ISSN 0265-8003

SEQUENCING AND THE SIZE OF THE BUDGET: A RECONSIDERATION

Mark Hallerberg and Jürgen von Hagen

Discussion Paper No. 1589
March 1997

Centre for Economic Policy Research
25–28 Old Burlington Street
London W1X 1LB
Tel: (44 171) 878 2900
Fax: (44 171) 878 2999
Email: cepr@cepr.org

CEPR Discussion Paper No. 1589

March 1997

ABSTRACT

Sequencing and the Size of the Budget: A Reconsideration*

Conventional wisdom argues that spending levels and, by extension, budget deficits will be higher for governments using bottom-up instead of top-down methods of budgeting. Ferejohn and Krehbiel (1987) appear to debunk this argument. They indicate that the superiority of one method over the other in lowering the size of the budget depends on the distribution of the spending preferences of the policy-makers. These authors do not consider two problems that top-down budgeting is intended to solve: policy-makers who value a large budget as a goal in itself; and policy-makers who do not consider fully the cost of the spending programmes they support, which leads to the 'common pool problem'.

We add such players to a framework meant to parallel Ferejohn and Krehbiel's model. We find that, contrary to conventional wisdom, bottom-up produces smaller budgets than top-down if players seek to maximize dimensions of spending relevant to their constituents and if their ideal budgets are close to one another. At the same time, the order of the vote *per se* does not reduce the size of the budget when there exists a common pool problem. An agenda setter can provide the necessary coordination to force politicians to consider the full tax implications of their spending decisions. Supporters of top-down budgeting may therefore confuse added centralization with the order of the vote on the budget. The second part of this paper provides a reinterpretation of the US budgeting experience in the post-war era based on this insight.

JEL Classification: D71, H61, H62
Keywords: government budget, public finance, coordination games

Mark Hallerberg
Sam Nunn School of International Affairs
Georgia Institute of Technology
Atlanta GA 30332–0610
USA
Tel: (1 404) 894 0682
Fax: (1 404) 894 1900
Email: mark.hallerberg@inta.gatech.edu

Jürgen von Hagen
Zentrum für Europäische Integrationsforschung
Universität Bonn
Adenauer Allee 24–42
D–53113 Bonn
GERMANY
Tel: (49 228) 739 199
Fax: (49 228) 739 193
Email: vonhagen@sfbb4.econ1.uni-bonn.de

*This paper is produced as part of a CEPR research programme on *Globalization and Regionalism: Policy-making in a Less National World*, supported by a grant from the Ford Foundation (no. 920–1265–1).

Submitted 20 January 1997

NON-TECHNICAL SUMMARY

Conventional wisdom argues that spending levels and, by extension, budget deficits will be higher for governments using bottom-up instead of top-down methods of budgeting. With bottom-up budgeting, the respective players determine spending for each department or policy dimension first, and total expenditures are simply equal to the sum of the individual budgets. In contrast, under top-down budgeting the players set a global expenditure ceiling before they allocate the individual budgets for each department. Ferejohn and Krehbiel (1987) appear to debunk this argument. They indicate that the superiority of one method over the other in lowering the size of the budget depends on the distribution of the spending preferences of policy-makers. While their results follow logically enough from their model, defenders of the top-down approach have reason to doubt Ferejohn and Krehbiel's results because these authors do not consider two problems which top-down budgeting is intended to solve: policy-makers who value a large budget as a goal in itself; and policy-makers who do not consider fully the cost of the spending programmes they support.

In this paper we expand the Ferejohn-Krehbiel framework in order to re-examine the debate over whether the sequence of the vote affects the final size of the budget. We first generalize their analysis to a situation in which the players may not only disagree about their most preferred spending levels, but also about the rate at which they are willing to exchange a marginal increase of spending in one dimension for a marginal decrease of spending in another dimension. Second, we consider the argument made by traditional public choice theory that policy-makers derive private utility from the sheer volume of public spending in the domain of public policy they control: large budgets promise perks and public recognition. District representatives therefore have an incentive to maximize the amount allocated to their districts or to government activities concentrated in their districts. We refer to legislators who behave in this way as 'budget maximizers'. We add this assumption to evaluate the argument made by supporters of the top-down process that setting the size of the budget before considering its parts limits the ability of politicians to act as budget maximizers.

Finally, we extend the model to include the common pool resource problem (common pool problem for short), which results from the tendency of public spending to be targeted at specific groups while being paid for from general tax funds. Policy-makers who represent spending agencies or groups and who benefit from particular public activities take into account the full benefit from

expanding these activities, but recognize only that part of the costs that falls on their constituencies. As a result, these policy-makers systematically over-estimate the net marginal benefit of increased public spending and, hence, use their political clout to increase spending beyond the level that would equate social marginal costs and benefits. Once again, by setting the total budget in the first stage, some argue that the top-down process limits the scope of the common pool problem because the actors consider the total budget instead of just the preferences of their respective constituencies, and our extension allows us to evaluate the strength of this claim.

These changes to the Ferejohn-Krehbiel model have the following implications. After restating the model in Section 2, Section 3 argues that, contrary to 'conventional wisdom', bottom-up budgeting is more likely to produce smaller budgets than top-down budgeting in the presence of budget-maximizing policy-makers. Intuitively, this is because the bottom-up process builds in stronger checks and balances for each departmental allocation, whereas the top-down process makes room for implicit collusion among budget maximizers at the first stage of the process. In Section 4, we analyse the impact of sequencing budget decisions in the presence of a common pool problem of budgeting, and the results indicate that the order of the vote *per se* does not reduce the size of the budget when there exists a common pool problem. Like all prisoner's dilemma situations, the common pool problem is caused by a lack of coordination among individual actors, and simply changing the order of the vote does not address the real cause of the problem.

Section 5 indicates that an agenda setter can provide the necessary coordination to force politicians to consider the full tax implications of their spending decisions. The reasoning behind an agenda setter is indeed the same that is usually given for top-down votes – politicians will support lower budgets when they are confronted with the complete tax implications of their spending decisions – but the institutional solution is different. The conventional view of top-down processes therefore may mistake the sequencing of the vote for the much more important centralization of budgeting decisions.

Based on these conclusions, Section 6 reinterprets three periods in US politics: the era of 'classical budgeting' from 1947 to late 1960s; the breakdown of the process from 1967 to 1974; and the 1974 Congressional Budget and Impoundment Act. We speculate that the change from a bottom-up to a top-down process after 1974 did not reduce budget deficits and spending as some had hoped because it did not include elements of centralization to address the growing common pool problem. We add that greater centralization recently under the President and the Speaker of the

House may have been an important cause for the recent improvements in the size of the federal budget deficit.

Sequencing and the Size of the Budget: A Reconsideration

1. Introduction

According to a common view in political economy and public finance, spending levels and budget deficits will be higher for governments using bottom-up instead of top-down methods of budgeting. With bottom-up budgeting, the respective players determine spending for each department or policy dimension first, and total expenditures are simply equal to the sum of the individual budgets. In contrast, under top-down budgeting the players set a global expenditure ceiling before they allocate the individual budgets for each department. The conventional view is that top-down budgeting forces policy makers to make tradeoffs on spending priorities which they do not make under a bottom-up process (Schick 1986; OECD 1987; see also Wicksell 1896; Buchanan 1967; Buchanan and Wagner 1977).

Several governments have followed the advice of implementing a top-down budget process (OECD, 1987). The best-known example is the United States, where the Congressional Budget and Impoundment Control Act of 1974 required Congress to pass aggregate spending targets, aggregate revenue targets, and produce an estimate of the size of the budget deficit before any votes on specific appropriations (see Committee on the Budget 1987). The sponsors of the Act hoped that the top-down sequence would lead to less rapid growth of spending and to smaller deficits. The Act did not, however, have its desired effect. Budget deficits increased significantly in the early 1980's in the United States, reaching a high of $221 billion in 1986, and have persisted at high levels since then (Schick 1993, 202).

Ferejohn and Krehbiel (1987) suggest an explanation for the Act's failure. They model the budget process as a voting game played among a group of policy makers who each possess an 'ideal' budget, that is, a set of most preferred budget allocations in all relevant policy dimensions. Ferejohn and Krehbiel show that the effect of sequencing budget decisions on the size of the budget cannot be determined independently from the distribution of the policy makers' preferences for spending over the various policy

dimensions. The main point of their paper is that policy makers understand the constraint they impose on themselves in top-down budgeting, and those who want higher spending for their particular issue may be able to pass higher aggregate budgets under a top-down process than under a bottom-up. Top-down budgeting therefore often does not lead to lower budgets, and the budget's final size is dependent on the spending preferences of the policy makers.

While their results follow logically enough from their model, defenders of the top-down approach have reason to doubt Ferejohn and Krehbiel's results because these authors do not consider two problems which top-down budgeting is intended to solve: policymakers who value a large budget as a goal in itself; and policymakers who do not consider fully the cost of the spending programs they support.

In this paper we expand the Ferejohn-Krehbiel framework in order to re-examine the debate over whether the sequence of the vote affects the final size of the budget. We first generalize their analysis to a situation in which the players may not only disagree about their most preferred spending levels, but also about the rate at which they are willing to exchange a marginal increase of spending in one dimension for a marginal decrease of spending in another dimension. Second, we consider the argument made by traditional public choice theory that policy makers derive private utility from the sheer volume of public spending in the domain of public policy they control: large budgets promise perks and public recognition. District representatives therefore have an incentive to maximize the amount allocated to their districts or to government activities concentrated in their districts. We refer to legislators who behave in this way 'budget maximizers.' We add this assumption to evaluate the argument made by supporters of the top-down process that setting the size of the budget before considering its parts limits the ability of politicians to act as budget maximizers.

Finally, we extend the model to include the common pool resource problem--common pool problem for short--which results from the tendency of public spending to be targeted at specific groups while being paid for from the general tax funds. Policy makers who represent spending agencies or groups and who benefit from particular

public activities take into account the full benefit from expanding these activities, but recognize only that part of the costs that falls on their constituencies. As a result, these policy makers systematically over-estimate the net marginal benefit of increased public spending and, hence, use their political clout to increase spending beyond the level that would equate social marginal costs and benefits (Olson 1965; Peltzman 1976; Weingast, Shepsle, and Johnsen 1981; Ostrom 1990; von Hagen and Harden 1995). Once again, by setting the total budget in the first stage, some argue that the top-down process limits the scope of the common pool problem because the actors consider the total budget instead of just the preferences of their respective constituencies, and our extension allows us to evaluate the strength of this claim.

These changes to the Ferejohn-Krehbiel model have the following implications. After restating the model in Section 2, Section 3 argues that, contrary to the 'conventional wisdom,' bottom-up budgeting is more likely to produce smaller budgets than top-down budgeting in the presence of budget-maximizing policy makers. Intuitively, this is because the bottom-up process builds in stronger checks and balances for each departmental allocation, whereas the top-down process makes room for implicit collusion among budget maximizers at the first stage of the process. In Section 4, we analyze the impact of sequencing budget decisions in the presence of a common-pool problem of budgeting, and the results indicate that the order of the vote *per se* does not reduce the size of the budget when there exists a common pool problem. Like all prisoner's dilemma situations, the common-pool problem is caused by a lack of coordination among individual actors, and simply changing the order of the vote does not address the real cause of the problem.

As Section 5 will indicate, an agenda setter can provide the necessary coordination to force politicians to consider the full tax implications of their spending decisions. The reasoning behind an agenda setter is indeed the same that is usually given for top-down votes--politicians will support lower budgets when they are confronted with the complete tax implications of their spending decisions--but the institutional solution is different. The conventional view of top-down processes

therefore may mistake the sequencing of the vote for the much more important centralization of budgeting decisions.

Based on these conclusions, Section 6 reinterprets three time periods in American politics: the era of "classical budgeting" from 1947 to late 1960's, the breakdown of the process from 1967 to 1974, and the 1974 Budget Act. We speculate that the change from a bottom-up to a top-down process after 1974 did not reduce budget deficits and spending as some had hoped because it did not include elements of centralization to address the growing common pool problem. We add that greater centralization recently under the president and the Speaker of the House may have been an important cause for the recent improvements in the size of the federal budget deficit.

2. A Voting Game for Budgeting

Following Ferejohn and Krehbiel (1987), we consider three players, A, B, and C, who vote on a budget, S, which has two dimensions, x and y, labeled military and domestic spending for illustration. The players have preferences over the amounts of spending in each dimension described by the preference (or utility) functions:

(1) $$U_j = -\frac{1}{2}(x - x_j)^2 - \frac{\varepsilon_j}{2}(y - y_j)^2, \quad j = A, B, C$$

where (x_j, y_j) represents player j's most preferred amount of spending in the two dimensions and $\varepsilon_j > 0$ is player j's utility weight on domestic spending.[1]

The players have two alternative methods to decide on a budget. Under the 'bottom-up' approach, they vote on military spending first and then follow with a vote on domestic spending. The total budget is finally obtained by summing up the individual allocations. Under the 'top-down' approach, they vote first on the total budget and then proceed with a vote on the amount out of that total allocated to military spending. The amount allocated to domestic spending is thus determined residually.[2]

Under the bottom-up approach, the budget is determined by the median voter in each direction,

(2) $$S_b = \underset{j}{median}(x_j) + \underset{j}{median}(y_j)$$

Neither of these choices depends on the utility weights, ε_j, because neither of the decisions explicitly trades off one dimension for another. The top-down approach is somewhat more complicated. When the players decide what budget level they choose at the first stage, they must consider the expected partition of the budget at the second stage. The optimal decision is derived recursively. Consider, first, the decision about military spending at the second stage, when the budget S will already have been fixed. Each player at this stage maximizes the utility function

(3) $$U_j = -\frac{1}{2}(x - x_j)^2 - \frac{\varepsilon_j}{2}(S - x - y_j)^2$$

Majority rule then yields the solution for x given S

(4) $$x^*(S) = \underset{j}{median}\left(\frac{\varepsilon_j(S - y_j) + x_j}{1 + \varepsilon_j}\right) = \frac{\varepsilon_m S}{1 + \varepsilon_m} + \Delta_m,$$
$$\Delta_j = \frac{x_j - \varepsilon_j y_j}{1 + \varepsilon_j}$$

where ε_m is the median of ε_j and Δ_m the median of Δ_j. Note that these equations imply $y=y^*(S)=S - x^*$, where the last definition serves to simplify notation. Both x^* and y^* are functions of the total budget size, S. When deciding on the total budget S at the first stage, the players rationally will expect that these outcomes prevail later. Their utility functions at this stage are, therefore,

(5) $$U_j = -\frac{1}{2}(x^*(S) - x_j)^2 - \frac{\varepsilon_j}{2}(S - x^*(S) - y_j)^2$$

and the median voter chooses

(6) $$S_t = \underset{j}{median}\left(\frac{(1+\varepsilon_m)(x_j+\theta_j y_j)-(1-\theta_j)(1+\varepsilon_j)\Delta_j}{\varepsilon_m+\theta_j}\right), \theta_j = \varepsilon_j \varepsilon_m^{-1}$$

Equation (6) reveals that the top-down process indeed forces the median voter to recognize the trade-off between military and domestic spending explicitly. However, comparing the two budgets from equations (2) and (6), it is obvious that this alone is not enough to predict the size of the budget. As in Ferejohn and Krehbiel (1987), whether or not the top-down process yields a smaller total budget than the bottom-up process depends on the distribution of the ideal spending levels among the players and on their utility weights. Specifically, Ferejohn and Krehbiel consider the special case where $\varepsilon_j = 1$ for all players. In this case, the top-down process leads to a larger budget than the bottom-up process, if the median of the sum of ideal spending levels exceeds the sum of the medians in each dimension

(7) $$\underset{j}{median}(x_j+y_j) > \underset{j}{median}(x_j) + \underset{j}{median}(y_j)$$

In the more general case, where the utility weights ε_j are allowed to be different among the players, the top-down process can yield a larger budget even if condition (7) does not hold. More generally, the relative size of the two budgets cannot be determined without knowledge of the distribution of preferences (most preferred spending levels and utility weights) among the players. Note, finally, that if the actors share the same ideal points and have the same utility weights, both processes lead to the same budget size.

3. Sequencing and Budget-Maximizing Policy Makers

So far, we have assumed that the players in the budget process wish to reach their most preferred levels of spending as closely as possible. Their ideal levels of spending can be interpreted as the levels necessary to secure voter support for reelection, or to maximize the welfare of a player's political constituency. With preference functions as defined in equation (1), these players dislike overspending on individual activities in the same way they dislike underspending. In contrast, public

choice theory argues that politicians tend to increase public spending because they derive private benefits for themselves from doing so. Such benefits may consist of the perks attached to directing a large bureaucracy, the political clout and prestige that comes from directing a large department, or the public recognition of the political skills it takes to attract large funds to an electoral district or a particular public activity (Niskanen 1971). A Congressman chairing a particular committee, for instance, may be interested in increasing the allocation for the policy dimension his committee is responsible for because a larger budget increases the importance of his committee.

In this section, we analyze the importance of sequencing budget decisions in the presence of budget-maximizing policy makers. To focus the analysis we assume that all players in the budget process share the same ideal point, $x_j^* = x^*$, $y_j^* = y^*$, for all j. This eliminates disagreement over the most preferred spending levels as a source of conflict in the budget process.[3] To simplify the algebra, we also let $\varepsilon_j = \varepsilon$ for all three players.[4]

Specifically, we now assume that player A receives private utility from the sheer volume of spending in dimension x, while player B receives private utility from the volume of spending in dimension y. Formally, the players' preference functions are now

$$
\begin{aligned}
U_A &= \lambda x - \frac{1}{2}(x - x^*)^2 - \frac{\varepsilon}{2}(y - y^*)^2, \\
U_B &= \lambda y - \frac{1}{2}(x - x^*)^2 - \frac{\varepsilon}{2}(y - y^*)^2, \\
U_C &= -\frac{1}{2}(x - x^*)^2 - \frac{\varepsilon}{2}(y - y^*)^2 .
\end{aligned} \tag{8}
$$

Under the bottom-up approach, the median voter in each dimension determines the size of that dimension's budget. Since this voter does not receive a private benefit from expanding spending on a particular dimension, this approach leads to the choices $x = x^*$ and $y = y^*$, and the budget $S_b = x^* + y^*$ corresponds to the result of equation (2) above with identical ideal points.

To derive the result of the top-down approach, we must again first consider the vote on the second stage. The median voter derives no private benefit from expanding military spending and, therefore, chooses

(9) $$x = \frac{x^* + \varepsilon(S - y^*)}{1+\varepsilon}.$$

At the first stage, however, the budget-maximizers realize that, by voting for a larger total budget, they make room for higher spending in their own preferred dimension at the second stage. The resulting budget is

(10) $$S_t = x^* + y^* + \frac{(1+\varepsilon)\lambda}{2\varepsilon} = S_b + \hat{\lambda}.$$

Thus, the top-down process unambiguously generates a larger budget if $\lambda > 0$. Voting on each individual dimension of the budget assures that the majority controls the individual interest in increased spending in each direction. [5]

In the more general case where the players may disagree over the ideal levels of spending in each dimension, the same result holds unless the sum of the median points is significantly larger than the median sum of ideal spending levels. Ferejohn and Krehbiel's general result prevails, i.e., the relative size of top-down and bottom-up budgets depends on the distribution of ideal points among the players in the budget process, but the likelihood of a top-down budget being larger increases with budget-maximizing players. One interpretation of the 1974 Budget Reform Act is, therefore, that conflict over ideal levels of spending became a more important source of budget conflicts than budget-maximizing behavior in the 1970s, and that preferences were such that reformers felt that top-down sequencing of the budget decision would reduce spending. We consider this issue in greater detail in Section 6.

4. The Common Pool Problem and Centralization of the Budget Process

So far, we have focused exclusively on the expenditure side of the budget. Once the revenue side is brought into the picture, the size and the distribution of the tax burden become additional concerns. An important and well-established characteristic of public budgeting decisions is that they involve a common pool problem. This problem arises from the fact that the benefits of public sector activities and programs tend to be more focused on particular groups of recipients than their financing. Subsequently, we

assume that all expenditures are paid for from a general tax fund equal to the budget. Policymakers asking for increased spending on programs benefiting their constituencies recognize the full marginal benefit of an extra dollar spent on that activity, but, focusing only on their constituencies, they recognize just the share of the marginal tax burden falling on the latter. Thus, for example, a Congressman recognizes the full benefit of road improvements financed with federal monies in his district, but since his voters pay only a small share of the bill, he will ask for more road improvements financed that way than if the improvements were paid for in full by his district.

The common pool problem can be illustrated more formally in the following manner. In keeping with the previous section, players A and B continue to derive private utility from expanding military and domestic spending respectively, and all the players have the same ideal budgets in each dimension. We additionally assume that the excess burden from taxation, T, which is the economic loss due to adverse incentive effects of taxes on labor and income and inefficiencies arising from tax collection, increases quadratically with the size of the budget, such that

(11) $$T = \frac{q}{2} S^2$$

However, each player considers only that part of the tax burden that falls on her constituency, represented by p_j, $p_j > 0$, such that $p_A + p_B + p_C = 1$. The preference functions are then

(12)
$$U_a = \lambda x - \frac{1}{2}(x - x^*)^2 - \frac{\varepsilon_A}{2}(y - y^*)^2 - p_A T,$$
$$U_B = \lambda y - \frac{1}{2}(x - x^*)^2 - \frac{\varepsilon_B}{2}(y - y^*)^2 - p_B T,$$
$$U_C = -\frac{1}{2}(x - x^*)^2 - \frac{\varepsilon_C}{2}(y - y^*)^2 - p_C T,$$

It is straightforward to show that the bottom-up and the top-down processes then yield the following total budgets,

(13) $$S_t = \underset{j}{median}\left(\frac{\hat{\lambda}_j + x^* + y^*}{1 + p_j q(1+\varepsilon_j^{-1})}\right) > S_b = \underset{j}{median}\left(\left(\frac{x^* + y^*}{1 + p_j q(1+\varepsilon_j^{-1})}\right),\right.$$
$$\left.\hat{\lambda}_j = \frac{(1+\varepsilon_j)\lambda}{2\lambda}.\right.$$

In the absence of budget-maximizing behavior, both processes lead to the same budget. They also, however, lead to budgets that are larger than if the players had considered the full tax burden instead of just the burden on their respective constituencies. Setting p_j=1 in equation (13), one sees immediately that the respective budgets under both voting rules would then be smaller. The bottom-up process would yield the following result

(14) $$S_G = \frac{x^* + y^*}{1 + q(1+\varepsilon_m^{-1})} < S_b,$$

where ε_m = median(ε_A, ε_B, ε_C). It should be noted that S_G is equivalent to the maximization of a hypothetical group preference function

(15) $$U_G = -\frac{1}{2}(x - x^*)^2 - \frac{\varepsilon_m}{2}(y - y^*)^2 - (p_A + p_B + p_C)T,$$

which applies the median weight on domestic spending and recognizes the full tax burden.

Before proceeding, it is worthwhile to consider how this result compares with other work. One justification for the top-down process is that it forces legislators to trade-off costs and benefits for different programs once the total size of the budget has been set. This procedure therefore limits the ability of legislators to log-roll different bills in consecutive votes under a bottom-up process (Ellwood 1983). While this argument has some intuitive validity, it also presupposes a given institutional structure within Congress which guarantees that logrolls are possible. Such behavior is not easy

to support because the players have incentives to renege on votes in a sequential game as soon as they receive the level of spending that they desire. As Shepsle and Weingast (1987) indicate, institutions are needed to guarantee gains from trade from logrolling, and those institutions (at least in the United States) are committees which have some autonomy over the level of spending allocated to a given policy dimension. The committees must be willing to defer to others so that, when a vote comes up on its particular area of interest, others defer to its desired level of spending. When we assert that the bottom-up process yields the smaller budget in the presence of budget-maximizing politicians we are simply arguing that, absent an additional institutional layer, dimension-by-dimension votes on the budget will eliminate the excess spending. This finding should not be controversial, and indeed it is supported by those who argue that spending for bills with an open rule on the House floor will be smaller than those with a closed rule (Baron 1991). The logic supporting the use of an open rule is that, if you strip away the device which can guarantee log-rolls, legislators will excise the additional spending.

If budget-maximizing politicians represented the only incentive towards excess spending, we could end this article with a call for the use of open rules on the House floor. This conclusion would be premature, however, because an open rule does not solve the common pool problem. The median voter in each policy dimension will still support some excess spending as long as she does not consider the entire tax burden.[6] Like other prisoners' dilemmata, the common pool problem of budgeting is essentially a coordination failure. A coordination device is necessary to reduce the spending bias resulting from the common pool problem. In the next section, we discuss one mechanism used in actual governments, an agenda setter. As it turns out, the centralization which an agenda setter introduces strongly resembles the top down process, but the two are qualitatively different.

5. An Agenda-Setter for the Budget Process

An important coordination device is a player with agenda-setting powers in the budget process who seeks to maximize the group's hypothetical preference function.[7] The agenda setter's task is to choose a sequence of votes over the budget and to make a proposal at each stage to be voted on by the other players and herself. The stronger her agenda-setting power, the smaller the scope for the other players to amend her proposal in the final decision. What will be the ideal budget of the agenda setter? While there are several possibilities, we presume that the agenda setter seeks the solution where the full tax burden on the players' constituencies is considered and where budget-maximizers are not able to include additional spending.[8] The size of the budget is then equal to S_G, which is equivalent to the budget that emerges from a bottom-up process if the players were to consider the full tax burden in their preference functions. Such an agenda-setter may be selected by the group because, as their hypothetical group preference function given in equation (15) suggests, the players themselves have a collective interest in resolving the common pool problem.[9] The existence of a president provides a further rationale for considering this type of agenda setter. A national constituency elects the president, and she therefore has an electoral incentive to consider the total tax burden instead of just the tax burdens in each legislative district. As Section 6 will illustrate, the American president serves as an agenda-setter (albeit a weak one) because the budget process begins with her initial proposal.

If such an agenda-setter is able to determine the budget autonomously, she will simply select S_G.[10] With less than complete agenda setting power, the agenda setter will reduce the median voter's preferred aggregate budget in proportion to her negotiating power. One can imagine several practices that give the agenda setter some leverage in a budget process. One common way to favor the setter's position is to require something more than a simple majority vote to overturn the setter's position. Under Gramm-Rudman-Hollings, for instance, any amendment to a bill proposed in the Senate which increased spending over the agreed-upon targets without a corresponding spending cut required a 3/5 majority vote (Wildavsky and Caiden 1997, 133).

A second relevant factor is the agenda setter's ability to offer selective incentives or inflict selective punishments on actors who do not support her position. In the House, the Speaker can reward loyal congresspersons with committee assignments. More punatively, assuming a supportive majority leader and Rules Committee, she can refuse to report a given committee's bill to the floor for consideration (Cox and McCubbins 1993, Chaps. 7, 9). If the agenda setter is a party leader she can also threaten to withdraw party support of a given player. This threat can be especially effective in many European countries, where a leader can withhold campaign funds, leave intransigent members off of party lists, and even simply expel a rebel from the party. In Greece, for instance, the party leader even has control over who can speak before the parliament (Alivizatos 1990, 146).

In general, the agenda setter's power will be dependent upon the sequence of decisions adopted. Given a sequence of decisions, the agenda setter must make a proposal winning the support of the median voter in the budget votes. Formally, let δ_k, k = b, t, be a measure of the agenda setting power the agenda setter enjoys under a bottom-up and a top-down process, respectively, $0 \leq \delta_k \leq 1$. The agenda setter's optimal proposal maximizes the combined preference function

(16) $$V = \delta_k U_G + (1-\delta_k) U_m,$$

where U_m is the preference function of the median voter. The resulting budgets are

(17) $$S_b = \frac{x^* + y^*}{1 + (1+\varepsilon_m^{-1})(\delta_b + (1-\delta_b)p_m)q}, S_t = \frac{(1-\delta_t)\hat{\lambda}_m + x^* + y^*}{1 + (1+\varepsilon_m^{-1})(\delta_t + (1-\delta_t)p_m)q}.$$

As long as δ_k is positive, both the bottom-up and top-down budgets are smaller that their counterparts determined without an agenda setter. The coordinating function of the agenda setter leads to a reduction of the spending bias from the common pool problem. In addition, the agenda setter will choose a top-down process, if

(18) $$\delta_t > \frac{\hat{\lambda}_m + S_b(1-p_m)q\delta_b}{\hat{\lambda}_m + S_b(1-p_m)q}.$$

If the agenda-setter has the ability to decide the order of the vote on the budget, her choice will involve two issues. First, the possibility of budget-maximizing behavior makes bottom-up budgeting more favorable from her perspective because the median voter decides against budget-maximization in each dimension.

On the other hand, if one assumes that the level of information available to the player affects her agenda-setting power, she may be more likely to prefer a top-down vote. All else equal, she requires much less information to make credible proposals on the size of the entire budget than to make similar proposals for each policy dimension. A Speaker of the House from a suburban district of a southern city, for instance, may not be that credible arguing for spending cuts in agriculture programs against her midwestern colleagues, but she may be much more successful in defining the overall size of the budget. If this is true, condition (18) shows that a top-down process is more likely to generate smaller budgets, the smaller the spending bias from budget maximizing behavior is relative to the aggregate spending volume derived from the players' ideal points.

Of course, one way to confront the information problem is to assign the role of the agenda setter to a group instead of just a single person. Members of the group can then specialize in each policy area so that the group can be credible under a bottom-up process. One prominent example is the House Appropriations Committee. Its organization arguably provides it with agenda-setting power under a bottom-up process. It is composed of subcommittees which examine specific policy areas, but traditionally members of those subcommittees specialize in areas that are not relevant to their own constituencies. As Section 6 will show, the House Appropriations Committee was able to serve as an effective agenda-setter within Congress from 1947 to the late 1960's, when its power began to erode.

A second possibility is to delegate to a group the ability to collect the needed information for an agenda-setter.[11] The precedent in the American case is the president's use of the Office of Management and Budget (formerly called the Budget Bureau) to generate estimates of the costs of programs and their likely effectiveness.

This information provides the president with some agenda-setting power when he first proposes his budget at the beginning of the budgetary process.

6. A Reinterpretation of Post-War Budgeting in the United States

The empirical part of this paper has modest aims. We believe that our theoretical results provide some plausible insights about the performance of budgeting policy in the United States after World War II and about what sorts of institutions reduce (or increase) spending. First, we argued that bottom-up budgeting leads to smaller budgets in the subset of cases where the ideal budgets for the different players are the same or close to another. As we will demonstrate, this state of affairs more or less existed from the end of World War II through the late 1960's. In addition, the president and the House Appropriations Committees both served as effective agenda setters during this time period. They helped to reduce the common pool problem.

In the late 1960's, however, the system began to break down. Preferences among (and within) the two political parties in Congress began to diverge, and, according to our model, such changing preferences meant that sequencing the vote one way or the other could not guarantee consistently lower levels of spending. More importantly, changes to the organization of Congress and to the power balance between the Congress and the president decentralized authority over budgeting. By reducing the power of the agenda setters, this decentralization of the process likely increased the scope of the common pool problem and consequently led to excessive levels of spending.

Reformers inside and outside of Congress hoped that the 1974 Budget and Impoundment Act would reduce both spending and the size of public deficits. It established two new budget committees with the mandate to consider the size of the entire budget, and it enshrined a top-down process as the method of choice in the Congress. In our view, the Act failed to keep both spending and deficits in check because, as the theoretical section of this paper argues, changes in the order of the vote do not lead to unambiguous reductions in spending. More importantly, because the Act

consciously reduced the agenda setting power of the president and did not provide a meaningful alternative, it did little to stem the common pool problem, and budget deficits worsened. Recent developments, such as the Budget Enforcement Act of 1990 and changes in the Congressional organization in the 104th Congress, have reintroduced elements of centralization and represent moves in the right direction.

a. The Era of "Classical Budgeting"

Aaron Wildavsky refers to the time period after World War II through the early 1970's as the "era of classical budgeting," one where his "first reaction to classical budgeting was a sense of wonder" at how well the system worked (Wildavsky and Caiden 1997, 66). Wildavsky had good reason for his assessment--from 1947 to 1966, the average yearly federal deficit amounted to a paltry 0.1% of GDP, and the government even ran surpluses in roughly one-third of the those years (Budget of the United States, Fiscal Year 1997, 261). During this period (and before), the Congress never voted on the total size of the budget. Instead, it considered spending bills separately as they came up, and one could calculate the aggregate budget totals only after all of the spending bills had become law. Congress therefore used a standard bottom-up process, the very one that many writers would later blame for the larger deficits and higher spending in the early 1970's. The reason why the system worked so well, in our analysis, was due to the presence of two agenda setters, a weaker one in the form of the president and a stronger one in the form of the House Appropriations Committee, as well as the congruence of ideal preferences on the budget.

The president can influence the shape of the budget at three different stages of the legislative cycle. At the first stage he acts as a weak agenda setter. The budget process begins with the president's submittal of his proposed yearly budget to Congress.

As Kettl (1992, 127) notes in his discussion of the 1950's and 1960's, "the budget package that the president sent Congress set the agenda for Congressional action."[12] This initial stage gave him some initial control over the content and tone of the debate about the budget, and he could use his "bully pulpit" to direct public discussion.

One important source of power for the president which increased his agenda-setting power (or the size of δ in our model) was a marked level of asymmetric information he possessed vis-à-vis Congress on the scope and scale of the entire budget. Congress was forced to rely on the president's Bureau of the Budget (renamed the Office of Management and Budget, or OMB, in 1970) to provide much of its information on the costs and benefits of different programs, and these figures were often considered more credible than those provided by individual Congressional committees (Peterson 1985, as quoted in Kiewiet and McCubbins 1991). This informational advantage gave the president agenda-setting power under the bottom-up process since he was able to frame the debate for every policy dimension. Allen Schick (1994b, 10) goes so far as to assert that "the President was the dominant player " during this time period in shaping the totals for "federal programs and accounts, as well as projections of total outlays and the deficit."

The president also had two additional powers that, while not strictly part of his agenda-setting capability, did nonetheless provide him with the ability to lower the size of spending. As Kiewiet and McCubbins (1988) persuasively argue, the president's veto power was (and continues to be) asymmetric in battles over the size of appropriations--while he could cut the budget through vetoes, it was much harder for him to raise spending. In their model, Congress acted as an agenda setter who provided the president with a take-it-or-leave-it offer, and his ability to use his veto effectively

depended on the size of the budget if his veto is the last word on the subject, or the "reversion point."[13] If this point was lower than what Congress wanted, and if the president truly wants lower spending, he will have some negotiating power. At the same time, the president does not have the ability to raise spending more than what Congress wants.

Finally, even after the programs had been passed by Congress, the president before 1974 could refuse to spend funds he deemed excessive and "impound" the funds. This process provided him with the ability to move spending downward even after a bill had become law. It should be noted that the president cannot raise spending but only lower it through either his veto power or his use of impoundments. The implication is that, if the common pool problem is already solved within Congress by other means, such as a strong Appropriations Committee, the president cannot reintroduce higher spending when a bill moves from the legislative to the executive stage.

There are then generally two steps to the budget process within the legislature after the president proposes a given budget--Congress first approves the authorization of a given program, then it appropriates a given level of spending to that program. All items in the president's budget classified as discretionary spending, such as the budget of the FBI, are required to pass the respective appropriations committees in the House and Senate before reaching the floor for a final vote, which, in the Committee's heyday before World War II, equaled 90% of the entire budget in 1932, and which still amounted to almost 70% of the total budget through the middle 1960's (Oleszek 1996, 80; Budget of the United States, Fiscal Year 1997, 112). As Richard Fenno (1966) describes the House committee in his classic work, it was constructed to minimize the amount of "pork barrel" projects that became law. The Chairman deliberately placed

members on subcommittees where they had little prior experience and where their constituencies also had little concern about whether spending increased or decreased. This meant that, even in cases where a few Congresspersons still gained private utility from a spending increase in a given area, a majority of them did not, and, so long as spending priorities were more or less the same, a vote on each separate in the committee would have yielded smaller budgets. In addition, members generally came from "safe" districts, or districts where it was unlikely that they would face any serious electoral challenge in the future, so that they would face minimal pressure from their respective electorates to consider that electorate at the expense of the whole.

The Appropriations Committee therefore represented a necessary centralizing force that helped overcome the common pool problem. Its members could credibly claim that they were considering the entire tax burden, which gave the Committee some agenda setter power as described in Section 5, and, since its bills were generally considered under closed rule (Baron 1991), other members of the House had limited opportunities to attach increased discretionary spending in addition to what Appropriations proposed. Metaphorically, one could conceptualize Appropriations as a "dam" on a river which regulated the amount of spending that was released each year.[14]

Section 3 indicated that a bottom-up vote on the budget always will lead to smaller budgets than a top-down vote *if* ideal budgets are more or less the same, and this was in fact the case from 1947 to the late 1960's. While it may be difficult for contemporary observers used to vitriolic clashes in Congress over the existence of entire programs and even whole departments, in the era of classical budgeting there was close agreement on most spending. Both Republicans and Democrats alike usually did not argue about the general level and allocation of spending, with changes at the margins

representing the subject of most debate. This period of general consensus on spending priorities spawned a normative theory, incrementalism, which justified the lack of any major changes in spending year to year. According to the theory, policymakers should leave the bulk of all spending in place and make only minor adjustments from year to year (Lindblom 1965). They are then less likely to make any big mistakes in spending, and since any changes are small to begin with they can easily be corrected in future years if they do not have their desired effect.

There is certainly a distinction between the theory's descriptive use and its normative validity. Incrementalism may have adequately described the budgeting process in the 1950's and 1960's, and since the process "worked" its success gratified its supporters. Importantly for our analysis, however, the use of incrementalism demonstrates the extent to which both parties agreed on most basic policy objectives. What is perhaps under-appreciated is that incrementalism would have had little chance of being used if the actors did not have more or less the same spending priorities in the first place. The military threat from the Soviet Union seemed real to virtually all members of Congress, and, until the Democrats' Great Society programs began to require significant portions of the budget, there was little real disagreement on domestic spending as well.[15] Both parties also held more or less one economic ideology and believed that the government should use Keynesian policies to balance the economy (Schick 1990; Wildavsky and Caiden 1997). There was therefore little debate on the bulk of spending because disagreements on spending priorities did not exist. Congressmen had little reason to call the process itself into question.

In the late 1960's, this system of classic budgeting broke down. Spending priorities diverged, as liberals pushed for greater expansion of social programs and

lower defense spending while conservatives advocated the reverse. These differences became so pronounced that they led many to question the existence of entire programs. Allan Schick characterizes the period as the "Seven Year Budget War," a time when there was growing dissensus about the role of the government in the economy (Schick 1980). According to our model, greater differences in spending priorities may have made the top-down process, at least in the short run, a better procedure to a bottom-up vote.

Yet, this debate about top-down versus bottom-up was beside the point because of the growing decentralization of Congress and of the budget-making process in the early 1970's. The Appropriations Committee in particular became progressively less able to oversee spending. The committee could serve its function only as long as the vast majority of spending was under its jurisdiction, which was formally limited to discretionary spending. Spending on entitlements, such as on Medicare, food stamps, and social security, all by-passed Appropriations. This division of responsibility would not have limited the effectiveness of the Committee as long as entitlement spending represented a small proportion of the budget, or as long as the rate of change for entitlement spending was low over time. Yet, in the late 1960's and early 1970's when the system "broke down," entitlement spending consumed an ever-increasing part of the budget--in 1967, for instance, 28 percent of non-interest federal outlays came from entitlement plans, while by fiscal year 1974 entitlement spending had risen to 44 percent (Ellwood 1985, 323). As Figure 1 indicates, the percentage of the budget that represented discretionary spending, or spending over which the Appropriations Committee had direct jurisdiction, also fell most precipitously from 1967 through 1974,

and, while the rate of change decreased, the percentage of the budget under Appropriations' watchful eye continued to decline through 1995.

Congresspersons looking for increased spending for their pet projects also used various accounting devices to get around Appropriations' jurisdiction during this time in the form of "backdoor spending," which was discretionary spending that flowed directly from respective authorizing committees and bypassed the Appropriations Committee altogether. Backdoor spending became increasingly important--the Joint Study Committee, appointed in October 1972 to consider changes in the congressional budget process, noted that, while Appropriations had cut $30 billion in administration spending requests in the five fiscal years' 1969-73, authorizing committees had added another $30 billion to the president's budget during the same period of time (Penner and Abramson 1988, 12). Thus, while the increase in entitlement spending diverted an ever higher portion of spending away from the "dam" that was Appropriations, the increase in backdoor spending represented cracks in the dam itself. Appropriations could no longer serve as an effective agenda-setter within Congress.

This reduction of Appropriations Committee power was not an isolated development but rather part of a general trend towards decentralization within Congress, and this too affected the size of budgets. The Legislative Reform Act (1970), the Subcommittee Bill of Rights (1973), and the Committee Reform Amendments (1974) all served to weaken committees and to transfer power to subcommittees. This decentralization of power within Congress likely had a meaningful effect on the severity of both budget-maximizing politicians and the common pool problem. Shepsle and Weingast (1985) indicate that "these reforms....have emancipated individual representatives and senators from the restraints of their parties; and, second, they have

liberated congressional committees and subcommittees from the preferences of chamber majorities (118)." The implication of these changes is that the decentralization of Congress allowed individuals through authorizing subcommittees to earmark levels of spending that led to the larger levels of spending because of the expansion of the common pool problem.[16]

There is also an interaction between the increasing importance of entitlement programs in the late 1960's and greater decentralization of Congress that bears examination. Committee "power" is derived primarily from the ability of a given committee to block changes to the status quo (Shepsle and Weingast 1987). Discretionary spending requires Congress to approve it each year, so that the status quo is formally zero each year. If Congress does not pass appropriations for a given program, it dies. For entitlements, however, the spending decision is included in the original legislation and, unless a time limit is specified, spending will continue year after year. The status quo is therefore some positive amount, and cuts can only occur if there is positive action. Since the status quo for entitlement programs was increasing in the late 1960's because of indexation and eligibility requirements written into the original legislation, authorizing committees with jurisdiction over entitlement bills could do nothing and still "win." This setup gave greater control over spending levels to the relevant authorizing committees as entitlements became more important.[17]

Thus, the major procedural problem confronting Congress in the early 1970's was decentralization. Any meaningful reform would have needed to reintroduce new elements of centralization, such as the strengthening of either the Appropriations Committee or the president, which would have reduced the increasing scope of the common pool problem.

b. The 1974 Congressional Budget and Impoundment Act

In the early 1970's virtually all participants in the budgetary process were dissatisfied with the way that the process was functioning. Fiscal conservatives were

upset about the size of the budget deficits, which averaged 1.3% of GDP from 1967-73 (Budget of the United States, Fiscal Year 1997, 261). Liberals for their part complained about President Nixon's use of his power to impound funds, which, in their view, amounted to legislating by decree. In October, 1972, legislation passed which created the Joint Study Committee (JSC) to examine and propose possible reform options. The Congressional Budget and Impoundment Act of 1974, which weakened in several significant aspects the JSC proposal, was the version of the reform that finally became law. While the move to a top-down process under the Act was perhaps a sensible response to the growing diversity of ideal budget preferences within Congress, the Act did not strengthen, or create anew, an agenda setter able to centralize the budget process in an increasingly decentralized Congress. The legislation therefore was an inadequate response to the growing common pool problem.

The JSC appears to have understood the problem and a possible solution well. There existed a bias on the committee that certainly influenced its recommendations--members from either chamber's respective appropriations or revenue committees, all considered to be more fiscally conservative than the two houses as a whole, provided 28 of its 32 members and consequently dominated the JSC. Its original goals were to centralize at least the budget process even as the Congress became more decentralized. A principal reason why the Appropriations Committee declined in power was that it made decisions about progressively smaller parts of the budget. One solution, of course, would have been simply to expand the committee's jurisdiction to the whole budget, not just to discretionary items. This is in fact what members of the JSC tried to do--it proposed the creation of a new committee in each house, the Budget Committee, which would be stocked overwhelmingly with members of the respective appropriations and revenue committees. These committees would be charged with the formulation of binding spending targets at the beginning of each budget cycle for the entire budget. In addition, any future amendments that increased spending would also have had to include concomitant decreases in spending to reach the spending goals (Penner and Abramson 1988).

If the Joint Study Committee's proposals had indeed become law, we would have expected a decrease in spending. A Budget Committee with "teeth" would have represented a restoration of a "Guardian of the Treasury" but through slightly different means. As long as members from safe districts who had no intrinsic interests in a given policy composed them, the creation of the budget committee simply would have extended the powers of the Appropriations Committee to the full budget instead of just to discretionary spending. The committees could then have assumed the role of the centralizing agenda setter described in Section 5. Finally, since any spending amendments under the ceilings forced a given congressman to propose decreases for every increase, this requirement would have confronted the proposer with her priorities for the entire budget.

The version of the bill that eventually passed with overwhelming majorities in the Senate and the House, however, included important changes to the Joint Study Committee's original proposals that diluted its impact. In general, instead of scrapping the old system and building the process anew, the Act simply added another layer to what already existed. It created the two new Budget Committees, but with membership requirements that weakened the power of the respective appropriations and revenue committees.[18] In addition, instead of formulating binding budget targets at the beginning of the budgetary cycle, the committees were responsible merely for writing a non-binding resolution that required passage by May 15. The respective authorizing committees would then have time to work within the guidelines established in the first vote, and a vote on the size of the budget, this time binding, was required to occur by September 15 of each year. If the individual budgets did not add up to the binding targets in the second vote, then a period of reconciliation was to follow, with the appropriate committees required to report cuts that would get the total budget back under the binding target.

Supporters of the Act were hopeful that the votes on the overall size of the budget, along with a reconciliation procedure to make sure that Congress abided by them, would reduce the level of federal spending. Yet, as Sections' 3 and 4 indicate, the

votes on the budget targets *by themselves*, even if one assumes that they are binding, will likely prove ineffective because they do not address the common pool problem. The highly touted reconciliation process, therefore, which supposedly lowered spending especially in the early 1980's (Joyce 1996), did nothing more than to assure that the figures voted in the top-down procedure were honored, limits which, depending on the distribution of ideal preferences, could be higher than the size of a budget in a bottom-up vote, and which any case would be higher than under a procedure which accounted for the common pool problem. One way to reduce this problem is to elevate the powers of an agenda setter. The new Budget Committees in principle could have represented such a centralizing actor.

In practice, however, the committees were too weak to serve this purpose. They supplemented, but did not replace, other committees that already existed, and they therefore infringed on those committees' jurisdictions. Mindful of this problem, the two budget committees went out of their way to cooperate with their more established counterparts, and they have often allowed authorizing committees to write the advisory spending targets in a given area for them, effectively giving them in our model an agenda-setting power near, or at, zero (Ellwood 1985). After 1981, the second "binding" vote fell out of practice, and Congress now votes just on the non-binding guidelines, which must be approved by April 15 of each year proceeding the beginning of the fiscal year on October 1. This change has provided the Budget Committee with even less to do of substance, and, instead of acting as a "Guardian of the Treasury," the Budget Committees have instead become platforms on which members of each political party can publicize their views on the shape of the budget without necessarily taking any action (Forgette 1994).

A failure to strengthen the House Appropriations, or to at least to replace it with a similar centralizing force, could have been counterbalanced with a strengthening of the president's powers, but indeed the 1974 Budget Act consciously sought to *reduce* the ability of the president to influence the final shape of the budget. First, the Act created the Congressional Budget Office (CBO) to provide the Congress with an independent

source of information about the costs and benefits of different programs. While one can argue on good democratic theory grounds that the legislature should always be better informed than not, this new agency "greatly reduc[ed] congressional dependence on the president's experts" (Caiden and Wildavsky 1997, 76), and, as a consequence, decreased the president's agenda-setting power.

The 1974 Act also targeted the president's use of impoundments as a special prerogative of the president. Richard Nixon used impoundments in the early 1970's a greater degree than presidents before him, and when he refused to spend almost $15 billion allocated mostly to the President Johnson's War on Poverty programs he caused a political showdown with Congress on the President's use of this device (Cozzetto, Kweit, and Kweit 1995, 27). The 1974 Act divided impoundments into two categories: recissions (outright cuts in spending) and deferrals (spending to be carried into following years). The Act stipulates that both houses of Congress must approve any presidential rescission within 45 legislative days, while either house can vote to reject deferrals. This change in the impoundment process "virtually compels the full expenditure of available funds" (Schick 1994b, 112) and robbed the president of one of the most effective tools he could use to reduce spending.

The lack of centralizing institutions to address the common pool problem after 1974 may explain the general dissatisfaction with how the new budget process has "worked." Deficits increased instead of decreased, and by 1983 they had reached an unprecedented level of 6.3% of GDP. It is clear that part of the reason why the deficit increased in the early 1980's was an unusually deep economic recession (Barro 1991). Still, one can speculate that, had the recommendations of the Joint Study Committee been approved unchanged, the budget deficits would not have been setting the records that they did.

c. Recent Budgetary Experience

While the common pool problem was able to expand through the 1980's, there is some evidence that the horrid federal deficits of the 1980's forced the needed

centralization of the process that was missing under the 1974 Budget and Impoundment Act. The Gramm-Rudman-Hollings (GRH) Act set yearly targets for the budget deficit and mandated across-the-board cuts in the subset of discretionary spending categories. While it did not eliminate budget deficits by 1993 as the Act had promised, it did include the important "Byrd Rule" which stipulated that any amendments in the Senate that would raise the deficit would have to include either corresponding cuts in expenditures in other areas or a concomitant increase in taxes. Since this Rule could be overturned only be a 3/5 majority or higher, it gave some agenda-setting power back to the president, who was required under GRH to submit a budget that met the Act's yearly budget targets. Senators seeking to add additional spending therefore had to propose cuts or taxes on other constituencies, and this forced the Senators to begin to consider the impact of their bills on the total budget.

The 1990 Budget Enforcement expanded this rule to the entire Congress in the form of pay-as-you-go (PAYGO) rules, which require that all legislation not increase the size of the deficit. Any bills that do affect the deficit must include corresponding tax or expenditure adjustments, and these requirements forced Congress for example to find $2.7 billion in tax increases or expenditure cuts over five years to finance the North American Free Trade Agreement at the time of its passage in 1994 (Schick 1995, 100). The Budget and Enforcement Act also included multi-year expenditure caps for discretionary funding. If spending exceeds a given cap then a sequestration process begins to the reduce the spending again below the cap. The introduction of these expenditure limits, and the provisions to enforce them, once again returned some agenda setting power to the executive. As Wildavsky and Caiden explain (1997, 152),

> "In order to make them play their assigned parts, presidents, through the OMB, were given stronger procedural powers. It is they who must submit a certain kind of budget according to their own calculations; who must alter their budget proposals according to the state of the economy; and whose findings must or must not trigger sequestrations of various kinds. This is a lot of procedural clout."[19]

Recent developments have also increased the strength of an agenda-setter to deal with the common pool problem inside Congress. The Speaker of the House in the 104th Congress, Newt Gingrich, broke with the tradition of choosing committee chairpersons based only on seniority and instead hand-picked loyalists to lead critical committees, including the Appropriations Committee, and he even demanded letters pledging loyalty from top Republican Committee members (Wildavsky and Caiden 1997, 310). There is also some preliminary evidence that Speaker Gingrich has been successful in breaking the control some committees had over the level of spending on entitlements; as Richard Cohen (1995, quoted in Oleszek 1996, 328) remarks, "the notion of a House that's balkanized into legislative fiefdoms...has become antiquated. Instead, the House is driven by a Speaker who wields enormous power," and who consequently can reduce the scale of the common pool problem at the Congressional stage.

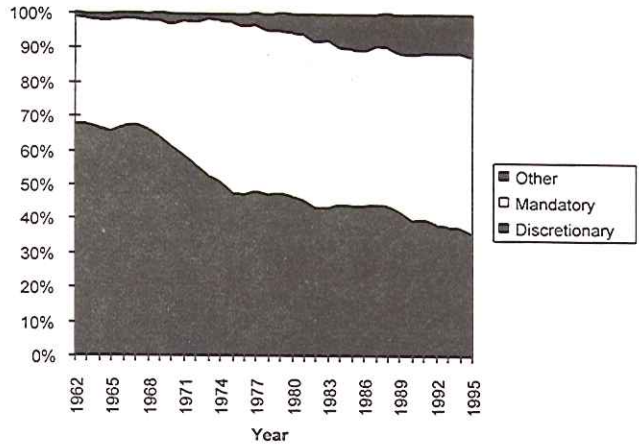
While it is beyond the scope of this paper to examine with rigid econometrics the cause of the decline in the size of the budget deficit, one can speculate that the increased power of agenda setters in the form of the president and in the House has helped to reduce its size. Deficits at first ballooned under the BEA to $340 billion, or 4.9% of GDP, in 1992, but they have fallen progressively ever since then (Budget of the United States, Fiscal Year 97, 261). By 1996 the projected deficit was $117 billion, the lowest in nominal terms since 1981 and the lowest level as a percent of GDP at about 1.5% since 1974, the year that the Congressional Budget and Impoundment Act was passed in the hope of reducing deficits (Congressional Budget Office 1996, ix).

Conclusion

Previous debate within the literature concerned the order of the vote on the budget, with a rough consensus asserting that a vote on the aggregate size of the budget would lead to lower levels of spending. The basic point of the top-down approach, which is that the players should consider the total budget, is fundamentally sound--legislators should be encouraged to consider the entire tax burden when they vote on spending allocations. Yet a simple re-ordering of the vote does not lead to this result because the actors continue to consider the tax burden just on their constituencies. The debate about the sequence of the vote on the budget therefore misses the more important dimension of centralization versus decentralization. The common pool problem, which exists when players consider only the "goods" of additional spending and the "bads" of additional taxation just on their constituencies instead of on the group as a well, will be worse under a decentralized budget process. An agenda-setter either within Congress in the form of a Committee that affects the size of spending or outside of Congress in the form of the president can reduce the scope of the common pool problem.

These institutions provide an interesting twist to the older debate about the usefulness of increasing centralization in the legislature, and we want to emphasize that not all centralization is necessary positive. Some authors indicate that greater coordination of the different players can be undesirable because it increases the ability of committees stacked with "high demanders" to pass levels of spending that the median voter in the legislature would consider excessive. More decentralized open rules, in contrast, lead to the choice of the median voter's level of spending. We indicate that the use of an open rule solves only one problem, namely that of budget-maximizing politicians, while it does not address the common pool problem. So long as the median voter considers the tax burden just on her constituency instead of on the nation as a whole, she will vote for spending that is higher than is collectively optimal. The debate about the level of centralization should therefore also concern itself with "for what purpose."

Figure 1: Comparison of Mandatory versus Discretionary Spending, 1962-1995



Figures computed from *Budget of the United States Government, Fiscal Year 1997*, p. 112.

Bibliography

Alivizatos, Nikos. 1990. "The Difficulties of 'Rationalization' in a Polarized Political System: the Greek Chamber of Deputies." In *Parliament and Democratic Consolidation in Southern Europe: Greece Italy, Portugal, Spain and Turkey*, ed. Ulrike Liebert and Maurizio Cotta. London and New York: Pinter Publishers. 1990: 131-153.

Baron, David P. 1996. "A Dynamic Theory of Collective Goods Programs." *American Political Science Review* 90: 316-330.

Baron, David P. 1991. "Majoritarian Incentives, Pork Barrel Programs, and Procedural Control." *American Journal of Political Science* 35: 57-90.

Barro, Robert. 1991. "Comment [on McCubbins, Mathew D. 'Party Governance and U.S. Budget Deficits: Divided Government and Fiscal Stalemate.'] In *Politics and Economics in the Eighties*, ed. Alberto Alesina and Geoffrey Carliner. Chicago: The University of Chicago Press.

Buchanan, James. 1967. *Public Finance in Democratic Process*. Chapel Hill: The University of North Carolina Press.

Buchanan, James M., and Richard E. Wagner. 1977. *Democracy in Deficit. The Political Legacy of Lord Keynes*. New York: Academic Press.

Budget of the United States Government, Fiscal Year 1997.

Cohen, Richard. 1995. "The Transformers." *National Journal*.. March 4: 528-29.

Committee on the Budget, United States Senate. 1987. *Gramm-Rudman-Hollings and the Congressional Budget Process-An Explanation*. Washington: U.S. Government Printing Office.

Congressional Budget Office. 1996. *The Economic and Budget Outlook: An Update.*

Cox, Gary W., and Mathew D. McCubbins. 1993. *Legislative Leviathan*. Berkeley and Los Angeles: University of California Press.

Cozzetto, Don A., Mary Grisez Kweit, and Robert W. Kweit. 1995. *Public Budgeting: Politics, Institutions, and Processes*. White Plains, N.Y.: Longman Publishers USA.

Crain, W. Mark, and Timothy J. Muris. 1995. "Legislative Organization of Fiscal Policy." *Journal of Law and Economics* 38: 311-333.

Ellwood, John W. 1985. "The Great Exception: The Congressional Budget Process in an Age of Decentralization." In *Congress Reconsidered*, ed. Lawrence C. Dodd and

Bruce I. Oppenheimer, 3rd Edition. Washington, D.C.: Congressional Quarterly Press.

Ellwood, John. 1983. "Budget Control in a Redistributive Environment." In *Making Economic Policy in Congress*, ed. Allen Schick. Washington and London: American Enterprise Institute for Public Policy Research.

Ferejohn, John, and Keith Krehbiel. 1987. "The Budget Process and the Size of the Budget." *American Journal of Political Science*. 31: 296-320.

Joyce, Philip G.1996. "Congressional Budget Reform: The Unanticipated Implications for Federal Policy Making." *Public Administration Review*. 56: 317-325.

Kettl, Donald F. 1992. *Deficit Politics: Public Budgeting in its Institutional and Historical Context*. New York: MacMillan Publishing Company.

Kiewiet, D. Roderick, and Mathew D. McCubbins. 1991. *The Logic of Delegation. Congressional Parties and the Appropriations Process*. Chicago: the University of Chicago Press.

Kiewiet, D. Roderick, and Mathew D. McCubbins. 1988. "Presidential Influence on Congressional Appropriations Decisions." *American Journal of Political Science*. 32: 713-736.

McCubbins, Mathew D. 1991. "Party Governance and U.S. Budget Deficits: Divided Government and Fiscal Stalemate." In *Politics and Economics in the Eighties*, ed. Alberto Alesina and Geoffrey Carliner. Chicago: The University of Chicago Press: 83-122.

Organisation of Economic Cooperation and Development [OECD]. 1987. *The Control and Management of Government Expenditure*. Paris: OECD.

Oleszek, Walter J. 1996. *Congressional Procedures and the Policy Process*. Fourth Edition. Washington, D.C: Congressional Quarterly Press.

Olson, Mancur. 1965. *The Logic of Collective Action: Public Goods and the Theory of Groups*. Cambridge: Harvard University Press.

Ostrom, Elinor. 1990. *Governing the Commons*. Cambridge: Cambridge University Press.

Penner, Rudolph G., and Alan J. Abramson. 1988. *Broken Purse Strings. Congressional Budgeting 1974 to 1988*. Ann Arbor and Grand Rapids: The Gerald R. Ford Foundation, and Washington, D.C.: The Urban Institute Press.

Peterson, Paul. 1985. "The New Politics of Deficits." In *The New Direction in American Politics*, ed. John Chubb and Paul Peterson. Washington, D.C.: The Brookings Institution.

Rosenthal, Howard, and Thomas Romer. 1979. "Bureaucrats vs. Voters: On the Political Economy of Resource Allocation by Direct Democracy." *Quarterly Journal of Economics*. 93: 593-87.

Rosenthal, Howard, and Thomas Romer. 1978. "Political Resource Allocation, Controlled Agendas, and the Status Quo." *Public Choice* 33: 27-44.

Schick, Alan. 1995. *The Federal Budget*.. Washington, D.C.: The Brookings Institution.

Schick, Alan. 1994a. "Why Study Microbudgeting?" In *The Budget Puzzle Understanding Federal Spending*, ed. John F. Cogan, Timothy J. Muris, and Allen Schick. Stanford: Stanford University Press.

Schick, Alan. 1994b. "The Study of Microbudgeting." In *The Budget Puzzle Understanding Federal Spending*, ed. John F. Cogan, Timothy J. Muris, and Allen Schick. Stanford: Stanford University Press.

Schick, Alan. 1993. "Governments versus Budget Deficits." In *Do Institutions Matter?* ed. R. Kent Weaver and Bert A. Rockman. Washington, D.C.: The Brookings Institution.

Schick, Alan. 1990. *The Capacity to Budget*. Washington, D.C.: The Urban Institute Press.

Schick, Alan. 1986. "Macro-Budgetary Adaptations to Fiscal Stress in Industrialized Democracies." *Public Administration Review*. 46: 124-34.

Schick, Alan. 1980. *Congress and Money*. Washington, D.C.: Urban Institute.

Shepsle, Kenneth A., and Barry R. Weingast. 1987. "Why are Congressional Committees Powerful?" *American Political Science Review*. 81: 929-45.

Shepsle, Kenneth A., and Barry R. Weingast. 1985. "Policy Consequences of Government by Congressional Subcommittees." In *Control of Federal Spending*, ed. C. Lowell Harriss. Washington, D.C.: Academy of Political Science.

von Hagen, Jürgen, and Ian Harden. 1994. "National Budget Processes and Fiscal Performance." In *European Economy*. 3: 315-418.

Weingast, Barry, Kenneth A. Shepsle, and Christopher Johnsen. 1981. "The Political Economy of Benefits and Costs: A Neoclassical Approach to Distributive Politics." *Journal of Political Economy*. 89: 642-664.

Wicksell, Knut. 1896. *Finanztheoretische Untersuchungen*. Jena: Gustav Fischer.

Wildavsky, Aaron, and Naomi Caiden. 1997. *The New Politics of the Budgetary Process*. 3rd Edition. New York: Harper Collins.

[1] The model can be extended to more players and dimensions without changing the qualitative results.
[2] Geometrically, the first vote under this approach corresponds to a vote on a budget line, while the second can be interpreted as a vote on the point on that line dividing the budget between the two dimensions.
[3] Allowing for different ideal points among the players yields the same qualitative results but with more tedious algebra. The results are available from the authors upon request.
[4] The more general case, in which the utility weights are different among the players yields the same qualitative result, but with more tedious algebra.
[5] Alternatively, we could also assume that there are three dimensions, with each player wanting to maximize budgets in one of the dimensions. The important point is that a minority of the players want this additional spending.
[6] This result is also consistent with Baron (1991), who indicates that some projects which cost more than the benefits they provide will appear even under open rules but that open rules are superior to closed rules.
[7] We follow the general guidelines established in Romer and Rosenthal's model (1978, 1979). Note that, instead of seeking to maximize funds, the agenda setter in our model attempts to maximize the group's hypothetical preference function.
[8] An alternative type of agenda setter of interest would be one who seeks to minimize the absolute size of the budget.
[9] Whether the players have an individual interest in considering the entire tax burden is a different matter and depends on the distribution of the tax burden. An extreme case illustrates the point--if only one player's constituency bears the entire tax burden, then the other two will vote for much higher spending than if their constituencies had to pay some to taxes as well, and they will have no incentive to solve this extreme common pool problem. The median voter will therefore not support an agenda-setter.
[10] One might expect such concentration of power in one person to be rare in governments. However, one prominent example in Europe approximates this arrangement. The French Finance Minister, in consultation with the Prime Minister, determines the budget size at the start of the budget process and conveys it to the spending ministers in the so-called *framework letter*. The Finance Minister then negotiates bilaterally with the different ministers to determine their final budgets, and the Finance Minister together with the Prime Minister resolve any conflicts. At all stages of the process both players assure that the initial budget target is met (von Hagen and Harden 1994).
[11] A good discussion of the Congressional uses of delegation to the president on some issues is found in Kiewiet and McCubbins (1991).
[12] It should be noted that, since the president could never make a take-it or leave-it offer to Congress, he is a weak, if not inconsequential, agenda-setter in Romer and Rosenthal's framework.
[13] While we accept their view of the president's asymmetric veto power, we would add that Congress is not the only agenda setter. Since the president begins the process with the proposal of his own budget, he also represents an agenda-setter.
[14] We should note that the view of Appropriations as a "Guardian of the Treasury" is not universally accepted in the literature. McCubbins alone and with Kiewiet (both 1991) in particular attack this model, and they argue that Appropriations cannot serve its supposed gate-keeping role because committee members care far more about the health of their respective parties than about the common good of the House as a whole. In their model, parties delegate power to certain institutions, such as committees and the president, and when agency losses become too high the majority party will not hesitate to reassert itself and to take back its authority. The Appropriations Committee does not exist to prevent logrolls but rather to safeguard the interests of the majority party. As evidence against the Guardian of the Treasury model, McCubbins (1991, 96-97) indicates that the likelihood of any cuts varied with the partisanship of the majority party and the president.

While we are willing to agree that party concerns likely come before concerns about the common good of the House as a whole, it does not seem to follow that Appropriations should have been significantly less effective under their model. As our theoretical section shows, the common pool problem *per se* has nothing to do with the distribution of ideal preferences. We, too, would expect that the level of domestic spending would change if the median voter's position moves, which would be the case if there is a new majority party. In order for a committee like Appropriations to be effective, one only has to assume that there is still a collective action problem within the party, so that there are

differences between the collective preference function of the party and the individual preference functions of the party's members. This assumption seems quite reasonable to us, and, if the majority party leadership seeks to maximize the party's well-being (as Cox and McCubbins 1993 contend), it would have every reason to delegate to a committee the ability to reduce the common pool problem and hence to support a strong Appropriations Committee.

[15] As Wildavsky and Caiden (1997: 72) note for this period, "even though Congress was Democratic and the Administration Republican, or vice versa, there was broad agreement about the existence or size of programs..." They later add that that the parties "could focus on incremental budgeting because the base was largely agreed (262)."

[16] Based on somewhat different assumptions Crain and Muris (1995) come to the same conclusion.

[17] This result is predicated on the committees having sufficient power to block changes to the status quo. For a more dynamic theory of changes to entitlements programs, see Baron (1996), who argues that the size of entitlement programs will converge to the desires of the median voter of the chamber over time. As we indicate in the theoretical part of this paper, even the median outcome will be larger than the collectively optimal amount so long as the median voter does not consider the full tax burden.

[18] Specifically, party caucuses chose the sixteen members of the Senate Committee, with the members possessing indefinite terms. In the House, five members came from the Appropriations Committee, five from Ways and Means, one each from the Republican and Democratic leaderships, and thirteen additional members from the House at large. Unlike in the Senate, House members could serve no more than four years out of every ten (Wildavsky and Caiden 1997, 77).

[19] The provisions of the BEA were extended through 1998 during Clinton's first year in office.

DISCUSSION PAPER SUBSCRIPTION FORM

Subscriptions may be placed for all CEPR Discussion Papers or for those appearing under one or more of the Centre's six research programme areas: International Macroeconomics, International Trade, Industrial Organization, Financial Economics, Human Resources and Transition Economics.

Subscription orders will be invoiced quarterly in arrears. The charge will be determined by the number of papers sent during the preceeding three months. Invoices will be sent on 31 March, 30 June, 30 September and 31 December. New subscriptions must start from one of these dates. If no starting date is specified, the subscription will be started from the beginning of the next period. Papers are charged at the rate of £3 ($5). Individual academics may obtain papers at the concessionary rate of £2 ($3). To qualify for this concession, the declaration below (*) must be signed.

Back copies of papers from number 850 are available. For more details, and information on out of print papers contact the Centre.

I wish to place a subscription for:

- ☐ International Macroeconomics (IM) Discussion Papers
- ☐ International Trade (IT) Discussion Papers
- ☐ Industrial Organization (IO) Discussion Papers
- ☐ Financial Economics (FE) Discussion Papers
- ☐ Human Resources (HR) Discussion Papers
- ☐ Transition Economics (TE) Discussion Papers

☐ * I wish to take advantage of the concessionary rate for individual academics. I am affiliated to an academic institution and will finance my subscription personally.

I want my subscription to start: ☐ 1 January ☐ 1 April ☐ 1 July ☐ 1 October

Name ____________________

Affiliation (if applicable) ____________________

Address ____________________

____

____

____

Vat No. (if any) ____________________

Telephone ____________ Fax ____________

Signature ____________ Date ____________

Invoice Address if different from delivery address:

____

____

____

____

Upon receipt of an invoice payment must be made by the date on the invoice in one of the following methods: (i) Sterling cheque drawn on a UK bank; (ii) Sterling Eurocheque endorsed with your card number; (iii) US Dollar cheque drawn on a US bank; (iv) Credit card (VISA/Access/Barclaycard/Eurocard/Mastercard) – please quote card type, number and expiry date; (v) Bank transfer in Sterling to our bank – please contact CEPR for details of our bank account.

Return this form to 'The Subscription Officer', at the address below.

✂ -

CEPR • 25–28 Old Burlington Street • London W1X 1LB • UK • Tel: 44 171 878 2900 • Fax: 44 171 878 2999