the 1970s and 1980s. Important changes have been introduced recently with the decentralization of the country and the implied acquisition of greater fiscal importance by the provinces.

2/ This may be different for senior members of powerful parliamentary budget committees, as in the United States.

determined by the agenda setting power of the government. This has two main dimensions. One is the scope of amendments that can be received in parliament. The more restrictive amendment regulations are, the less room there is for individual members of parliament to increase spending for their constituencies at the expense of the general taxpayer.

The second dimension is the political weight of an outright disapproval of the budget proposal by the legislature. The more likely a rejection leads to the downfall of the government, the higher the political cost a member of parliament faces for voting against the proposal. This cost must be held against the uncertain hope to extract additional funds for his constituency in a new proposal. Raising the political cost of a rejection strengthens the position of the government by reducing the expected net benefit from voting against it. Finally, in bicameral systems, budgetary authority may be shared between the upper and the lower houses of parliament. Given the budgetary powers of the lower house, the strength of the government's position varies inversely with the budgetary powers of the upper house. The reason is that a strong upper house means that the government faces two opponent bodies rather than one and must take into account additional interests in the budget proposal. 1/

d. European parliamentary stages

Table 4 summarizes the main characteristics of the parliamentary stage in EC countries. Here, again, we distinguish between the three types of processes. The more centralized the process, the stronger the government's position as the agenda setter and, hence, the more likely the government's proposal to pass as presented.

The French process is an example of a centralized process. The Government can call for a vote of confidence in connection with the budget, forcing Parliament to reject or pass the proposed budget in its entirety and to face a government crisis in the case of rejection. The Government can also call for a block vote forcing parliament to vote on entire passages of the budget at a time. Only amendments that reduce expenditures or create a new source of revenue can be received in Parliament. 2/ The French process is less restrictive as regards the role of the Upper House of Parliament. The Senate has a vote on the budget. However, if reconciliation between the two Houses is not achieved by a joint commission within a strict time limit, the Government can again use the block-vote procedure to pass the budget.

1/ Our argument follows Tsebelis (1994) general one regarding the importance of the number of veto players in political decisions.
2/ The government itself can propose unlimited amendments itself as a possibility to assuage parliamentary opposition against its original proposal.

Table 4. Structure of Parliamentary Stage

	Type of Procedure		
	Centralized	Guided Decentralized	Decentralized
Scope of Amendments	Amendments cannot increase spending or reduce revenues, or certain amendments are not receivable.	Amendments cannot change overall balance.	No limits on amendments.
Relation of Upper and Lower House	Upper House has no budgetary powers.	Lower House has prerogative over Upper House.	Lower and Upper House have equal rights.
Relation of Government and Parliament	Government can call vote of confidence, can impose voting procedure on Parliament; amendments require consent.	Amendments may cause fall of Government.	No special stipulations.

The British parliamentary stage, though different in details, comes out as a similarly centralized one. It begins with an initial vote regarded equivalent to a vote of confidence. The House of Commons first votes on the budget resolutions presented by the Government. These resolutions, which cannot be amended, determine what goes into the finance bill and how that bill can be amended. The result is that the government cannot be confronted with a budget that differs significantly from its own proposal. Amendments cannot increase tax rates or create new taxes; amendments involving new charges on public revenue need the Government's approval. The House of Lords has no budgetary powers.

The Belgian process, in contrast, is an example of a decentralized process at the parliamentary stage. No limits on amendments exist. Both Houses of Parliament enjoy equal rights in budgetary matters, so that both must agree on the same text eventually. As a result, the budget may enter a *navette budgetaire*, a process in which proposals go back and forth between the two Houses until an agreement is reached. Amendments cause the demise of the government only in the case of very fundamental changes which the government has declared a cause of its own fall before. Disagreement between the majority in Parliament and the Government is to be solved in

informal talks outside the parliamentary procedure. Italy, Greece, and Denmark have procedures which are characterized by comparable degrees of openness.

The parliamentary processes in the remaining countries are more intermediate ones. Amendments are limited to some extent in Ireland; in Germany, an effective limitation arises from the requirement that no amendments must be accepted by the Government if they increase expenditures or create new expenditures or reduce revenues. No limits apply to amendments in the Netherlands, Spain, Portugal, Luxembourg, and Greece. The stipulation in Italy that amendments must not change the overall budget balance is due only to a parliamentary decree passed in 1990.

Budgetary powers of the upper house are formally quite restricted in Ireland and the Netherlands, where the upper house can only make recommenda-tions. In Germany and Spain, the upper house can amend the budget as passed by the lower house. However, in the case of disagreement between the two houses, the lower house can eventually override the upper house if no agreement is reached in the reconciliation procedure.

The parliamentary stage in Ireland begins with an initial vote that is considered equivalent with a vote of confidence. It follows a general debate of government policies in the first reading. Subsequent amendments to the budget are of less political significance. In Denmark and Greece, fundamental amendments are a cause of a fall of government, in the Netherlands this is so if the Government takes a strong position against an amendment before the vote. The German Government can force Parliament to postpone votes on legal projects increasing expenditures proposed by the government or creating new expenditures or reducing revenues. In addition, the Government can force the Parliament to repeat its vote within four weeks of the first one. The Spanish Government may reject amendments passed by Parliament increasing expenditures or reducing revenues.

e.   Centralization at the implementation stage

Implementation turns the action back to the government. Centraliza-tion at this stage depends on the extent to which spending ministers are bound by the budget act and the finance minister's powers to enforce it. If spending ministers are free to decide according to their preferences in the implementation process, excessive spending and deficits can still prevail.

A first, important dimension of the binding force of the budget act is the ease with which spending ministers can overrun their allocations. Here, the role of the finance minister is critical. The more closely the finance ministry can monitor and control spending during the year, for example, through cash limits, the better it is able to enforce the budget act.

A second dimension is the flexibility the spending ministers have in shifting funds from one chapter of the budget to another. A large degree of *flexibility means that budgeting choices can still be made quite freely*

during the implementation phase. This invites the use of funds for other
purposes or with different priorities than those stated in the budget act
and requests for additional appropriations once these funds have been
committed. A related aspect regards the flexibility in transferring funds
between time periods which dilutes the binding force of the budget act by
weakening the link between the spending authorized for a given period and
current expenditures. The more flexibility in the implementation the
participants in the budget process can anticipate, the more they will be
inclined to avoid hard choices in the first stages of the procedure,
trusting that compromises and quick fixes can be construed once problems
arise during the fiscal year.

A third, relevant dimension is the frequency of supplementary budgets
throughout the fiscal year. The possibility of passing supplementary
budgets implies the possibility to enact additional spending during the
fiscal year beyond what was decided in the original budget and thus
undermines any effort to reduce excessive spending and deficits in the
planning stages of the budget process. 1/

    f.   The implementation stage in EC governments

Table 5 summarizes the main parameters of the implementation stage,
expenditure management, transfers of appropriations during the fiscal year
or between years, and substantive revisions of the budget act. Under a
centralized procedure, spending departments are subject to the requirement
that all disbursements be authorized by a financial controller or the
finance ministry, spending departments are subject to cash limits, and the
finance minister can block expenditures if a budget overrun threatens to
occur. All three provisions hold in Germany, France, and the United
Kingdom. Expenditure management is less restrictive in Denmark and
Portugal, where the finance minister cannot block expenditures. The
remaining countries have even less restrictive expenditure management.

In the United Kingdom, the Netherlands, Luxembourg, Greece, Germany,
and Denmark some restrictions on transfers of appropriations between
chapters of the budget apply, either requiring approval of the finance
minister or being unallowable for certain purposes such as creating new
expenditures (Netherlands) or using funds appropriated for purchases of
equipment to pay personnel. Transfers between departments are generally
subject to greater restrictions. In most EC countries they require the
formal consent of the finance minister.

More substantive revisions of the budget require a new budget law in
almost all EC countries. Exceptions are Greece, where the Finance
Minister's consent to such action can be sanctioned ex post--often with a

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1/ For a discussion of the fallacies of repetitive budgeting see Wildavsky
(1975).

Table 5. Characteristics of the Implementation Stage

	Type of Procedure		
	Centralized	Guided Decentralized	Decentralized
Expenditure Management	Disbursement approval required, spending departments subject to cash limits, MF can block expenditures	Disbursement approval required, and/or spending departments subject to cash limits	Disbursement approval required or full authority of spending departments.
Transfers of Appropriations	Within chapters only	Within chapters unrestricted, between chapters upon approval by MF	unrestricted
Substantive Revisions	by new law and rarely used	by new law, commonly used	by approval of MF

lag of two years--by parliament, 1/ and France and the Netherlands, where the government can decree a substantive change in cases of emergencies. In France, such changes will be dealt with in the *lois de finances rectificatives* at the end of the year. In Germany, the Finance Minister can unilaterally cut spending for financial reasons or increase it by a maximum of 5 percent of the budget total.

As argued above, centralization of the implementation stage also depends on the frequency with which supplementary budget laws are used during the fiscal year to obtain authorization for major revisions. In Italy, Belgium, and, in recent years, in Germany, the presentation of supplementary budgets is common practice. In the other countries, supplementary budgets are regarded as being more exceptional.

1/ Since 1995, revisions of the Greek budget require an amendment budget voted by Parliament.

3.   Interaction of institutional rules

The fact that budget processes consist of sequences of decision-making procedures involving different sets of decision makers suggests that their individual stages cannot be analyzed in isolation. Instead, the possibility of interaction of institutional rules at different stages must be taken into account. For example, a strong position of the finance minister or a collective agreement on binding numerical targets will be of little use to reduce excessive spending, if parliament can change the government's budget proposal without limitations. Similarly, a budget act produced under restrictive rules at the government stage and the parliamentary stage will do little to contain excessive spending, if it has little binding force at the implementation stage. And, conversely, a strongly binding budget will not achieve fiscal discipline, if the rules in the government phase are not conducive to containing spending and deficits.

Such interaction of institutions at the different stages implies that effective centralization of the budget process requires appropriate institutions at all three stages. Furthermore, empirical analysis of the role of budget institutions must look at all three stages in a comprehensive way to correctly assess the strength of centralizing elements. In the next section, we prepare such an analysis by reviewing elements of centralization at all three stages of the budget processes of EC governments.

III.   Budget Processes and Fiscal Discipline: Empirical Tests

The theory outlined above argues that elements of centralization in the budget process can reduce the power of adverse incentives resulting from the common pool problem of public budgeting. Such elements include institutions at the government stage such as binding numerical targets or making the finance minister the strategic director of the budget process. Centralization is also provided by a strong agenda setting power of the government in parliament and a strong binding force of the budget act in the implementation phase. This section presents empirical evidence supporting the theoretical argument.

1.   Measuring centralization

A first challenge of the empirical work is to construct an appropriate measure of centralization in existing budget processes. Our review of European budget processes indicates a large variety of institutional provisions in the design of budget processes. This variety implies that centralization can take very different forms in different countries and yet achieve the same purpose.

Empirical comparisons of institutions across governments conventionally use dummy variables indicating the existence or nonexistence of particular institutional provisions in each of the cases considered. The large variety of institutions providing centralization among the EC

governments makes this approach impractical in our case, since it would exhaust the degrees of freedom of our relatively small sample. Furthermore, we have argued above that it is important to assess the degree of centralization at all three stages simultaneously to account for the interaction of institutional provisions at different stages. The resulting need to include dummies for particular provisions at all three stages obviously compounds the degrees-of-freedom problem. In view of this, we pursue an alternative approach, using a single measure that allows a comparison of very different institutional environments along the same dimension, that is, centralization.

We proceed as follows. First, we collect those institutional characteristics from the European budget processes described above that generate the largest cross-country differences. 1/ They regard four important items: the structure of decisions at the government stage, the structure of decisions at the parliamentary stage, the flexibility of the budget execution, and the informativeness of the budget draft. We include the latter, because the less informative the budget documents are, the less control the parliament has over the government's plans and actions, and the less control the finance minister can exert over the spending ministers during the implementation phase. With low informativeness, we would, therefore, expect much leeway for the spending ministers to pursue their own agendas.

For each item, the subitems listed in Table 6 are considered. For each subitem, numbers ranging from 0 to 4 are used to describe the characteristics of a given budget process, a small number indicating weak centralization. For each item, we add these raw scores, normalizing them by the number of subitems, such that the numbers for each item ranges between 0 and 16. Our index of centralization is now derived by aggregating over these four items.

Two methods of aggregation can be considered, multiplication or addition of the scores for each item. Multiplying the scores would reflect the importance of interaction of institutional rules emphasized above. For example, a budget process that is very decentralized at one stage would receive a low overall score, even if it is more centralized at the other stages. On the other hand, the multiplicative method also amplifies measurement error. For example, if our institutional data falsely characterize one stage of a process as decentralized when in reality all stages are very centralized, multiplicative aggregation leads to a greater error in the overall score than additive aggregation. To explore the possible trade-off between avoidance of measurement error and conformity with the theoretical argument, we present both versions. To obtain indexes of similar order of magnitude, we take the arithmetic mean in the case of additive aggregation and the harmonic mean in the case of multiplicative

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1/ For more details see von Hagen (1992) and von Hagen and Harden (1994).

aggregation. Thus, denoting the scores on each item $j = 1, \ldots, 4$ by I_j, we have the following two indexes of centralization:

$$S = \frac{1}{4}\sum_{j=1}^{4} I_j, \quad , \quad M = (\prod_{j=1}^{4} I_j)^{\frac{1}{4}}. \tag{12}$$

Table 6. Characteristics Included in Index of Centralization

Item	Subitem
Structure of decisions at government stage	Existence and scope of general constraint. Agenda setting power of finance minister in budget negotiations. Scope of budget norms for bilateral budget negotiations. Participation in conflict resolution.
Structure of decisions at parliamentary stage	Existence of amendment restrictions. Amendments required to be offsetting. Political weight of amendments and rejection of budget bill: Global vote taken on budget; Global vote taken on spending.
Flexibility of implementation	Finance minister can block expenditures. Existence of cash limits. Scope of transfers between chapters. Possibility of changes during execution. Carry-over of funds into following year.
Informativeness of budget documents	Inclusion of special funds. Presentation in one or multiple documents. Transparency. Link to national accounts. Inclusion of government loans and guarantees.

Source: von Hagen (1992).

A high score on the index indicates the following characteristics of a country's budget process:

- A strong position of the prime minister or finance minister in government or government negotiations evolving under a binding general constraint on the size of the budget imposed early on in the process;

- A parliamentary process with strong limits on amendments, votes proceeding item-by-item on expenditures and a global vote on the total size of the budget preceding the parliamentary debate;

- A large degree of transparency of the budget; and

- An execution process with limited flexibility and a strong position of the finance minister vis-à-vis the spending ministers.

Figure 1 shows the two indices, S and M, together with the subindices. The two methods of aggregation lead to similar results for most countries. Strong differences only occur in the case of Greece and Portugal, where the additive index is larger than the multiplicative index. Thus, while measurement error does not seem to play an important role in most cases, the comparison also suggests that budget processes are institutionally fairly balanced in most EC countries in the sense that lack of similar degrees of centralization hold at different stages of the same process.

France, Luxembourg, and the United Kingdom rank highest on the indexes. Despite the fairly large differences in institutional rules prevailing in these three countries, this suggests that centralization is strongest in these three countries. In contrast, the index suggests that Italy and Belgium have the least degrees of centralization in their budget processes.

2.   Empirical tests for spending, deficits, and debt

Our empirical hypothesis is that countries ranging high on the index of centralization should achieve a relatively high degree of fiscal discipline, that is, relatively limited spending, deficits, and debt. We test this hypothesis using data from the 12 EC countries, 1970-90. 1/ All fiscal variables are expressed as ratios to GDP.

1/ All data are annual series taken from *European Economy*, which assures consistency of budget data definitions across countries. All data cover general government, which, in the case of Germany (the only federation in our data set) includes state governments. We decided to use general government data nevertheless for better data consistency. Legal regulations require state budget processes to follow largely the same rules as the federal government budget process in Germany.
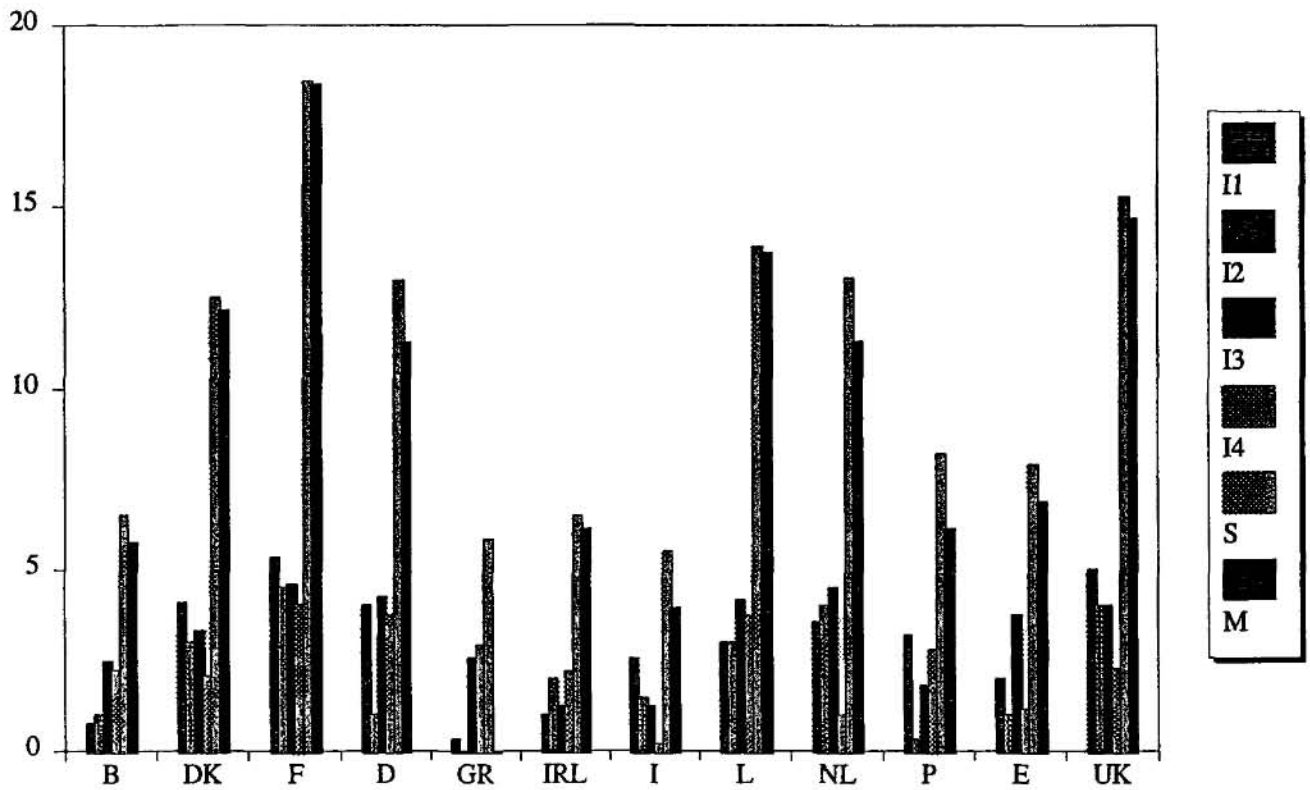
Figure 1.

Indexes of Centralization

Figure 2 shows the index M together with the deficit ratios of the 12 countries on average over the first and the second half of the 1980s (negative numbers indicate deficits). This figure clearly suggests a correlation between the degree of centralization and fiscal performance.

Figure 3 provides the same impression for the government debt ratios. Again, we see that countries ranking high on our indexes have much better fiscal performance in the 1980s than countries ranking low.

This is also visible in Table 7 which uses the index to characterize the average performance of the three highest and the three lowest ranked countries. There are clear differences in the average fiscal performance of these two groups, and the differences conform with our theoretical prediction.

Table 7: Average Fiscal Performance (percent)

Indicator	3 highest ranked	3 lowest ranked
Expenditure Ratio (1981-85)	48.0	49.7
Expenditure Ratio (1986-90)	45.5	51.6
Deficit Ratio (1981-85)	2.7	10.7
Deficit Ratio (1986-90)	1.2	11.2
Debt Ratio (1981-85)	42.5	74.6
Debt Ratio (1986-90)	43.2	100.1

Source: von Hagen (1992).

Table 8 provides the results of some more formal statistical analysis. The upper panel shows the rank correlations between our two indexes and the debt and deficit ratios of the EC countries in the first and the second half of the 1980s; a high rank indicating low deficits and debt. The rank correlations are almost perfect for the deficit ratios in both periods. The rank correlations for debt ratios have the anticipated signs in both periods, but they are statistically significant only in the second half of the 1980s.

Table 8. Statistical Tests

Rank Correlations		
	S	M
Deficit 1981-85	0.86 (0.16)	0.80 (0.19)
Deficit 1986-90	0.82 (0.15)	0.88 (0.15)
Debt 1981-85	0.45 (0.28)	0.49 (0.28)
Debt 1986-90	0.75 (0.21)	0.78 (0.20)
Regression Analysis		
Deficit	= 14.3 - 0.88S (3.1) (0.16)	$R^2 = 0.59$
Deficit	= 12.3 - 0.71M (2.9) (0.11)	$R^2 = 0.66$
Debt	= 110.9 - 4.72S (23.4) (1.20)	$R^2 = 0.41$
Debt	= 90.9 - 3.19 M (25.6) (1.07)	$R^2 = 0.29$

Note: Standard errors in parentheses.

Next, we pool the data for the two subsamples and regress the deficit and debt ratios on a constant and our indices. The results are shown in the lower panel. Our indices explain about 60 percent of the cross-country variance of the deficit ratios and 40 and 29 percent of the variance of debt ratios. All regressions are statistically significant at conventional levels. This supports our hypothesis that budget processes are important determinants of public deficits and debts.

In a recent study of budget processes in 28 Latin American states, Alesina and others (1995) present a test similar in spirit and methodology to ours. They find that cross-country differences in public sector deficits can be explained by differences in the degree of centralization of the budget process. Above, we have pointed out alternative politico-economic explanations of large government deficits. This raises the question, to what extent institutional characteristics of the budget process contribute to explaining deficits and debts beyond what can be explained by the political factors identified by these theories. This question is tackled by De Haan and Sturm (1994), who regress the change in public sector debt on several economic variables like unemployment rates, and a set of variables representing politico-economic determinants. These variables are the number of government changes during the sample period, the share of cabinet portfolios or seats in parliament held by left-wing parties, the Roubini and
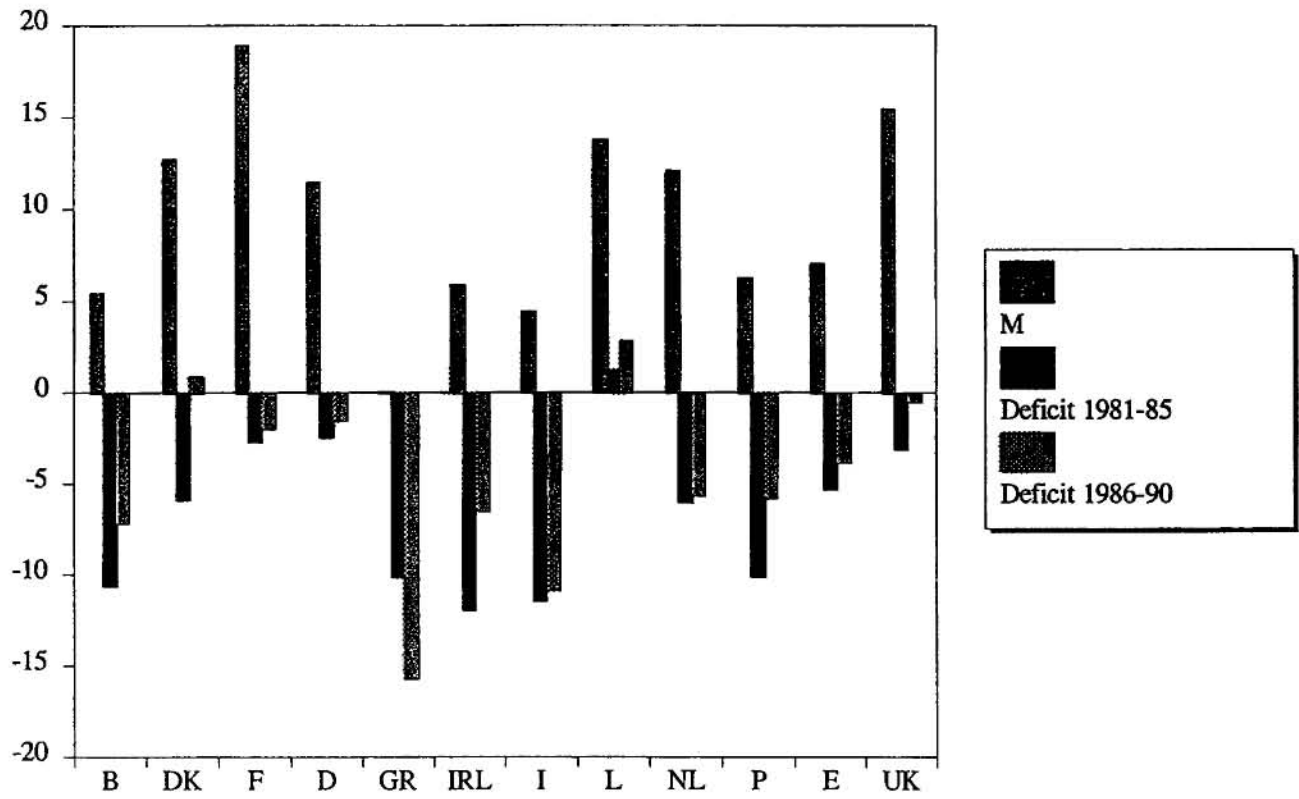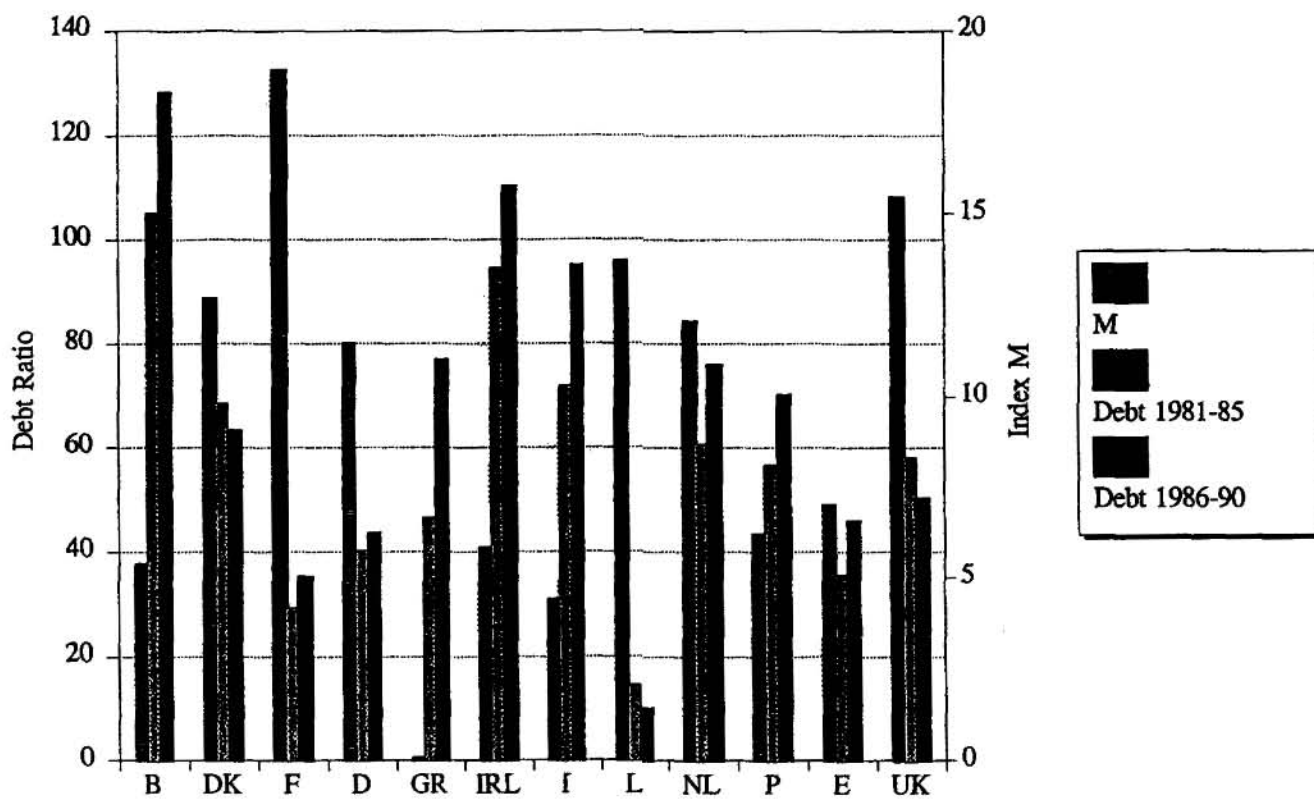
Figure 2.

Deficits

Figure 3.

Public Debt

Sachs (1989) index of political power dispersion and an earlier version of our index S. Significantly, De Haan and Sturm (1994) find that our index retains explanatory power in this regression. This confirms our conclusion, that institutional characteristics of the budget process are important determinants of government fiscal discipline.

IV. Policy Conclusions: Reform of the Budget Process

Reform of budget processes is an issue currently on the policy agenda in several European countries. Italy and Sweden, for example, are considering institutional changes to achieve greater financial stability. Other European countries will have to follow suit given their commitment to the Maastricht Treaty. In many countries of Eastern and Central Europe and the countries of the former Soviet Union, budget processes have to be designed freshly for their new, democratic regimes. In view of this, we derive some lessons for institutional reform from our analysis.

Earlier, we have pointed out the distinction between a target and a strategic dominance-based approach to centralization of the budget process. This distinction becomes relevant again, when reform of the budget process is being considered. A closer look at the EC member states reveals a remarkable pattern: the budget processes of all large states that successfully limited spending and deficits in the 1970s and 1980s rely on strategic dominance of the finance minister. In contrast, the budget processes of all governments of smaller countries that successfully limited spending and deficits rely on binding targets. The U.S. experience with deficit control in the 1980s and early 1990s fits the same pattern. In the mid-1980s, the target-oriented approach of the Gramm-Rudman-Hollings Act failed. The Budget Enforcement Act of the Bush administration, which relies more on a procedure-oriented approach, seems to enjoy greater success.

A plausible explanation of this pattern starts from the observation that the smaller states in Europe typically have electoral systems of proportional representation, whereas the larger states, France and the United Kingdom, as the United States, have pluralist systems. 1/ Germany has a mixed system with elements of both proportional and pluralist representation. Political theory and evidence tell us that proportional representation tends to produce political environments of several parties, each with strong internal discipline, while pluralist representation tends to generate two-party environments, where party discipline within each party is weak. Furthermore, proportional representation tends to generate multi-party coalition governments, while pluralist systems yield one-party majority governments.

1/ Electoral reforms in the mid-1980s added some elements of proportionality to the French electoral system.

For reasons explained in more detail in Hallerberg and von Hagen (1995), a budget process based on strategic dominance will be deemed unacceptable for a coalition government. Since the finance minister would necessarily be a member of one of the coalition parties, vesting him with strategic advantages would raise fears, on the part of the other coalition partners, that the finance minister abuse his powers to promote his party's agenda rather than a comprehensive view of the budget per se. Under such circumstances, the target-based approach seems more appropriate. Furthermore, budget targets can be included in the coalition agreement giving them special political weight. In a single-party government, in contrast, the strategic dominance-based approach is feasible since all members of cabinet come from the same political party.

Further aspects point in the same direction. With strong party discipline, limiting the role of parliament in the budget process is less important under proportional representation than under a pluralist system, where defections from the party line are more common. Finally, as explained again in Hallerberg and von Hagen (1995), coalition governments call for more formal control of the spending ministers' activities at the implementation stage than one-party governments.

Against this background, Table 9 summarizes the main points of two models for reform of the budget process. The target-based approach is embedded in PI. It starts with a target for total expenditures and the deficit determined by cabinet agreement. This target remains binding for the remainder of the procedure. Spending bids are submitted to the finance ministry by the individual departments, and a first round of negotiations is conducted in bilaterals. Reconciliation occurs in cabinet with the spending target binding. The parliamentary stage begins with a vote on the overall deficit limit. Amendments increasing spending must be combined with proposals to raise taxes or to reduce spending elsewhere. During the implementation, the finance minister is empowered with effective control of disbursements by imposing cash limits and the possibility to block expenditures. Additional spending is not allowable except through supplementary appropriation laws. Supplementary appropriation laws are reserved strictly for emergencies.

Commitment through strategic dominance is embedded in procedure PII. Here, the finance minister is explicitly made the second-ranked member of cabinet and is charged with enforcing the overall spending target set by the prime minister or the prime and the finance ministers. To this end, the finance minister has the power to reach binding decisions in bilateral negotiations with the spending departments. Reconciliation occurs solely in senior cabinet committees or by the prime minister. The finance minister actively directs the budget process. He derives much of his central role from the critical position at the implementation stage, where actual disbursement and all changes in appropriations require authorization by the finance ministry. The parliamentary stage begins with a vote on the global ceiling on expenditures and the deficit. Amendments to raise expenditures in one area must be combined with a proposal to cut expenditures elsewhere;

Table 9. Characteristics of the Two Budget Processes

Procedure PI: Commitment through Numerical Target	Procedure PII: Commitment through Strategic Dominance
Government Phase	
Binding target for total spending and deficit decided initially. Reconciliation of conflicts between departments in cabinet, but without changing the spending target.	Finance minister appointed as secondary to prime minister and charged with enforcing spending volume determined by prime minister and finance minister. All negotiations over spending bids with finance minister bilaterally, no communication across spending departments. Reconciliation in senior cabinet committee or by prime minister.
Parliamentary Phase	
Amendments raising expenditures must provide increase in taxes or spending cuts elsewhere. Votes chapter by chapter.	Amendments cannot change total spending. Amendments raising expenditures must provide spending cuts elsewhere. Votes chapter by chapter. Government empowered to impose voting procedure.
Implementation	
Finance minister authorizes disbursement. Finance minister imposes cash limits and able to block expenditures. Authorization for virement across chapters required from finance minister. Supplementary appropriations reserved for emergencies.	Finance minister imposes cash limits and able to block expenditure. Authorization for virement required from finance minister. Supplementary appropriations reserved for emergencies.

amendments to raise total expenditures or cut taxes cannot be received. To strengthen the executive's agenda setting power, the executive can determine the voting procedure in parliament. Where two houses exist, the lower house has a prerogative in budgetary matters. Supplementary budgets are reserved for emergencies.

A critical aspect of our reform proposals is that they concern the budget process as a whole. Elements of centralization at one stage of the process are easily undermined by decentralization at later stages. This implies that partial changes focusing only on one or two elements in the process are likely to fail. Reform of the budget process must, therefore, take a comprehensive view to promise success.

APPENDIX: A TWO-PERIOD MODEL

In this appendix, we look at budgeting in a two-period context to show that excess spending and excess deficits work in parallel due to the common pool problem. Thus, the government may decide to run a deficit in the first period to be financed by revenues in the second period. Denoting second-period variables with a prime, the government maximizes the preference function

$$V = -\sum_{i=1}^{n} \frac{\alpha}{2}(x_i - x_i^*)^2 - \frac{m}{2}T^2 - \beta\left[\sum_{i=1}^{n} \frac{\alpha}{2}(x_i' - x_i^{*'})^2 + \frac{m}{2}(T')^2\right],$$

$$T = B - D = \sum_{i=1}^{n} x_i - D, \quad T' = \sum_{i=1}^{n} x_i' + \rho D \quad (13)$$

where β is the time discount factor and ρ is the appropriate interest rate factor, with $\rho > 1 > \beta > 0$. We assume that $\beta\rho < 1$, that is, the government discounts future events more than the capital markets.

If the government consisted of a single planner, the optimal level of spending in the first period, B, and the optimal deficit, D, would be

$$B_C = \frac{\alpha n x^* + n m D_C}{\alpha + n m}, \quad D_C = \frac{n(x^* - \beta\rho x^{*'})}{1 + \beta\rho^2}, \quad (14)$$

The optimal budget implies a deficit in the first period unless the spending targets in the second period, $x^{*'}$, are sufficiently larger than the spending targets in the first period, x^*.

With a government consisting of n spending ministers, each minister maximizes the following preference function,

$$U_i = \gamma x_i - \frac{\alpha}{2}(x_i - x_i^*)^2 - \frac{m_i}{2}T^2 + \beta\left[\gamma x_i' - \frac{\alpha}{2}(x_i' - x_i^{*'})^2 - \frac{m_i}{2}(T')^2\right]. \quad (15)$$

A decentralized budget process leads to the following aggregate spending and deficit, comparing (14) and (16) leads us to two conclusions.

$$B_d = \frac{n(\alpha x^* + \gamma) + mD_d}{\alpha + m} > B_c ,$$

$$D_d = \frac{n}{1 + \beta\rho^2 \frac{(\alpha + m_i)}{(\alpha + m)}} [(x* - \beta\rho x^{*'}) + \frac{\gamma}{\alpha}(1 - \beta\rho \frac{\alpha + m_i}{\alpha + m})] > D_c \qquad (16)$$

Consider, first, the case where no private incentives for increased spending exist ($\gamma = 0$). Equation (16) implies that, whenever the collectively optimal budget (14) has a deficit in the first period, the deficit will be higher as a result of a decentralized budget process. Second, with $\gamma > 0$, the private incentives may entail a deficit in the first period from decentralized process, even if the collectively optimal budget has a surplus in the first period. Thus, a decentralized budget process leads to both a spending and a deficit bias.

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