The Politics of Government Growth

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I.   The Scope of Governance

Fundamentally, government is the organization that governs: that creates and enforces the laws within a particular geographic territory. The range of what may be governed within a particular territory is very large, and extends well beyond the basic civil and criminal codes of conduct that first come to mind. Regulations limit the range of goods that can be produced and sold, the hours that can be worked, and wages that can be paid. Tax laws determine the portion of income that laborers are allowed to keep, and the portion of revenues and profits that merchants may keep from products sold. Beyond the laws that determine how economic resources may be used and what claims individuals may have on them at critical moments are laws that *define* life and death, marriage and divorce, parental rights and obligations, and even characterize proper public and private intimacy. Perhaps even more potentially intrusive are rules that mandate particular types of public education or genetic screening. Such rules may, in principle, attempt to determine the *kinds* of human beings that reside within a government's jurisdiction in an even more fundamental way than efforts to regulate immigration and emigration do.

The potential scope of governmental rule making and rule enforcement extends even beyond the human species. Rule making includes efforts to regulate nature as well as humanity. Legislation may reroute streams, drain swamps, create forests, promote some species over others, attempt to control the composition of the air, or aim to regulate the average temperature of the earth as a whole. The welfare and relative populations of other species may be targeted directly in environmental laws and agricultural policies, or indirectly through

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land-use regulation and the sponsorship of programs of scientific research. Clearly, the potential scope of governance is enormous.

On the other hand, the degree of governance actually undertaken by governments has rarely included all that potentially could be directed by governmental rules. Although, it is clear that technological bounds have affected the scope of governance undertaken in the long term, Dudley (1991), the lack of a clear trend suggests that nontechnological factors are also significant determinants of the scope of governance. The evidence suggest that politics rather than technology determines the scope of governance at the margin. The scope of governance has varied as legislation has been adopted or repealed, as governments have risen and fallen, and as empires have expanded and collapsed. The technology of governance appears to have been essentially monotone increasing for much of history as improved as monitoring, organization, and information processing technologies have been developed and increasingly capital intensive methods of coercion have been applied.

II.   Public Choice and Government Growth

Political determinants of the ebb and flow governance are complex. Political decisions are made by a wide range of individuals within the formal organizations of government. These decisions are bound by technological feasibility--by the real and imagined resources within a government's reach--and by political feasibility--by the organizational, legal and constitutional constraints faced by government decision makers. Although it may be said that the former are results of past natural and human production and the latter are results of the past political decisions, it bears noting that political decision making procedures and bounds are not entirely independent of one another insofar as current and past political decisions can affect national endowments and political organization. Changes in either the real possibilities or political incentives may, and have, lead to changes in the scope of governance--to government growth or contraction.

Public choice scholars have studied the process of government policy making in order to isolate essential relationships that shape the complex multidimensional web of formal and

informal personal relationships that characterize actual political decision making. The models of political processes that emerge from those analyses are necessarily simplifications of the world confronted by real political decision makers--they are after all models--yet Occum's razor potentially allows scholars to discover patterns in political decision making and thereby to isolate the fundamental determinants of the scope of governance.

Public choice analyses have generally relied upon atemporal static models of political equilibria rather than truly dynamic models, although a time element can be introduced into the models by interpreting the equilibria characterized in temporal terms. For example, political equilibria may be interpreted as steady states that determine long term government policies which are changed only when subjected to unanticipated shocks of one kind or another. Such an interpretation is suggested by, for example, Barro's (1979) analysis of government debt. Alternatively, one may regard the static models as characterizing discrete elements of a series of temporary political equilibria that change fairly often, Mueller (1987). Here government growth emerges as relevant changes in the economic and political circumstances of decision makers occur through time. A series of temporary equilibria may be regarded as fully rational solutions to intertemporal optimization problems whose solutions are intertemporally separable (implying that decision makers maximize instant by instant or year by year) or as myopic responses to changes in circumstances from year to year. This chapter relies upon Mueller-type sequential equilibrium approach to explaining government growth.

All public choice analyses shed light on various aspects of government policy formation, and, therefore, all contribute to our understanding of government growth. It bears noting that the politics of government growth is nearly synonymous with the term politics itself, insofar as *decisions* to control the scope of governance are essentially *what we mean by political decision making.* Consequently, the analysis of government growth undertaken in the present chapter will necessarily be less detailed and less complete than those of the more narrowly focused chapters.

The approach taken in this chapter is to show how the core public choice models of political decision making account for government growth. The analysis is organized into

sections that focus on the main insights of four areas of research generally thought to be relevant for explaining changes in the scope of democratic governments. In the short and medium run (i) elections, (ii) the bureaucracy, and (iii) interest groups are thought to largely determine polices. In the long term, (iv) fundamental political institutions, rights assignments, and culture are also considered to be important determinants of the growth of government insofar as they specify procedures and/or limits for making political and economic decisions. Empirical tests of the models developed are included in order to illustrate the ability of the models developed to explain recent changes in the scope of government in the U. S..

III. The Growth of Government: A Short Overview

Broadly speaking, modern western governments have been increasing in scope for the past two hundred years. Government budgets and tax receipts generally have increased substantially during this period. For example, census data indicates that federal spending in the United States increased in nominal terms from 5.08 million dollars in 1800 to 1.25 trillion dollars in 1990. A similar trend is evidenced in most developed nations as both absolute and relative government expenditures have increased during the past two centuries. Moreover, the growth of government outlays has been accelerating. Tullock (1998) notes that a significant increase in the growth rates of several western democracies has taken place in the first half of the twentieth century. Prior to that time, government expenditures had grown at more or less the same rate as their economies (during times of peace).

The growth of governance has been substantial during the past two centuries but it has not been unremitting. On a year to year basis, government size measured in *absolute* fiscal terms has declined several times during the past two hundred years. For example, both government expenditures and intrusiveness tend to decline after major wars. Government expenditures also tend to decline with the collapse of national economies, and with significant changes in political regimes. Several such episodes of absolute governmental decline have occurred in the United States (Higgs, 1987). More radical changes in the scope of governance have been associated with political regime changes within the former Soviet Union, Germany,

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Japan, and China during the past century. Measured relative to national output rather than in absolute terms episodes of negative governmental growth have been even more commonplace.

Figure 1

US Federal Government Fiscal Growth

Legend:
- Federal Outlays
- Outlays as Percent of GNP
- Deficit/Surplus
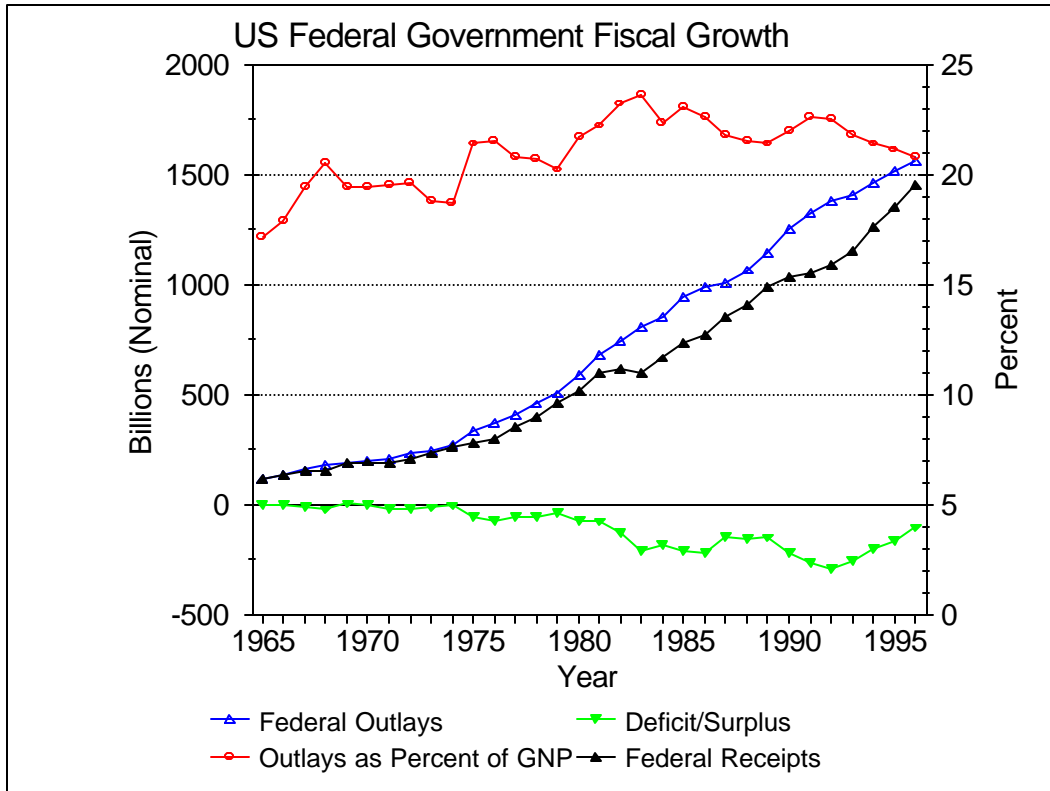- Federal Receipts

Axes: Billions (Nominal) / Year / Percent

Figure 1 presents a short fiscal history of the United States covering the last three decades of the twentieth century using data from the *1997 Statistical Abstract of the United States.* Measured in absolute terms, the growth of government fiscal authority has been continuous, although not steady throughout this period. Real (inflation adjusted) outlays and tax collections have increased essentially every year for the entire period. On the other hand, measured relative to what might be considered the upper bound of that which might potentially be directly controlled, e. g. national income, there have been several reductions in the (relative) size of government outlays. In fact, Figure 1 suggests that federal government outlays as a fraction of GNP have been declining for about a decade.

This recent pattern contrasts with the general pattern of U. S. federal government outlays in the twentieth century where outlays relative to national income have generally been increasing. Government accounted for about 4 percent of GNP at the beginning of the twentieth century which is only about a fifth of the current ratio for the Federal government alone.[1] The recent pattern of decreasing relative levels of government control over the economy may be an important new fiscal development or simply an unusual period of fiscal history.

It bears noting that fiscal measures of the size of government always understate the extent to which governments control economic and other resources because other less complete and/or less direct forms of control are neglected. Only a fraction of the resources controlled or affected by modern democratic governments are *directly* transferred to government and *directly* allocated by it during a given year. As the introduction makes clear, measuring the true scope of governance is not an easy task. Just as a proper measure of an individual's opportunity set would include many assets left off an accountant's balance sheet, the scope of governance extends well beyond that attributed to government by GNP accounts. For example, both fiscal and industrial regulations may directly reallocate resources by mandating "private" expenditures or redefining the use rights of current property owners. Less complete control is also very commonly exercised as with building and occupational standards; preferential and punitive tariffs, taxes and land use restrictions; and with policies regarding the relative intensity with which these many laws are enforced.

Although these other areas of governance are more difficult to quantify than government outlays are, it is generally agreed that the extent of nonfiscal governance has also increased significantly over this period. For example, the congressional register has undergone a dramatic increase in length as the intrusiveness of federal regulation in the U. S. has increased many fold.

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[1] Historical data prior to 1930 are all taken from the *Historical Statistics of the United States*, US Department of Commerce, 1975.

Another possible proxy for the scope of nonfiscal governance is nondefense federal government employment. New regulations and enforcement are implemented, at least in part, by federal employees. Administering tax and expenditure programs, and creating and enforcing regulations appear to be tasks which exhibit only modest economies of scale. Consequently, as the scope of regulation and enforcement increase, the government demands more inputs, and the federal labor force is necessarily expanded.[2]

Table 2 displays recent data on U. S. federal government employment based on data reported in *1997 Statistical Abstract*. Total federal employment has been fairly stable during this period although the composition of federal employment has changed significantly. Defense employment has been falling for a decade or more, while nondefense employment has been steadily rising for the past three decades. The latter is of particular interest here. The expansion of the federal labor force devoted to administering federal policies suggests that both the fiscal and regulatory reach of the federal government have been increasing during this period.

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[2]   Baumol (1967)) suggests that the production of government services is less amenable to innovation than private sector production. Consequently, government *expenditures* may increase relative to private expenditures if demand of public services are relatively inelastic if the relative price of government services increase relative to private services. In this case, government outlays would not necessarily reflect government scope as posited here, but rather simply the cost of a more or less fixed bundle of government services produced via means that do not gain in productivity as rapidly as production in the private sector. (The employment numbers noted above suggest that government services are growing in magnitude.)

Figure 2
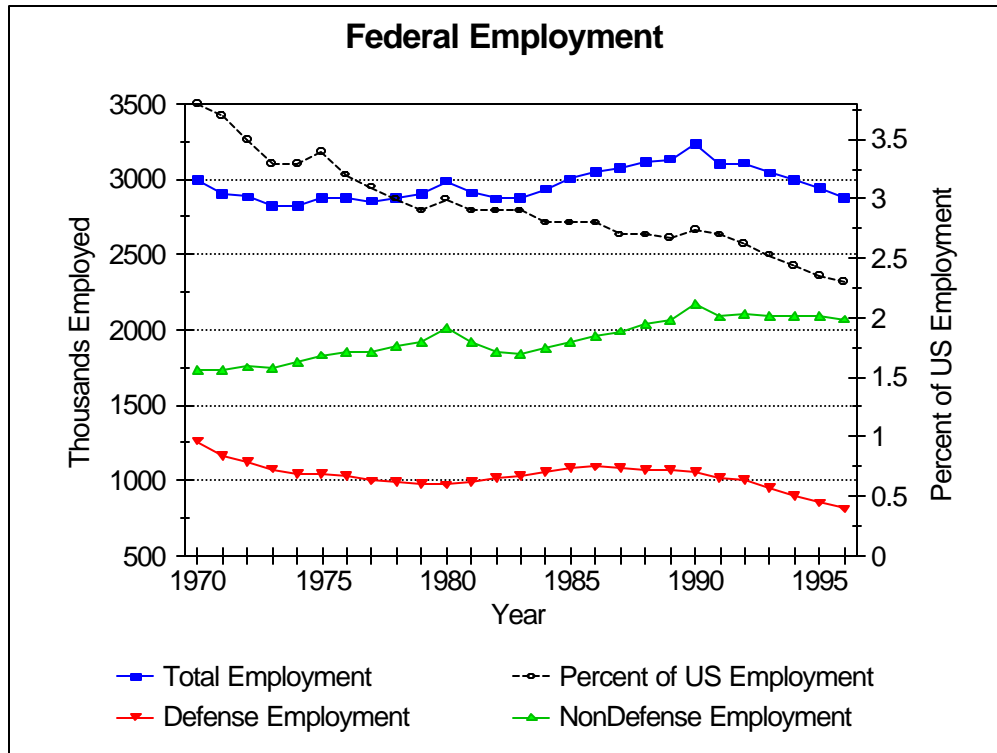
The similarity of the pattern of nondefense employment and the pattern of federal outlays during this period suggests that fiscal measures of the scope of government can serve as a reasonable proxy for the government's overall reach. That is to say, to the extent that resources directly and indirectly controlled by central governments are correlated with financial measures, financial measures may serve as an index for a more complete assessment of the scope of government, although the budget numbers themselves should be regarded as lower bound estimates of the scope of governmental authority. Financial measures of resources transferred from private to public coffers only directly measure what is collected and spent by government, but are correlated with the overall scope of governance.

IV. Government Growth and Electoral Equilibria

Within modern democracies, government growth emerges from a chain of policy decisions involving many different persons, each with their own private interests and institutional constraints. Voters select representatives, who select policies, which are implemented by a professional bureaucracy. Institutions determine electoral incentives, the powers accorded representatives, and the bounds of bureaucratic authority. As demonstrated throughout this volume, each link in the chain from voters to final policies may affect government policy and thereby the size of government.

The first link in the policy making chain in democracies is the one where the demand and supply of government services is most directly connected to the desires of ordinary citizens. This is where the politics of government growth may be said to begin.

A. Elections and Government Growth

In the most parsimonious public choice models of elections, candidates compete for the votes of a well informed electorate. Competition to secure office leads candidates who are interested in winning elective office to make campaign promises or adopt platforms which converge to essentially identical policy positions. Candidate positions converge to the median voter's ideal position in non-stochastic voting models (Black, 1958, Downs, 1957) or to the average voter's ideal position in stochastic voting models (Coughlin, 1992, Coughlin and Nitzan, 1981).[3] Increases in the fiscal scope of government in electoral models of policy formation are therefore an indirect result of increased median or average voter demands for government services.

Voter demands for services are affected by many of the same factors that affect demands for ordinary private consumer goods. The level of government services demanded increases if the relative price of government services falls through time, as would be the case if relevant factors of production in the private sector become increasingly scarce or if

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[3]   In their recent synthesis of many strands of electoral theory, Besely and Coate (1997) characterize two candidate equilibria where the electoral outcome is stochastic (each candidate has a 50/50 chance of winning) but the expected electoral outcome is the median voter outcome.

technological advance changes production methods favor public over private provision of services. Similarly, the demand for government services increases as personal income increases and leads consumers to demand more of all normal goods and services, including those produced by government. Voter preferences over goods and services (or ideology) may also change through time in a manner that increases demands for government services relative to nongovernmental services.   In a setting where votes are cast by a well informed electorate and electoral equilibria exist, government growth is entirely the result of continually increasing voter demands for government services.

B. Empirical Support for the Median Voter Model

An electoral model of government growth can be developed as follows. Suppose that voter i maximizes a utility function defined over his private consumption, C_i, and government service, G, with $U = u(C_i, G)$. Suppose further that voter i's personal income, Y_i, is not affected by policy choices and so can be treated as an exogenous variable for the purposes of his policy preferences. Tax obligations, T_i, clearly rise with government service levels, so voter i's after tax income and private consumption, C_i, falls as G increases, $C_i = Y_i - t_i(G)$. Substituting this budgetary relationship into the utility function, yields $u = u(Y_i - T_i(G), G)$. Differentiating with respect to G and setting the result equal to zero characterizes the government service level, G^*, that maximizes voter i's utility, e. g.

$$U_C(-T_G) + U_G = 0 \text{ at } G^*,$$

with $T_i^* = t_i(G^*)$ and $C_i = Y_i - t_i(G^*)$.

Each voter prefers the government service level that equates the marginal utility of government services with its opportunity cost in terms of lost utility from reduced nongovernmental consumption. Another implication of this first order condition is that voter i's demand for government services can be represented as a function of his income,

$$G_i^* = g_i(Y_i).$$

The usual assumptions about utility functions and tax schedules implies that the demand for government services may *rise or fall* with personal income:

$$G^{*}_{i\,Yi} = [U_{CC}(-T_G) + U_{GC}] / -[U_{CC}T_G^2 - U_CT_{GG} - 2U_{GC}(T_G) + U_{GG}].$$

However, this ambiguity may be avoided if we assume that voter i's utility function is separable, as often assumed in applied work, $U_{GC} = 0$. In which case, voter i's demand for government services unambiguously rises with his personal income. (In this case, $G^{*}_{i\,Yi} > 0$.)

If the spectrum of voter demands for government services (ideal policies) is assumed to be generated by differences in voter characteristics, such as income in the above model, "the" median voter will be the voter with approximately median characteristics: median income, median age, and median marital status. The median voter model implies that this median voter gets the government service level that she desires, and government growth occurs when she desires a broader range of services than previously supplied by government.

Such very lean electoral models do fairly well at explaining the general time series of aggregate federal expenditures levels during relatively stable historical periods. The explanatory power of such models can be illustrated by regressing real median voter household characteristics on total real government outlays. Table 1 below reports results of such ordinary least squares estimates using data from 1970 to 1996 obtained from the *1997 Statistical Abstract of the United States, 1997*.[4]

The good fits of the estimates reported in the first two columns indicate that government expenditures and median family income are positively correlated. The t-statistics listed in parentheses under the coefficient estimates indicate that the estimated coefficients are sufficiently accurate to be distinguished from zero at conventional levels of significance. The estimated Engel's curve for government services reported in column one demonstrates that some ninety percent of the growth of aggregate real government outlays can be explained by changes in the median voter's real income during this time period.

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[4] Data on the median voter's age, education and sex are computed (interpolated) from voter turnout tables which are available only for election years. The median voter's income is assumed to be the family income of a voter of median age and marital status.

Table 1

Dependent Variable:	Real Federal Outlays	Real Federal Outlays	Change in Real Federal Outlays
Independent Variable			
C	-1112.386 (9.24)	-15191.38 (3.295)	18.512 (4.105)
Real Median Income (married, age 40-64)	0.0363 (15.687)	0.0197 (2.95)	
Age of Median Voter		105.626 (2.414)	
Education of Median Voter (years)		71.960 (2.476)	
Average Sex of Electorate		17803.45 (3.22)	
Δ Real Median Income (married, age 40-64)			0.000956 (0.269)
R-square	0.907	0.97	0.003
F-statistic	246.079	56.394	0.072
Number of Observations	27	11	26

The estimate reported in column two embodies a richer characterization of the median voter which includes non-income characteristics such as age, education level, and "average sex." These election based data are available only for election years, thus the number of observations is reduced by about half. For most of this period, the median voter has been a woman about forty years of age with a high school education. There is a cycle in turnout that causes the median voter to be older in off-year elections than in presidential election years, and a similar electoral cycle that causes the average sex of voters to be "less feminine" during presidential election years because relatively more men vote in presidential elections. The median voter's education level has recently increased, and she now has a year of so of college. Note that the augmented model accounts for more of the variation in real government outlays than the

simpler model, which suggests that more than real family income influences the median voter's assessment of public policy. The latter is consistent with other electoral studies of particular federal programs. (See for example, Borcherding (1985), or Congleton and Shughart (1990).)

Of course, the high and positive correlation found in the regressions between government outlays and median income need not have been the case even within a median or average voter model. Governments might, for example, produce mainly inferior goods. Voters might demand only specific narrow government services, and government growth might cease at the point where tax receipts are more than sufficient to fund ideal levels of those services, as might be true of an idealized watchman state. In such cases, correlations between government income and median income would be negative or possibly not exist once satiation levels for government services are reached. Thus, besides suggesting that the median voter "gets her way," the regression results suggest that government services are normal goods. That is to say, the results are consistent with the hypothesis that the scope of governance increases because the median voter demands more extensive government services as her income rises.

C. Can Electoral Equilibria be Manipulated?

If one accepts the idea that the median or average voter determines government policies in a democracy--and there is much disagreement about this as evidenced throughout the present volume--there remains the question of whether the voters are susceptible to influence by groups with a policy agenda of one sort or another.[5] There are clearly many people and organizations that can benefit from policies that differ from the median voter's ideal, but it is by no means obvious how this could be accomplished if voters are perfectly informed and

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[5] Although the correlation between median income and government outlays is consistent with the predictions of electoral models, and suggests that voter demands for new and/or expanded services account for the general outline of government policy, other theories of governance also are consistent with this result. For example, such a correlation is also consistent with models of government based on the existence of significant political agency problems (Romer and Rosenthall, 1979)--or at a somewhat different extreme, models of democratic decision making where voter demands simply constrain what manipulative agents and interest groups may achieve.

electoral equilibria exist. Any candidate that violates his obligation to the median voter would simply be replaced in the next election by a more perfect agent.

However, in cases where voters are not perfectly informed about possible policies or the effects of alternative policies, changes in information can induce changes in policy preferences. New information may affect voter expectations about the consequences of alternative policies, the voter's own costs and benefits associated with those consequences, or alter the perceived range of services that might be provided by government. Demand for government programs would increase if voters are persuaded to expect greater benefits, lower costs, or become aware of new valuable but previously unconsidered government services.

The predictable effects of information on voter policy preferences also allow the possibility of manipulating electoral outcomes by systematically affecting the relative price of information. Organized groups whose policy interests differ from the median voter's would like to induce voters to prefer policies which better advance the group's interest. To this end, information may be subsidized in order to persuade voters to prefer new polices, as with campaign adds, press releases, conferences, and other sponsored publications and forums (Congleton, 1991). Alternatively, information may be made more costly, as with obfuscation and secrecy, in order to increase monitoring costs for voters and thereby increase the policy discretion of elected and non-elected government officials and employees.

The success of such informational strategies requires voters to have imperfect methods of filtering out the bias that persuasive informational strategies are intended to generate. Whether this is plausible or not depends on one's view of the information processing capacities of voters, the opportunity cost of engaging in information processing, and the incentives for such investments to be made. If voters invest in policy information only for the purposes of casting a vote, it seems unlikely that they would invest much time and energy in a careful analysis since they ordinarily face a choice between just two (fairly similar) policy alternatives. Survey evidence suggests that voters are often ignorant of many details of governance, and thus that they may be susceptible to some informational strategies. Moreover, recall that the median voter, as noted above, has only modest educational achievement. In any case, we certainly do

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see sustained efforts by both political candidates and policy advocates to influence voter opinions.

If such efforts are successful at the margin, it is possible that the median voter gets her preferred policy, but that her "preferred policy" is a consequence of efforts to persuade relevant government decision makers by manipulating the relative price of policy relevant information. In such cases, government growth at the margin would be at least partly a consequence of activities aimed at *creating* voter opinions and/or confusion and ignorance. How such non-electoral political forces may arise and influence government growth rates is the subject of the next two sections of this chapter.

V.   Bureaucracy and the Size of Government

The implementation of public policy is a task that requires significant expertise, oversight and coordination. It is partly for this reason that modern governments are the largest organizations within the territories that they govern. Public choice models of bureaucracy imply that these same government employees may be partly responsible for the size and scope of governance within those territories. Such a possibility is neglected in pure electoral models which implicitly regard government agents to be faithful public servants of the pivotal voter or, equivalently, to be so constrained by political institutions that only policies advancing the pivotal voter's interests can be adopted. However, it is quite possible that existing institutions allow representatives and the bureaucracy to act in a manner that is at least occasionally contrary to the median voter's interest.

A. The Bureaucratic Principle Agent Problem

Public choice models of bureaucracy were among the many political precursors of what is now called principal-agent theory by economists, where a conflict between the interests of the principal (the "public" or median voter) and the bureaucracy has been long argued. These early models implied that bureaucrats have a personal stake in the size of their agency's budget and discretion over that budget that leads them to lobby for and secure larger budgets than would

be optimal for the median voter. (See for example: Niskanen, 1971, or Breton and Wintrobe, 1975). As an agency's budget increases, every public spirited bureaucrat expects to be able to do a better job of advancing the agency's policy agendas and fulfilling its responsibilities. As an agency's budget increases, every bureaucrat must also realize that personal opportunities for advancement and perks tend to improve. Moreover, insofar as monitoring individual performance becomes more difficult as agencies increase in size, increased budgets tend to be associated with greater discretion. As discretion increases, the ability of bureaucrats to use bureau resources to satisfy their own preferences for policy, travel or leisure increases. In sum, bureaucrats have many reasons to prefer larger to smaller budgets, other things being equal, and larger budgets imply larger governments.

Of course, wanting a larger budget is one thing, and getting one is quite another as we all know with respect to our own private budgets. In order for bureaucracy to affect the growth of government services, there must be a method by which the bureaucracy can affect government policy. Clearly, mere hired hands would have a difficult time doing this, Wiengast and Moran (1983). The original arguments, and many recent ones (see for example: Lohmann and Hopenhayn, 1996, or Shleifer and Vishny, 1993) assume that the same expertise that justifies much of the personnel of government agencies also implies that bureaucrats have an informational advantage over the elected legislature and/or voters. This informational advantage allows the bureaucracy to negotiate for and secure larger budgets or promote more stringent regulation than would have been chosen by a fully informed principal.

In such cases, the bureaucracy contributes to government growth by increasing the budget and regulatory scope of governance beyond that implied by median/pivotal voter preferences. However, insofar as the scope of bureau discretion remains limited by voter monitoring, albeit fairly indirect monitoring, the median/pivotal voter continues to control the budget at the margin. Thus, rather than directly increase government growth, bureaucratic discretion tends to amplify the growth impulses of the electorate. That is to say, in models where bureaucrats have a private interest in larger budgets or more stringent regulation, as the

median voter increases his demand for services, the increase tends to be magnified by the bureaucracy's pursuit of larger budgets.

B. Some Evidence of the Effect of Bureaucracy on Government Size

Evidence of the effect of the bureaucracy on government growth can be developed by modifying the median voter model estimated above. The lean median voter growth model estimated above is augmented below with a new variable to capture the effect of bureaucratic efforts to secure greater budgets. Lagged, non-defense federal employment is used as a proxy for bureaucratic influence. The bureaucracy literature suggests that bureaucracy itself tends to cause government to grow, and this affect is borne out in the estimates reported in Table 2. The data, again, are from the *1997 U. S. Statistical Abstract*. Estimated in levels, government outlays tend to increase as median family income increases and as the size of the bureaucracy. Estimated in first differences, we find that changes in real outlays in a given year are larger than would otherwise have been the case if the nondefense federal employment increased in the previous year.[6]

Table 2

Dependent Variable:	Real Federal Outlays	Change in Real Federal Outlays
Independent Variable		
C	-1351.297	22.670
	(9.14)	(5.73)
Real Median Family Income	0.026	-0.0124
	(4.99)	(3.12)
Non Defense Federal Employment (-1)	0.404	0.258
	(2.53)	(2.506)
R-squared	0.913	0.316
F-statistic	116.068	5.072
Number of Observations	25	25

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[6] "First differences" estimation use changes in all the relevant variables rather than levels for the regression's dependent and independent variables.

VI. Interest Groups

The same informational problems that allow bureaucracies to have an effect on government growth, also empower other organized groups with policy agendas. There are many points in the process of determining policies within a democracy where individuals, firms and associations can participate in or subsidize the informational strategies that policy makers utilize to influence policy and thereby the scope of governance. For example, interest groups may provide candidates for elective office with resources so that they can more effectively get their message(s) to voters. If candidates compete for funds as well as for votes, the policy preferences of campaign donors may be expected to affect policy at the margin, Clark and Thomas(1995). Once elected, legislatures may reward their supporters by tailoring legislation to advance contributor interests or by providing contributors with advance notice of relevant legislative proposals and prospects. Legislation may also strategically open or close the process of regulatory rule writing process to public and private hearings. These informal channels of influence allow contributors and lobbyists to have a wide variety of "persuasive" effects on policy formation and thereby on the scope of governance.

For a variety of economic and political reasons, individuals and firms generally organize themselves into associations of one kind or another--special interest groups--in order to more effectively make use of the various "non-voting" methods of influencing public policy. Since Mancur Olson's early work on the logic of collective action (1965), there has been a presumption that relatively small groups with relatively intense common interests are more likely to be organized and, therefore, to be effective than groups that are large and have relatively diffuse interests. The former will have an easier time raising funds and securing other resources from their members with which to influence policy because incentives to free ride are weaker and solutions more readily applicable. Within politics, Olson's analysis implies that producers, especially in concentrated industries, are more effective at organizing and lobbying for policy preferences than are ordinary consumers who tend to be far more numerous and

tend to have much smaller private stakes in public policy outcomes. (See also Tullock, 1959, Stigler,1971, Becker, 1983.)

The interest in public policy outcomes that motivates politically active organization are often complex. Many, perhaps most, interest groups are organized to promote the financial interests of their members. Other are organized to promote particular normative conceptions of the proper role of government in what might be called the "good society." Many times these amoral (profit) and moral (ideological) motivations are intermingled as economic and ideological interest groups join forces on particular issues, or as the staff of such interest groups promotes their own agenda at the margin.

The overall effect of interest groups on the growth of government depends on the interests of the groups that organize, and the effectiveness of their efforts to alter policy. If only pro-growth groups organize and are effective at achieving their policy aims, then clearly government will become larger as a result. Moreover, if such groups become increasingly effective because of learning by doing, or are able to establish more or less permanent institutional changes (such as social security) where government obligations expand through time, those interest group activities may affect government growth rates as well as levels. In other cases, the effect of interest groups on governmental size remains unclear, a matter of the shifting balance of interest group effort and effectiveness.

A. A Rent-Seeking Model of Interest Group Politics

A simple contest model from the rent-seeking literature can be used to illustrate some relevant aspects of the interest group model of policy formation. Modeled in the large, interest group activity is a political struggle over the nation's income flow, Y_t. Suppose that some portion of national income remains "off the table" as a consequence of constitutional restrictions on "takings" and other constraints faced by the central government. If we denote this non-governmental domain as $(1-\alpha)Y_t$, the balance of national income, αY_t, is to be allocated by government.

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The interest group literature argues that the distribution of that portion of national income controlled by the government is affected by the relative efforts (or influence) of interest groups. A well organized interest group will invest the level of resources, R_{it}, in the political allocation game that maximizes their net receipts, Nit, from participating in that policy making process. Every group's relative success falls as the efforts of the other groups, R_{ot}, participating in the policy making process increase.

For purposes of illustration, we interpret the Tullock (1995) lottery formulation as a "sharing rule" which characterizes the manner in which interest group efforts, R_{it}, yield private net payoffs, N_{it}.

$$N_{it} = [R_{it}/(R_{it} - R_{ot})] \alpha Y_t - R_{it}$$

Differentiating with respect to Ri and solving allows the interest group's ideal investment in political influence to be characterized as:

$$R_{it}^* = -R_o t + (R_{ot} \alpha Y^t)^{\frac{1}{2}}$$

Other things being equal the greater the prize (or pool of resources to be divided up, here αY_t) the more resources a typical contestant is willing to invest. Contrariwise, the more opposition that will be encountered, the less that a particular group gains by participating (the smaller the share of total resources that are acquired), and the less effort in the political conflict tends to be.

In a symmetric contest between N_t interest groups, this reaction function implies a Nash equilibrium investment level of:

$$R_{it}^{**} = (N_t-1)\alpha Y_t/N_t^2$$

by each politically active group. Equilibrium investments in political influence depend upon the number, N_t, of other politically active groups and upon the prize, αY_t, to be distributed.

In this very standard formulation of an interest group based political influence game, the political stakes are assumed to be exogenous to the contest. Consequently, the standard rent-seeking model provides little direct insight into the process of government growth where the "prize," government transfers, change through time. However a minor extension of this model allows it to be used to characterize government growth. Suppose that rather than being

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given, the fraction of national income to be divided, α, is affected by the total expenditures in the contest at hand, $\alpha = a(N_t R_{it}^{**})$. Conflict within the domain of transfers may well expand that domain at the margin by affecting the balance of interest in the rule of law generally or constitutional constraints, or by raising voter monitoring costs. In this case, the same variables which affect political or rent-seeking expenditure levels and the distribution of government expenditures *also affect the scope of governance.*

B. Some Evidence of the Effect of Interest Groups on the Size of Government

Evidence of the empirical relevance of interest group models of government growth can be developed by regressing the number of politically active interest groups and national income on real federal outlays. The number of political action committees (PACs) reporting to the Federal Election Commission is used to approximate the number of political active interest groups. Again real federal outlays are used as the dependent variable. Data are from the FEC web page and the 1997 *Statistical Abstract.*[7] The results are is displayed in Table 3.

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[7]   Data for the number of PACs is taken from the Federal Election Commissions PAC count at htttp://www.fec.gov/press/pacchart.htm. Data for federal outlays and gross national product are taken from the 1997 *Statistical Abstract of the United States.*

Table 3

	Outlays	Outlays	Outlays
Constant	512.753 (17.408)	-161.193 (1.43)	-411.004 (3.211)
Number of Political Action Committees	0.099 (11.37)	0.0575 (6.71)	0.052 (6.99)
Per Capita Real Gross Domestic Product		0.0497 (6.045)	0.0360 (4.30)
Non Defense Employment (-1)			0.250 (2.93)
R-Square	0.866	0.954	0.969
F-Statistic	129.344	197.9	187.428
N Obs.	22	22	22

The data set used for the special interest group model is slightly more limited than that used above for the median voter and bureaucracy models because political action committee counts are a consequence of election finance regulations introduced in the early 1970s. Consequently, the proxy for the number of politically active interest groups exists only from 1974. None-the-less, it is striking how well the interest group model can account for the broad pattern of government finances over the last quarter of a century. As the number of PACs has increased and as per capita national income has increased so has the scope of governance. The interest group model augmented with a bureaucracy variable accounts for about 97% of the variation in the real magnitude of government outlays during this period.

VII. Institutions and Government Growth

The effects of voters, interest groups and the bureaucracy on public policy reflect particular institutional arrangements under which they operate. Formal institutions within a democracy grant eligible voters a direct say in choosing the legislature that writes governmental policies. Election laws specify who can run for office, who can vote, and the manner in which votes will be counted. Formal procedures within the legislature determine the extent and kinds of legislature that can be adopted by specifying an orderly process of collective decision making and review. Formal grants of authority or discretion to the bureaucracy are defined by law and further restricted by internal and external review. Opportunities for those outside government to affect the legislative and regulatory process are also largely determined by rules governing campaign contributions, public hearings, and bribery. Rules define the electoral process, the process of making new laws by legislation, the authority of the bureaucracy, and opportunities for interest groups. All these formal political institutions affect government policy choices and thereby the scope of governance.

A. Institutions and Government Growth

Perhaps the most fundamental procedural institution of a democracy is the election cycle. It may be bit surprising that even this most essential institution of democracy can have several effects on public policy formation. First, prior to an election, incumbents seeking reelection have incentives to remind voters of their meritorious service. Incumbents may seek voter approval, by sending out glowing accounts of their service, by continuing superior job performance, and/or by providing additional services and/or reduce taxes during electoral cycles insofar as voters (and others) monitor more intensively during election years than during non-election years, Rogoff (1990). In this manner, the electoral cycle may promote government growth as a method by which incumbents may campaign for re-election. Second, pre-election uncertainties may affect the durability of public policy commitments legislated by incumbents. For example, candidates and parties that fear losing office may attempt to "lock in" programs in areas of particular interest, Glazier (1989). To the extent that "lock ins"

introduce new programs or expand existing programs, they provide another mechanism by which the electoral cycle may affect governmental growth rates.[8]

In addition to *procedural* institutions which define the process by which policy decisions are made, other *constraining* institutions define the allowed domain of political choice. In most cases, restrictions on the domain of government policy making tend to reduce government growth by ruling out areas of policy growth. For example, the U. S. Bill of Rights rules out a number of areas of potential government regulation and transfers. In other cases, the creation or modification of constraining institutions can be a device for implementing durable programs sought by special interest groups or temporary majority coalitions which may induce government growth (Landes and Posner, 1975, or Crain (1999)).

In the latter case, legislatures and bureaus may attempt to institutionalize long term programs or weaken existing institutional constraints to promote the long term interests of politically active groups. Insofar as they succeed, the basic outlines of future policy decisions are restrained by the initial program design. For example, the obligations assumed by the U. S. government for the elderly and world security have fundamentally been unchanged for decades and have had very significant effects on government growth for much the past half century.[9] Alternatively, it is also occasionally possible to amend or weaken previous institutional constraints in a manner which promotes government expansion. For example, the 16th amendment to the U. S. Constitution was adopted in 1913. The 16th amendment greatly increased the scope of federal governance by replacing one long term fiscal constraint with a less restrictive one that allowed an income tax to be used to finance federal programs.

In either case, significant government growth can be generated by policy commitments made long ago and only occasionally modified. A good deal of the acceleration in the growth

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[8]   Elections themselves generate information about future public policies. Estimates of the next several years of government policies have a higher variance prior to an election after an election when it is known who will be making policy decisions. Alesina (1993) argues that this electoral information allows for the possibility of electoral business cycles in western democracies.
[9]   The difficulty of providing a given level of world security has recently declined with the collapse of the Soviet Empire. This allowed geopolitical security commitments to be implemented with fewer resources. Consequently, although security commitments have continued, defense expenditures ceased being an engine of government growth around 1990.

rate of government budgets observed by Tullock may be the result of a handful of quasi-constitutional policy decisions that expanded tax bases and made long term commitments to provide government services in policy areas like social and global security which have proven to be "naturally" expanding service areas.

B. Evidence of the Impact of Electoral Cycles on the Size of Government

Although a wide range of institutions may affect government growth, the empirical analysis focuses on the effects of two American electoral institutions: the electoral cycle and (very) lame duck congresses. Electoral cycles have recurrent effects on routine government policy making which allows them to be used to estimate the effect that institutions have on government growth. The ruling party of a (very) lame duck congress, or a lame duck congressional median voter, knows that policy will be determined by a different decision maker in the next congress. Consequently, such congresses may be expected to behave differently than those of congresses that expect to retain policy making authority in the next congress. For example, a lame duck congress may attempt to "lock in" programs that would otherwise be reduced by the next congress, Glazier (1989), or to "lock out" programs which might adversely affect them in the future, Besley and Coate (1998). Data on the lame duck congresses and the election cycle are, again, taken from the 1997 *Statistical Abstract*. Estimates for institution augmented "combined models" are reported below in Table 4.

Table 4

	Real Federal Outlays	Real Federal Outlays	Change in Real Federal Outlays
Constant	-520.020	-445.387	19.485
	(2.80)	(2.601)	(3.02)
Number of PACs	0.053	0.0573	0.592
	(5.17)	(6.16)	(2.55)
Real Median Income (Married 40-64)	0.011	0.0091	-0.0038
	(2.34)	(2.136)	(1.12)
Non Defense Employment (-1)	0.302	0.312	0.1067
	(2.75)	(3.15)	(1.24)
Lame Duck House		86.697	50.939
		(2.37)	(1.92)
Lame Duck Senate		-47.530	-23.844
		(2.17)	(1.71)
House Election Year			-18.582
			(1.83)
R-square	0.952	0.966	0.44
F-statisitic	118.43	91.4	1.73
Number of Observations	22	22	22

Column 1 reports a combined interest group electoral model of government outlays as a reference point. (It bears noting that the combined interest group election model does a better job of accounting for the growth in real federal outlays than either pure model accomplished by itself.) Column 2 reports similar estimates augmented with binary, 0/1, variables for the years in which the majority party of the senate and house changed. Column 3

reports estimates a first difference version of the model estimated in column 2 augmented with an election cycle variable.

Again the results are broadly consistent with the comparative statics interpretation of mainstream public choice models. A lame duck congress generates increased government expenditures in the following year (lock in) , and a lame duck senate reduces government expenditures in the following year (lock out)--other things being equal--for the period studied. Overall the estimates indicate that institutional considerations, here the electoral cycle, as well as day to day political influences, affect both the magnitude of government outlays and the extent to which they change from year to year.

VIII. Conclusion

Political policy making is a complex process involving a very large number of individuals each with their own very diverse interests and constraints. That such a process can be characterized with a few relatively simple models must strike those actively engaged in politics as nearly absurd. Yet the fundamental relationships identified by public choice scholars not only make a tangled process understandable in terms of individual incentives to be elected, to administer policy and to lobby for preferential treatment, but, as the empirical evidence provided in this chapter demonstrates, do a good job of predicting the broad outlines of continually changing government programs. It is surprising how well these simple but sophisticated models of political processes perform.

The estimates included in this chapter are not intended to be, and should not be interpreted as, thorough empirical studies, but are included to provide the reader with some idea of the predictive power and limits of the core models of public choice at explaining short term variations in the scope of governance. None-the-less, the estimates demonstrate that the core models of public choice can do a good job of accounting for government growth. Both the pure electoral model and the pure interest group model of political decision making accounted for a substantial portion of the growth of government outlays. In addition, a model that combines aspects of both interest group and electoral models has been shown to well

explain the growth of real government outlays within the period examined. (This chapter has not attempted to empirically differentiate between the alternative public choice explanations of the policies of democratic governments. Which perspective is correct is left to the reader's intuition and to future research.)

That political models account so well for the growth of government does not imply that other non-political factors are irrelevant. Just as the long term growth of private markets reflects innovations in products and production technologies, improved understanding of consumer demands, and the evolution of consumer preferences; such long term phenomena may be expected affect the opportunities and demands for governance by all parties concerned. Many of these factors are indirect determinants of interest group and electorate demands in the models developed in this chapter. In addition to such market-like phenomena, the long term demand for governance is also affected by political innovation-- by new insights affecting the organization of elections, political parties, interest groups, the bureaucracy and constitutions.

None-the-less, with these caveats acknowledged, it remains clear that the recent path of government expenditures is explainable in the political and economic comparative statics terms used by the core public choice models of public policy formation.

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