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The Growth of Government: A Public Choice Perspective

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I. The Facts

Much attention has been given to the question of the growth of government in recent years. That government has grown, and grown dramatically, cannot be questioned. Total government expenditure in the United States in 1984 as a percentage of gross national product (GNP) was 34.4 percent, up from 23 percent in 1949 and 10 percent in 1929 (see Table 1). Moreover, this growth is neither confined to this century nor to the United States. Federal Government expenditures as a percent of national income were but 1.4 percent of national income in 1799. They rose to double that figure by the end of the nineteenth century, but were still only 3 percent of GNP in 1929. Starting in the 1930s, however, federal expenditures took off, rising sevenfold as a percentage of GNP over the next 50 years (Table 1).

Table 2 presents comparable data for the United States and other OECD countries. Although spanning a much shorter time period, these data reveal across-the-board increases in the relative size of government in every OECD country. The smallest government sector is in Switzerland, accounting for 30 percent of Gross Domestic Product (GDP). In contrast, government expenditures in Denmark and The Netherlands absorbed more than 60 percent of GDP in 1982. Nor is the growth of government outside of the United States limited to the post-World War II period. Table 3 presents data for three European countries and the United States which indicate (1) a considerably smaller government sector before World War I than after it; and (2) a considerably smaller government sector after World War I than after World War II.

1/ The author is Professor of Economics at the University of Maryland. The paper was written when he was a Visiting Scholar in the Fiscal Affairs Department of the IMF. He has benefited from discussions of the topic with Vito Tanzi and comments by Peter Coughlin, Wallace Oates, and participants at the IMF Institute Pricing Policy Seminar, March 10-20, 1986.

Table 1: Government Expenditure as a Percentage of National Income and GNP, United States, 1799-1985

1	2	3	4	5	6	7
Year	Total Federal Expenditures (In millions of current dollars)	Total Federal Expenditures (As percent of national income)	Total Federal Expenditures (As percent of GNP (Kuznetz)	Total Federal Expenditures (As percent of GNP) (Economic Report)	Federal, State, and Local Expenditures (In millions of current dollars)	Federal, State, and Local Expenditures (As percent of GNP)
1799	10)	1.4				
1809	10)	1.1				
1819	21)	2.4				
1829	15)	1.6				
1839	27)	1.6				
1849	42)	1.7				
1859	66)	1.5				
1869	316	4.6	5.0			
1879	267	3.7	3.2			
1889	309	2.9	2.6			
1899	563		3.4			
1909	694		2.3			
1919	12,402		16.7			
1929	3,100		3.0	3.0	10,300	10.0
1939	8,800		11.7	9.7	17,600	19.4
1949	38,800		16.2	15.0	59,300	23.0
1959	92,100			18.9	131,000	26.8
1969	183,600			19.4	286,800	30.4
1979	503,500			20.8	750,800	31.1
1984	851,800			23.3	1258,100	34.4
1985 1/	959,100					

Sources: Figures for columns 3 and 4 are from Kendrick (1955), pp. 10-12. Figures for columns 5,6, and 7 are from the Economic Report of the President, 1985 and 1986, Table B-1, Table B-72, and Table B-74.

1/ Preliminary figure.

Table 2. General Government Expenditure and Revenue Relative to GDP at Current Prices, OECD Countries

(In percent)

	1960		1982	
	Expenditure	Revenue	Expenditure	Revenue
Australia	22.1	25.4	36.3	34.2
Austria	32.1	31.0	50.3	46.7
Belgium	30.3	27.5	56.6	45.5
Canada	28.9	26.0	56.5	45.4
Denmark	24.8	27.3	60.7	50.7
Finland	26.7	30.0	41.3	39.7
France	34.6	34.9	50.7	46.9
Federal Rep. of Germany	32.5	35.1	49.4	45.3
Greece	17.4 1/	21.1	37.04 1/	31.3
Iceland (1960/80)	28.2	36.4	34.4	36.0
Ireland (1960/81)	28.0	24.8	57.1	42.3
Italy	30.1	28.8	53.7	41.5
Japan	18.3	20.7	34.2	30.2
Luxembourg (1960/80)	30.5	32.5	54.3	51.5
Netherlands	33.7	33.9	63.7	55.8
Norway	29.9	33.1	48.8	52.8
Portugal (1960/81)	17.0	17.6	42.7	33.2
Spain (1964/81)	18.8	18.8	34.1	30.6
Sweden	31.1	32.2	67.3	59.7
Switzerland	17.2 1/	23.3	30.0 1/	33.2
Turkey (1962)	18.0	19.1	...	...
United Kingdom	32.6	30.3	47.4	43.7
United States	27.6	27.3	37.6	32.0
Mean (unweighted)	26.3	27.7	47.0	41.9
Coefficient of variation	0.24	0.21	0.22	0.21

Source: The Role of the Public Sector (OECD Economic Studies, 1985), p. 29.

1/ Current disbursements only.

Table 3. Tax Levels in the Major Western Countries, From 1900/01 to 1924/25

(As percent of national income)

	1900/1901	1913/1914	1924/1925
France	14.96	14.11	20.01
United Kingdom	9.99	11.29	24.77
Federal Rep. of Germany	7.99	10.51	29.21
United States	7.76	6.68	11.06

Sources: Chapter 1 of Seligman, Studies in Public Finance (1925), as reproduced in Tanzi, "Public Expenditure and Public Debt: An International and Historical Perspective" (1986) p. 5.

The figures in Tables 1, 2, and 3 suggest three questions: (1) What caused the increase in the relative size of government over the last two centuries? (2) What caused the growth of government to accelerate after World War II? (3) What explains the large disparities in levels and rates of growth in government across countries?

Public choice, the economic analysis of political institutions, would seem to be the natural analytical tool for answering these questions, and in recent years it has been frequently employed in this task. We turn now to a review of these efforts.

II. Explanations for the Size and Growth of Government

The same explanations that have been given for why government exists should, logically, explain why it attains a given size in one country and not in another, or why it starts to grow at a more rapid rate at a particular point in time. Thus, in reviewing the hypothesized causes for the size and growth of government, we shall essentially be

reviewing the explanations for the existence of government. If we think of each explanation as representing a variable or a variable set, then differences in size and rates of growth in size must be explained by differences in these variables.

1. Government as provider of public goods and eliminator of externalities

The traditional explanation for why governments exist is to provide public goods and eliminate or alleviate externalities. Let us assume that this is the only function governments perform. Each citizen can then be posited to have a demand for the public goods, which is a function of the individual's income, the relative price of public to private goods, and perhaps other taste variables. If we assume that voting takes place using majority rule, that citizens vote directly on the government expenditure issue, and that the only issue to be decided is the level of government expenditures, then we can apply Black's median voter theorem (1958), and write government expenditures as a function of the characteristics of the median voter. 1/ Letting X be a composite of private goods, G the composite of public goods, with P_x and P_g being their respective prices, Y_m the income of the median voter, and Z a vector of taste parameters, then one can write a government expenditure equation in logs for the median voter as:

$$\ln G = a + \alpha \ln P_g + \beta \ln Y_m + \gamma \ln Z + \mu \qquad (1)$$

An explanation for the relative growth of government can be obtained from (1) if any of the following conditions are met.

1. The demand for public goods is inelastic ($1 > \alpha$) and P_g has risen relative to P_x.

2. The demand for public goods is elastic ($1 > \alpha$) and P_g has fallen relative to P_x.

3. Since we know Y_m has been increasing over time, for changes in Y_m to explain growing G relative to X, β must be greater than 1.

4. Some taste variable could change in the appropriate way, given the sign of $\hat{\gamma}$. 2/

1/ See Barr and Davis (1966), Davis and Haines, Jr. (1966), Borcherding and Deacon (1972), Bergstrom and Goodman (1973), and Deacon (1977a, 1977b).

2/ For discussion of these possibilities relative to the growth of government issue, see Borcherding (1977b), Buchanan (1977), and Bennett and Johnson (1980, pp. 59-67).

Let us start with the last possibility. The very definitions of public goods and externalities connote geographic proximity. The smoke from a factory harms more individuals in a densely populated community than when the population is thinly dispersed around the factory. A park is easier to reach and probably of more utility in a densely populated community than in a rural area. Increasing urbanization has occurred throughout the last century in every developed country, and has been taking place for well over a century in most. Urbanization or population density is an obvious choice for a Z variable with a predicted positive sign on its γ. It is surprising, therefore, how little empirical support for this hypothesis one finds. 1/ No other "taste" variable has come forward with both compelling a priori and empirical support.

Nor can one account for much of the relative increase in government size from increasing personal income. Although some estimates of the income elasticity of demand for G (β) are greater than one, 2/ a greater number are less than one, and very few indeed are significantly greater than one. 3/

1/ See Borcherding (1977b), Deacon (1977b), but for a critique of this literature, see Oates (1986). Most work estimating (1) has been at the local governmental unit level, and many public good-externality problems may be resolved at higher levels of governmental aggregation. But Mueller and Murrell (1985) did not find a positive relationship between government expenditures and urbanization across countries.

2/ Deacon (1977b) notes that parks and recreation expenditures appear income elastic in most studies.

3/ There is good reason to believe that existing estimates of the income elasticity of demand for G based on state and local cross-sectional data are biased downward. Most studies assume that the cost of providing government services is the same across communities. But a given level of safety may be provided more cheaply in a wealthy community than in a poor one. Thus, the price of safety is lower in wealthy communities and, given that the price elasticity of this service is less than one, wealthy communities will consume less ceteris paribus. With the price of government services held constant across all communities, this wealth-price effect is shifted to the income elasticity biasing it downward (Hamilton, 1983). Schwab and Zampelli (1986) observe a jump in β from near zero to one, when this income-price relationship is properly estimated. But in terms of accounting for the long-run growth of government, this adjustment merely shifts some of the explanation of government growth using (1) from the price term to the income term. The Hamilton-Schwab-Zampelli critique implies that the growth of income should, ceteris paribus, bring down the cost of providing government services, thus partially offsetting the Baumol effect on price. The total effect of changes in income on expenditures measured by Schwab and Zampelli is roughly zero.

Existing studies all estimate β using state and local government jurisdiction data. 1/ Most redistribution takes place at the national level, however, and redistribution has been one of the most rapidly growing components of federal expenditures. Estimates of β based on state and local government data may not be reasonable approximations to the income elasticity of redistribution expenditures at the national level. But estimates of the income elasticity of charity contributions also tend to lie below one, suggesting that this adjustment also would not account for the growth of government (Clotfelter, 1985, Chapter 2).

The remaining candidate for explaining government growth is the price elasticity of demand. Most estimates of α suggest that it is significantly greater than -1, and thus imply a relative growth in government, if there has been a relative increase in its price. Baumol (1967) has argued that we might expect a relative increase in the price of government-provided "goods" given that many of them (education, police protection) are services. Since productivity increases come largely from technological change and this in turn is typically embodied in capital equipment, there is less potential for productivity advances in service sectors like the government.

While the argument has intuitive plausibility, it is not clear how far it can be pushed. The military services are quite capital intensive today and spend vast sums on productivity-enhancing R and D. Similarly computers, xerography, and other innovations have brought productivity increases in many types of white collar jobs. Thus, it is not apparent a priori that productivity increases in government could not keep apace of those in the private sector, at least of those in the private service sector. But, it appears that they have not. A fair consensus exists across studies of government productivity, which suggests that it lags private sector productivity and may in fact be zero or negative. 2/ As Buchanan (1977, pp. 8-9) notes, lagging productivity in the government sector may be more symptomatic of the "problem" of government growth than the cause of it.

Be that as it may, direct testing and measurement of the "Baumol effect" are nonexistent. Pommerehne and Schneider (1982) offer an indirect test by comparing their predicted levels of government output

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1/ Mueller and Murrell (1986) estimate government size relative to GDP at the national level. Although always positive and often significant, the coefficients on income in their equations are too small to provide much of an explanation of the growth of government.

2/ See in particular, Fuchs (1968), Gollop and Jorgenson (1980), Ross and Burkhead (1974, Chapter 6), and the discussion in Pommerehne and Schneider (1982, pp. 312-13).

in each Swiss municipality assuming zero productivity growth in the public sector to the actual ones. They interpret a high correlation between the expenditures predicted assuming no productivity increase and actual expenditures as support for the Baumol effect.

Assuming Pommerehne and Schneider's results do confirm the existence of a Baumol effect, how much of the growth in government does it explain? 1/ Some parts of the government budget (e.g., pure transfers, interest payments) are difficult to think of as "goods" whose price rises relative to private goods. The budget component for which Baumol's effect seems most appropriate is perhaps what the OECD characterizes as "Final Consumption," i.e., the goods and services actually absorbed by government. Final consumption expenditures for the OECD countries from 1960 through 1983 are presented in Table 4. Assuming that the price of government goods and services rose relative to the price of private goods by 2 percent per year, government services would be 61.6 percent more expensive relative to private goods in 1983 than they were in 1960. If the price elasticity of demand for government services were -0.5, 2/ then the Baumol effect would imply a 12 percent relative increase in final consumption expenditures. This figure comes close to the 14 percent increase actually observed for the United States between 1960 and 1983, but falls considerably short of the average increase of 50 percent observed across all of the countries listed in Table 4. Thus, at best, the Baumol effect seems capable of explaining about a quarter of the increase in final consumption expenditures for the average OECD country.

2. Government as redistributor of income and wealth

The government giveth and it taketh away.

Several writers have criticized the view that government exists to provide public goods and alleviate externalities, arguing that this is essentially a normative description of government, a theory of what government ought to do, not a description of what it in fact does. These writers argue that a positive theory of government must analyze the redistributive nature of government activity. Aranson and Ordeshook (1981) press the point most forcefully, emphasizing that all government expenditures have a redistributive component. Roads must be built in this location or that. The contracts to construct the roads must be given to one set of firms to the loss of all others. As Aranson and Ordeshook view it, to understand what government is and why it grows, one must analyze its redistributive activities.

1/ It is interesting to note that Pommerehne and Schneider estimate the Baumol effect for the OECD country with the smallest growth in government since World War II.

2/ This figure seems reasonable from the studies surveyed by Borcherding (1977b, p. 49).

Table 4. Total Final Consumption Expenditure of Government, 1960-83

(As percent of GDP)

	1960	1971	1975	1983
United States	16.9	18.5	19.1	19.3
Japan	8.0	8.0	10.1	10.2
Fed. Rep. of Germany	13.4	16.9	20.5	20.0
France	13.0	13.4	14.4	16.3
United Kingdom	16.4	17.8	21.8	22.0
Italy	12.8	15.5	15.4	19.5
Canada	13.6	19.2	20.0	21.0
Average of the above	13.4	15.6	17.3	18.3
Australia	9.4	12.5	15.4	17.6
Austria	13.0	14.8	17.2	18.7
Belgium	12.4	14.1	16.4	17.7
Denmark	13.3	21.3	24.6	27.2
Finland	11.9	15.2	17.1	19.4
Greece	11.7	12.5	15.2	18.8
Iceland	8.5	10.0	11.1	12.3
Ireland	12.5	15.2	18.6	20.2
Luxembourg	9.8	11.7	14.9	17.3
Netherlands	12.8	16.0	17.4	17.7
New Zealand	10.7	12.9	14.8	17.0
Norway	12.9	17.9	19.3	19.5
Portugal	10.5	13.5	15.0	14.6
Spain	7.4	8.6	9.2	12.3
Sweden	15.8	22.5	23.8	28.5
Switzerland	8.8	10.9	12.6	13.5
Turkey	10.5	13.4	12.6	10.8
Average of the above	11.3	14.3	16.2	17.8
Overall average	11.9	14.7	16.7	17.9

Source: OECD, as reported in Tanzi (1986, p. 17).

Meltzer and Richard (1978, 1981, 1983) present perhaps the simplest and yet most elegant public choice analysis of the growth of government. Their model presumes that all government activity consists of redistribution. This redistribution occurs via per capita lump sum grants of r, financed from a proportional tax of t levied on all earned income. If $\bar{y}$ is mean per capita income, then a balanced government budget implies

$$r = t\bar{y} \tag{2}$$

An individual's utility depends on his consumption, c, and leisure, ℓ. Letting n be the fraction of total time worked, we have the identities

$$\ell = 1 - n \tag{3}$$

$$c = (1 - t)y + r \tag{4}$$

Meltzer and Richard assume that income depends on an ability or productivity factor x which is randomly distributed across the population. Given the hours one works, n, one's income is higher the higher one's x factor.

$$y = nx \tag{5}$$

Given t and r an individual's only choice is how much to work, n. Maximizing $U(c, \ell)$ with respect to n given (3), (4), and (5) one gets, as a first order condition

$$U_c(1 - t)x = U_\ell \tag{6}$$

or

$$\frac{U_\ell}{U_c} = (1 - t)x \tag{7}$$

The marginal rate of substitution between leisure and consumption is equated to the net of tax marginal product of an individual's time. From (7) we can obtain the number of hours an individual works. For the specific case of a Stone-Geary utility function, $U = \ln(c + \gamma) + a\ln(\ell + \lambda)$, one obtains for optimal n

$$n = \frac{(1 - t)(1 + \lambda)x - a(r + \gamma)}{(1 - t)(1 + a)x} \tag{8}$$

The denominator of (8) must be positive, but with small enough x the numerator can be negative. Obviously n cannot be negative, thus there is a critical level of ability, x_o, at which optimal $n = 0$, at or below which an individual chooses not to work. Letting $n = 0$, we can see from (8) that

$$x_o = \frac{a\,(r + \gamma)}{(1 - t)(1 + \lambda)} \tag{9}$$

While r and t are exogenous from the point of view of the individual, they are endogenous to the political system. Substituting (8) back into the individual's utility function we see that the individual's utility ultimately depends on r and t. When choosing r and t the rational voter considers this, and takes into account the relationship between r and t given by (2). Now $\partial\bar{y}/\partial t < 0$. Mean income falls as the tax rate rises due to the negative incentive effects of higher taxes on effort. 1/ Thus, r is a function of t rising at a diminishing rate until $-d\bar{y}/dt = \bar{y}/t$, and then falling (see Figure 1). Voters who work have positively sloped indifference curves like U^1 and U^2 ($U^2 > U^1$), since higher taxes lower utility while increased subsidies raise it. Voters who do not work do not have their utilities affected by changes in t. Their indifference curves are horizontal straight lines like U^3 and U^4, with $U^4 > U^3$. Each rational voter recognizes that $r = \bar{y}t$ constitutes the opportunity set in choosing t (or r). Each voter chooses that $t - r$ combination along the $r = \bar{y}t$ curve which maximizes his/her utility. Voters who do not work all choose the t^* which maximizes the lump sum transfer. Voters with $x > x_o$ favor lower ts than t^*. If all voters have the same utility function and differ only in their ability factors, x, voters with higher xs have steeper utility functions and favor lower ts. The voters are basically confronted with a one dimensional choice with t uniquely defining r. The median voter theorem can be applied and the preferences of the median voter are decisive. If U^1 and U^2 are indifferences curves for the median voter, then $t_o - r_o$ is the optimal tax-subsidy combination.

Meltzer and Richard suggest that one explanation for the secular growth in government in this country and around the world over the past two centuries has been the expansion of suffrage. Those added to the voting roles are more often than not those with incomes (ability levels) below the median. Thus, the median voter changes to someone with a flatter indifference map in Figure 1, with tangency further to the right. A decline in the income of the median voter relative to the mean has the same effect. Thus, increased inequality of income as well

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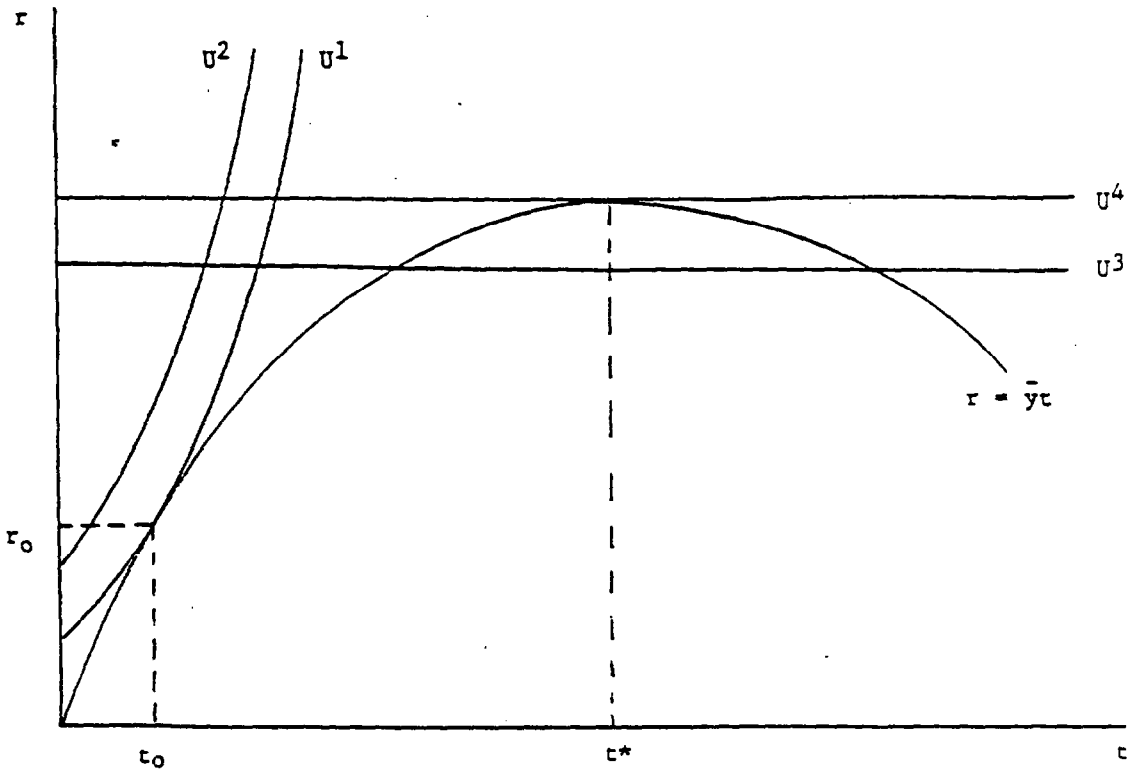
1/ Note as t rises more individuals choose not to work. $\partial x_o/\partial t = a(\gamma + \alpha)/(1 + \lambda)(1 - t)^2 > 0$.

Figure 1

The Optimal Choice of t



as increased suffrage are given as the primary causes for the growth of government by Meltzer and Richard, with some empirical support for their hypothesis presented.

Peltzman (1980) also presents an explanation for the growth of government which depends on the shape of the distribution of income. Peltzman does not make use of the median voter theorem in developing his argument, however. Rather, he envisages a form of representative government in which candidates compete for votes by promising to redistribute income towards those voters or groups of voters that agree to join the candidate's coalition of supporters. Peltzman reasons that the more equal the distribution of income among the potential supporters of a candidate, the more bargaining strength they have. Thus, the candidate must promise a greater amount of redistribution the more equal the initial distribution of income is among voters. Peltzman points to the spread of education as an important factor increasing the equality of pretransfer incomes and thus leading to a growth in the size of government. Peltzman's hypothesis depends upon increasing equality of income to drive the growth of government, where Meltzer and Richard's rests on increasing inequality. But Peltzman too finds empirical support for his hypothesis in the data he examines.

Both the Meltzer-Richard and Peltzman papers discuss the role of government as if it were exclusively to engage in redistribution. Aranson and Ordeshook (1981) and Brunner (1978) also place primary emphasis on government's redistributive activities. But if redistribution is the primary activity of government, then some additional logical arguments are missing to explain the growth in government to the sizes now observed in different countries. Alternatively, government activity is not exclusively redistributive.

Government has grown to far greater size than is necessary just to achieve redistribution. If one group or a coalition of groups can make use of the democratic machinery of government to achieve a greater share of the pie, then one would think that it ought to be able to do so in such a way so as not to use up such a large fraction of the pie in bringing about the redistribution. The number of programs and people making up government seems much larger than necessary just to achieve redistribution (see, e.g., Table 4).

A second set of logical difficulties besets Meltzer and Richard's use of the median voter theorem to explain the growth of government. This theorem postulates a single-dimensional issue space where issues are

decided by a direct vote of the citizens. 1/ Outside of Switzerland, no country makes much use of direct democracy, and even in Switzerland it is not employed in all cantons, much less at the national level. Nor are political agendas limited to single dimensional tax-subsidy or expenditure issues. Now it is common in economics to assume that the outcomes of a theorem hold in the real world even if the assumptions underlying the theorem are only roughly satisfied. But usually when this is done there is no alternative theorem whose assumptions better fit the conditions observed in the real world. Here this is not the case, however. We do have theorems about what happens when issue spaces are multidimensional and representative democracy is employed rather than direct democracy. Many of these theorems suggest that no equilibrium outcome may result. Given these alternative theorems, it is not clear how much weight one can give to the very specific predictions that emerge from the Meltzer-Richard model.

An additional conceptual difficulty surrounds their reliance on the extension of suffrage as an explanation of the growth of government. The addition of individuals with below median productivity and income changes the identity of the median voter making the former median voter no longer decisive and worse off than before the extension of suffrage. Thus, an extension of suffrage that would result in a new median voter of lower income would never be approved under majority rule. 2/ If the size of government is endogenous to a political process that uses majority rule and the median voter theorem is applicable, then the extension of suffrage cannot be endogenous to the same political system.

1/ Multidimensional variants exist, but the assumptions underlying these are so extreme that it is highly improbable that any political body voting on actual issues would ever satisfy them. See Plott (1967), Sen (1970, pp. 37-55), Enelow and Hinich (1984, Chapters. 3, 4).

2/ Of course, an expansion of suffrage that added voters with above median income to the list of voters would also change the identity of the median voter. Such an expansion should also be opposed by the median voter and all voters with lower incomes--if the higher income individuals who would be added to the voter roles were already paying taxes--since the new voters would favor lower taxes and transfers making the previous majority worse-off. But the addition of higher income citizens to the tax base, say following the annexation of a wealthy community, might be favored by a previous winning majority, even though it changed the identity of the median voter, since the expansion of the tax base might more than make up for the loss in capacity to choose the tax subsidy rates (see Mueller, 1979, pp. 134-45).

This difficulty can be circumvented by assuming that changes in suffrage are governed by some other form of voting rule, like a constitutional amendment. But this way out of the logical problem raises other difficulties. Constitutional changes require even more support than a simple majority. How can these changes come about given their redistributional implications in a world of rational, self-interested voters? Moreover, other constitutional changes with important redistributional implications have occurred, like the amendment to the U.S. Constitution allowing Congress to levy an income tax. If other voting rules and perhaps other motivations explain these actions, how can we be sure that these other factors do not also affect the size of government?

Both Meltzer and Richard and Peltzman, 1/ assume that all redistribution is from rich to poor. But this characterization of the redistribution government induces does not fit the facts. Some redistribution is in the direction of the rich, 2/ and much redistribution is difficult to categorize in rich/poor terms. Indeed, if all of government activity can be characterized as some form of redistribution, the most salient feature of this redistribution process is probably its lack of a single directional flow. 3/

The multidimensional character of government redistribution activity makes it difficult to rationalize all government activity as purely redistributionally motivated. If all government programs simply take from one group and give to another, and if all citizens participate on both ends of the redistribution process, who gains from the process? Why do not the citizens simply abolish the government and save the tremendous deadweight losses from zero sum redistribution? There must either be some clear gainers from the redistribution process, who are in a position to sustain and enlarge their gains, or all government activity is not purely redistributional in character. If the former explains the growth of government, who are those gaining from government and how do they achieve their goals within the rules of a democratic process? If some, not insignificant proportion of government activity is not purely redistributional, but say is to provide public goods, then we again have a logical problem in explaining government growth as a result of redistributional struggles. Once we admit that a large component of government expenditure is to provide public goods, then all redistributional objectives can be achieved simply by changing the tax shares of

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1/ Peltzman (1980) backs away from this assumption at the end of his paper (pp. 285-87).

2/ Fratianni and Spinelli (1982) note the increasing importance of special programs to help business in their discussion of the growth of government in Italy.

3/ Aranson and Ordeshook (1981) emphasize the multidimensional character of the redistribution process, as does Brunner (1978) to some extent.

individuals or groups of individuals. 1/ One typically does not have to spend money on or give money to a group to give it greater command over private goods.

Despite these criticisms, it is difficult to suppress the impression that an important component of the explanation for the growth of government lies in its redistributional activities, so substantial has been the growth in the transfer component of government budgets. 2/ (See Table 5.) But these arguments make clear that the hypotheses put forward so far, which attempt to explain the growth of government in simple redistributional terms, are inadequate. Some additional elements are needed to complete the story. Two villains often mentioned as instrumental in the growth of government are interest groups and bureaucrats.

3. Interest groups and the growth of government

The pioneering public choice analysis of the size of government question might be regarded as Tullock's (1959) classic discussion of majority rule. Tullock presented an example in which a community of 100 farmers votes on proposals to repair access roads, which benefit only a few farmers each. Using a majority rule, a coalition of 51 farmers is predicted and a political outcome in which the only roads repaired are those that service the 51 farmers in the winning coalition. Since these 51 farmers pay only 51 percent of the costs of repairing their roads, they vote to have them maintained at a higher level of repair than they would if they had to cover the full costs. Thus, majority rule might be said to lead to a level of government expenditures, that is excessive relative to the Pareto optimal level that would occur under the unanimity rule, in one of two senses. First, more is spent repairing those roads than would be under the unanimity rule. Second, if the unanimity rule were in use, there would be no incentive to have the government (i.e., the community to which the 100 farmers belong) repair the roads at all. Each small group of farmers could agree among themselves to repair their own roads. The repair of access roads would not be a public issue at all in the community of 100.

While Tullock's road repair example nicely illustrates how government may become too large under majority rule, it also illustrates some of

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1/ See Mueller and Murrell (1985). Of course, those groups that pay no taxes to finance the public good portion of the budget can be subsidized further only by an expenditure/transfer program, but not enough groups like this exist to account for current government activity in most countries. One might object that tax cuts cannot always be designed to benefit specific groups, but the number of tax loopholes and complexity of tax loophole legislation belies this point.

2/ See also discussion in Tanzi (1986).

Table 5. Government Expenditures/GDP: United States and Fifteen Developed Countries (DCs), 1953/74

Expenditure Category	1953/54	1958/59	1963/64	1968/69	1973/74
Total government					
United States	27.0	27.5	28.0	31.1	32.2
Avg. of 15 DCs	28.9	29.9	31.7	35.8	39.4
SD of 15 DCs	4.1	4.3	4.8	5.9	7.2
CV of 15 DCs	14.1	14.2	15.0	16.6	18.3
Defense expenses					
United States	12.25	9.9	8.45	8.95	5.7
Avg. of 15 DCs	4.05	3.3	3.24	2.83	2.51
SD of 15 DCs	2.46	1.55	1.32	1.13	1.03
CV of 15 DCs	60.7	46.5	40.7	39.9	41.1
Transfers 1/					
United States	5.5	6.7	7.5	8.7	11.0
Avg. of 14 DCs	11.9	12.9	13.8	16.2	18.8
SD of 14 DCs	4.3	4.2	4.3	4.9	5.9
VD of 14 DCs	36.4	32.5	31.0	30.3	31.6
Nontransfer, non-defense					
United States	9.2	10.9	12.05	13.4	15.5
Avg. of 15 DCs	12.64	13.54	14.7	16.61	18.37
SD of 15 DCs	2.89	2.32	2.11	3.27	3.47
CV of 15 DCs	22.9	18.5	14.4	19.7	18.9

Sources: See Peltzman (1980). All sample data from National Accounts of OECD Countries; U.S. data from Economic Report of the President.

1/ Transfer payments were not broken down separately for Switzerland.

Notes: Sample countries are Australia, Austria, Belgium, Canada, Denmark, Finland, France, the Federal Republic of Germany, Italy, Japan, the Netherlands, Norway, Sweden, Switzerland, and the United Kingdom. "SD of 15 countries" is standard deviation for 15(14) country sample, "CV" is coefficient of variation.

the troublesome questions raised earlier. If a coalition of 51 farmers can impose taxes on their neighbors without the neighbors receiving any benefits, why do they not simply take the money as a cash transfer and repair the roads themselves at the optimal level, rather than making suboptimally large road repairs through the government?

The logrolling under majority rule Tullock describes resembles the kind of pork barrel logrolling under majority rule one often associates with interest group pressures. Virtually every study which discusses the growth of government mentions interest groups as a possible cause and then goes on to discuss some other cause for the growth of government leaving the role of interest groups in limbo. The questions of whether, how, and why interest groups lead to the growth of government remain largely unanswered.

If one begins to ask these questions, the first issue one confronts is whether interest groups pursue redistributive favors from government, or the provision of public goods and alleviation of externalities. A moment's reflection brings to mind the names of interest groups with each objective. A farmers' cooperative seeking price supports would seem to belong to the category of a redistribution-oriented interest group, a naturalists' club wanting to save the whales is in the category of a public good-seeking club. Thus, in terms of the overt objectives of interest groups it would seem possible, if they do play an important role in explaining government growth, that it could be either the redistributive or the public good-expenditure components that interest groups expand, or both.

Becker (1983) has developed a model of interest group, or as he calls them pressure group, influence, which is relevant to the issue at hand. At first glance, it appears that Becker is analyzing the purely redistributive gains of interest groups. He states that, "The basic assumption of the analysis is that taxes, subsidies, regulations, and other political instruments are used to raise the welfare of more influential pressure groups" (pp. 373-74). He assumes a single good, income, to be distributed among the interest groups, with some groups getting a subsidy S and others paying a tax R. The summation of the subsidies received over all interest groups is less than the taxes paid, however, due to the transactions costs of collecting and distributing subsidies and the deadweight losses from adverse incentive effects when incomes are taxed and subsidies granted.

Each group applies pressure to increase (reduce) its subsidies (taxes). Assuming diminishing returns to applying pressure, an equilibrium is obtained in which the pressure to increase subsidies just equals the opposing pressure to reduce taxes. For each group the marginal cost of applying additional pressure just equals the marginal gain from reduced taxes or increased subsidies. Several, not totally obvious propositions

follow from this analysis. One is that "Competition among pressure groups favors efficient methods of taxation" (Becker, p. 386). Those groups that can be cheaply subsidized or are expensive to tax do better. In particular, "Politically successful groups tend to be small relative to the size of the groups taxed to pay their subsidies" (Becker, p. 385).

While the analysis is entirely couched in terms of taxes, subsidies, and regulations as if all government activity were of a redistributive nature, one of the implications of the analysis is that the government does provide public goods and alleviate externalities whenever the collective gains from these activities exceed the transactions costs of bringing them about. "Political policies that raise efficiency are more likely to be adopted than policies that lower efficiency" (Becker, p. 384). This proposition has broad implications for the types of activities that are subsidized and taxed and the types of interest groups helped and harmed. If education has positive spillovers, teachers' unions will have more success winning public support for their "industry" than, say, a plumbers' union. Moreover, the support is more likely to take the form of more funds for more teachers than higher wages for existing teachers. Factor owners in the liquor and cigarette industries are more likely to suffer from excise taxes than are factor owners in the plumbing goods industry due to the perceived negative externalities from drinking alcohol and smoking tobacco.

Becker's paper gives insight into how interest group activity and government activity might be linked. It also demonstrates that the expenditures and taxes that interest groups bring about have more than just redistributive characteristics. Groups whose interests have public good or externality attributes are more likely to be successful than those seeking pure redistribution. Groups whose productive activities have negative externalities are more likely to be taxed.

North and Wallis (1982) link the growth of government to interest group activity. They draw a parallel between the growth of government and the growth of white collar and managerial employment in the private sector. Both are seen as a response to the greater transaction costs from organizing a market economy with increasing specialization. "Growing specialization also created a host of new interest groups" (p. 340). The demands these groups press upon government are not simply for a redistributive handout, but are to alleviate the transaction costs these groups bear within an increasingly specialized society. Thus, as with Becker's analysis, interest group influence on government activity is seen as having both an efficiency-enhancing dimension as well as a redistributive dimension. North and Wallis present the data in Table 5 (taken from Peltzman, 1980), illustrating that nondefense, nontransfer expenditures of government have grown faster than total government has grown since World War II, and almost as fast as transfers.

The only direct evidence that interest groups affect the size of government presented to date is by Mueller and Murrell (1985, 1986). They describe a political process in which parties supply interest groups with favors in exchange for their support. When these favors take the form of goods targeted to specific interest groups, but with some spill-overs for other groups, government grows larger. The number of organized interest groups in a country is shown to have a positive and significant effect on the relative size of the government sector in a cross-section sample of OECD countries for the year 1970.

The analyses of Becker and Mueller and Murrell are essentially static, describing an equilibrium in which interest group pressures are in balance, an equilibrium in which government is bigger than it would be in the absence of interest group influence. They do not describe a process in which interest group influence leads to growing government size. Olson (1982) has discussed the conditions favoring the growth of interest groups, however, and Murrell (1984) has presented evidence consistent with Olson's hypotheses concerning the causes of interest group formation. The stable economic and political environment in western developed countries since World War II will have facilitated the growth in interest groups according to the Olson thesis, and this growth, in turn, may help explain the relatively poor macroeconomic performance of some countries in the 1970s and 1980s. If the number of effective interest groups in developed countries has grown since World War II, then their growth could help explain the relative growth of government. Government growth and macroeconomic inefficiency would, in turn, then be tied together. Unfortunately, however, their possible interrelationships remain largely unexplored. 1/

4. Bureaucracy and the growth of government

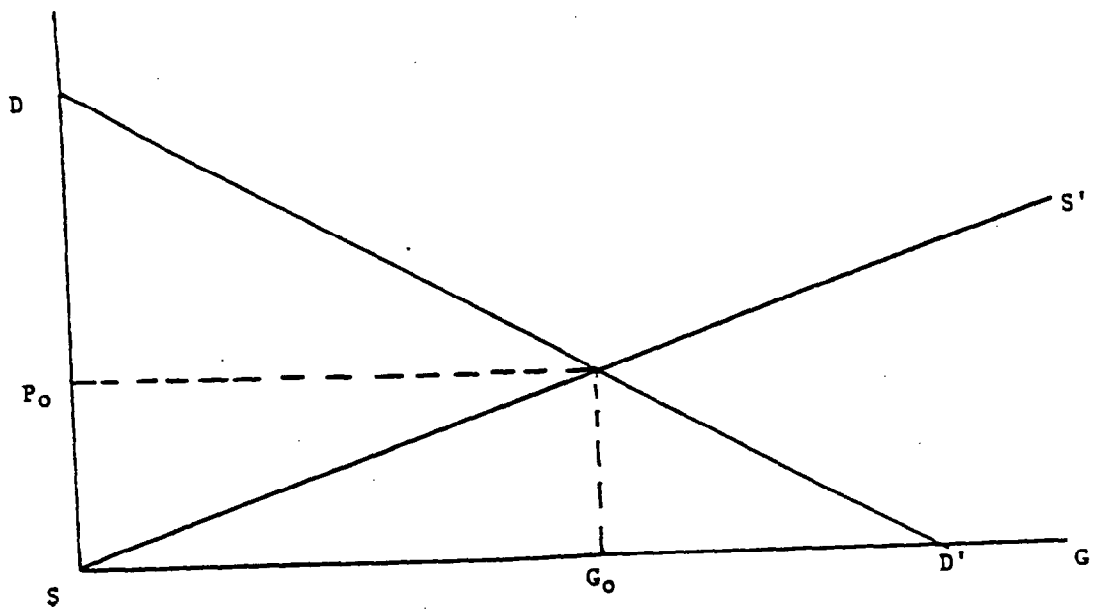
Government programs do not come into existence merely because some interest group wants them and the legislature authorizes them. They must be "manufactured." More often than not, this supplier is part of the government itself, a government bureaucracy. Government may grow not only because increasing expenditures are demanded by the citizens, interest groups, or legislators, but also because they are demanded by the bureaucracy supplying government programs. The government bureaucracies are an independent force, which possibly may lead to increasing government size.

To understand the problem, consider Figure 2. Let G be a measureable output from a public program, say number of students successfully completing a year of school work. The demand for this

1/ Mueller and Murrell (1985, 1986) make allowance for interest groups and government size both being endogenous variables.

Figure 2.

Demand and Supply of a Bureau's Output



output somehow revealed through the political process is DD'. Let the minimum cost of supplying this output be SS'. The optimal quantity of G to purchase from the point of view of the community is G_O where the marginal benefit to the community of another student successfully completing a year of schooling just equals the marginal cost. The minimum total cost of supplying the optimal output is $P_O G_O$. But, if members of the school system bureaucracy desire a greater budget expenditure than $P_O G_O$, it may occur.

Why? Because a bureaucracy does not simply offer up a supply schedule like SS' to the legislature and ask it to pick a point on it. Instead, it offers up a total budget $B = P_B G_B$ which may exceed the optimal budget from the point of view of the demanders, because $G_B > G_O$, or $P_B > P_O$, or both. How can it get the legislature to "buy" this higher budget? Two characteristics of the legislature/bureaucracy relationship work in favor of the bureaucracy in achieving this end.

First, the legislature and the bureaucracy are typically in a bilateral monopoly situation. While the bureaucracy obviously needs the legislature in that the legislature must approve all expenditure measures if the bureaucracy is to be sustained, the legislature also, at least in the short run, is in equal need of the bureaucracy. If the bureaucracy refuses to supply any output, allows a significant deterioration of quality or the like, it may be members of the legislature that bear the hostile reaction of the citizenry at the next election, not members of the bureaucracy. If $B_O = P_O G_O$ is the optimal budget from the point of view of the legislature, B_B the optimal budget from the perspective of the bureaucracy, then by analogy with other bilateral monopoly situations we can probably expect a budget B^*, $B_O < B^* < B_B$ to emerge from the bargaining process.

The bureaucracy is aided in its bargaining with the legislature in that the legislature typically has at best a vague idea of what SS' is, or often even what G is, for that matter. Indeed, it is often precisely because the good cannot be supplied in well-defined, divisible units that the government is in the business of supplying it. The outputs of a policy department (crime prevention), national defense department (security), and a health department are very difficult to measure. Even with education there are definitional problems. While one can certainly count the number of students in school and completing a school year, determining whether they have "successfully" completed the year, i.e., how much they have learned during the year, is another matter. Indeed, one typically must rely on members of the bureaucracy itself, the experts, to supply this information. These same bureaucratic experts are also often the only ones, who can define the cost of obtaining a given level of output, however defined. Here the monopoly nature of the bureau helps it achieve its goals, because the legislature has no other supplier of the good or service with which to compare costs.

If the bureau claims it can supply G_1 at a total cost of B_1, and G_2 at B_2, it is often difficult for the legislature to counter effectively that they demand instead G_1 at total cost $B_3 < B_1$.

That the bureaucrats will wish to obtain a $B > B_0$ seems almost obvious. Even if it supplies G_0, it seems natural that it would prefer an effective unit price for supplying G_0, which is greater than P_0. This extra revenue could be used to offer higher salaries, more leisure (because of a large staff), more perqs (paid travel to conventions), and a whole host of amenities that might make a bureaucrat's life on and off the job more pleasant. But the power of the bureaucracy to obtain these benefits should not be exaggerated. Salary increases are very visible exercises of bureaucratic power; travel and other perqs can often be easily monitored. A wise legislature should be capable of exercising some control over increases in P at a given G.

One way to justify a larger salary sometimes is by increasing G, i.e., by expanding the bureau's output, and then demanding higher salaries to allow for the expanded demands placed on the bureaucracy. Niskanen (1971) postulated that a bureaucrat's "salary, perquisites of the office, public reputation, power [and] patronage" are all positively related to the size of the bureau (p. 38). Niskanen uses this postulate to analyze the consequences of assuming that bureaucrats maximize the size of their budgets. Not surprisingly, the model implies larger budgets than are desired by the legislative demanders. Niskanen's analysis has become the theoretical underpinning for an important part of the growth of government literature.

The model of the budget-maximizing bureaucrat has a certain resonance with models of the corporation that assume that managers maximize the corporation's size, its growth in size, or other size-related variables like white collar staff (Baumol, 1959; Marris, 1964; Williamson, 1964). The behavioral underpinning and empirical support for these models can to some extent be cited in support of the budget-maximizing bureaucrat postulate. But one must not be too quick to generalize.

The manager of a company with $10 billion in sales may be able to justify to the board of directors and stockholders a larger salary than he could if the company had sales of $1 billion, and company size and managerial compensation are positively correlated. But, the head of a bureau with a budget of $10 billion does not necessarily get paid more than that of a bureau with a budget of $1 billion. Salaries across government bureaucracies tend to be much more uniform than are salaries across companies. Moreover, the top officers in bureaus are typically political appointees, who stay at the bureau for four years at most.

Thus, expanding the size of the bureau, even if size and salary were positively related, would not be likely to benefit directly the bureaucrat who brought about the increase. If the growth of bureaus benefits the top members of the bureaucracy, it must in general be from the nonpecuniary dimensions of a bureaucrat's rewards which accompany the growth in a bureau's size.

Even at middle levels, salary levels do not differ much across bureaus. Undersecretaries earn the same regardless of which department they are in. But the chances for promotion in a rapidly growing bureau are certainly greater than in a shrinking one. Thus, middle-level bureaucrats do have a financial incentive to encourage the rapid expansion of their bureaus, because it increases the likelihood of their promotion to a higher rank. Career bureaucrats are also likely to be with the bureau long enough to actually benefit directly from the expansion, unlike their short-term superiors.

While this analysis provides a rationale for the promotion of growth in size by middle-level career bureaucrats, it greatly complicates the story of why these individuals are allowed to fulfill their goals to the loss of society. If the bureaucrats at the top of the bureau do not benefit from the growth in bureau size, why do they not stop it? Are middle-level bureaucrats able to deceive both the legislative overseers of the bureau, and their superiors within the bureau as to the true magnitudes of P and G? 1/

Bureaucrats and interest groups stand equally high on all lists of the causes of the growth of government. Empirical support for the bureaucracy-size relationship is equally sparse. Perhaps the best evidence in favor of the hypothesis is that indicating that government bureaucracies do have higher unit costs when they supply measurable outputs, like tons of garbage collection, than private firms do. Borcherding describes this as "the Bureaucratic Rule of Two . . . removal of an activity from the private sector will double its unit costs of production." 2/ If unit costs rise by this much when direct comparisons with private sector alternatives are possible, how much more are they inflated when the bureaucracy knows it cannot be subjected to a comparison with private market alternatives?

Romer and Rosenthal (1978, 1979, 1980) have developed and tested a model in which bureaucrats can force voters to choose a higher level of government expenditures than their most preferred level under the particular set of institutional rules in which the choice is made. Consider Figure 3. Let U^1, U^2, and U^3 be indifference curves for the

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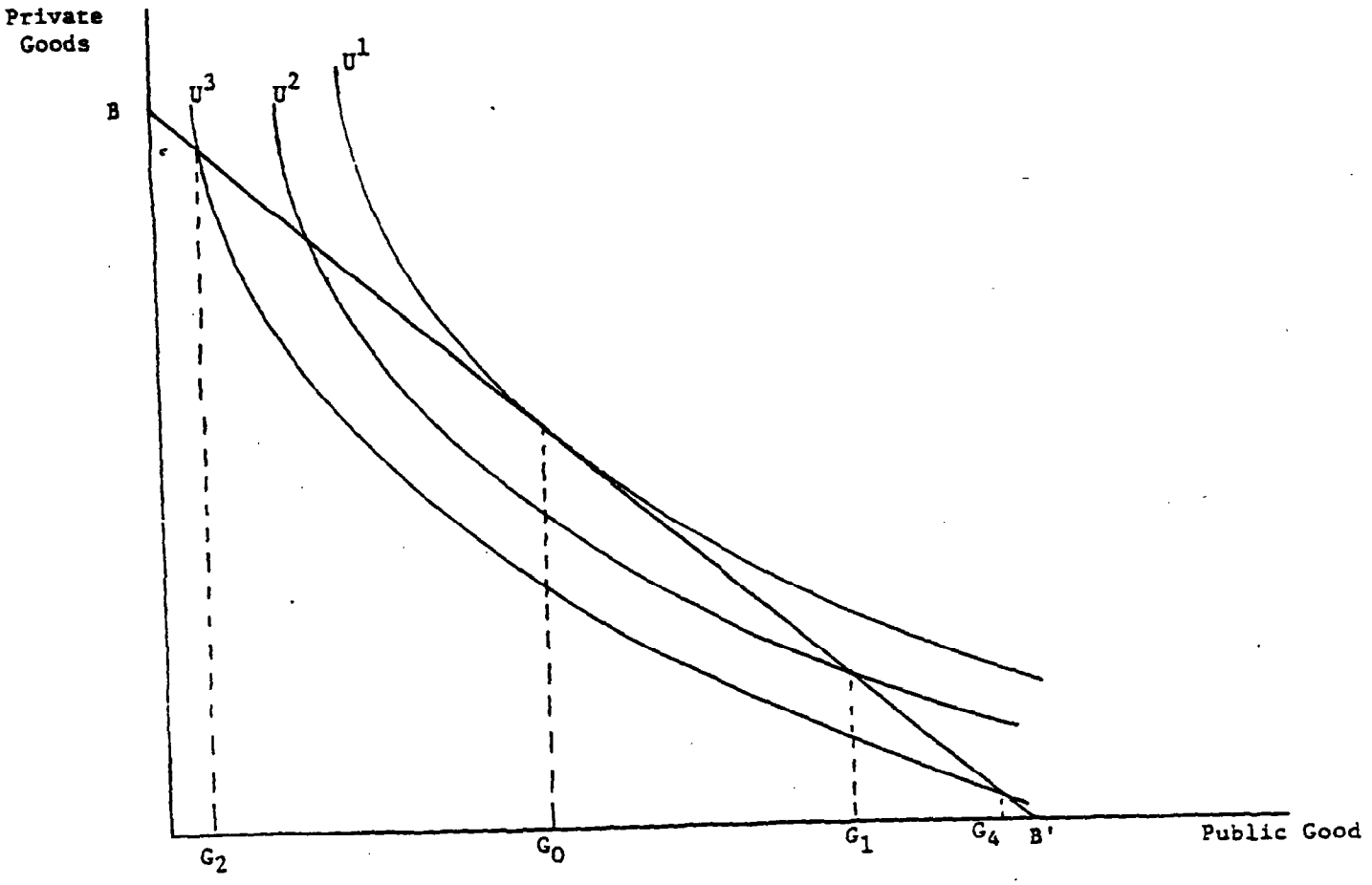
1/ For further critical discussion of the bureaucracy-size-of-government hypothesis, see Musgrave (1981), pp. 91-5.

2/ Borcherding (1977b, p. 62). For a summary of the evidence see Orzechowski's paper in the same volume (1977).

Figure 3.

Government Size in a Bureaucrat-Budget Setter Model



median voter in a community defined over units of private goods X consumed by the voter, and publicly provide G. Let BB' be the budget constraint line facing the voter given his tax share of the costs of providing G. The median voter's most preferred quantity of G given his tax share and budget constraint BB' is then G_0. If the quantity of G for the community were determined by majority rule with all levels of G as possible outcomes, G_0 would be the chosen level of the public good for the community.

Suppose, however, that the community does not get to choose from all possible levels of G, but is simply given a choice between G_1, a level of expenditures proposed by the bureau that supplies G, and G_2, a reversion level set by the constitution to take effect when the bureau's proposed level fails to achieve a majority of the votes in a referendum. Given the choice between G_1 and G_2 the median voter prefers G_1. If the reversion level of expenditures is below the most preferred level of expenditures of the median voter, the budget setter can induce the median voter to vote for a level of expenditures above his/her ideal point, if the budget setter does not choose a level too much above the ideal point (e.g., above G_4).

The kind of institutional setting just described is sufficiently rare that it is unlikely that much of the growth of government can be explained by a direct application of the Romer and Rosenthal model. But, the evidence they present for school districts in Oregon is important because it does imply that the school supervisors and superintendents who make the budget proposals are cognizant of the power they have to induce larger budget sizes, and utilize this power. If other bureaucrats in other contexts are similarly motivated, the bureaucratic-power-increases-government-size hypothesis is a possibly significant factor in explaining the size of government.

Both Niskanen's model and that of Romer and Rosenthal are static. They explain why government might be larger than the legislature would prefer if it knew the unit costs of the outputs it thought it was buying, why it might be larger than the median voter's most preferred quantity. They do not directly explain why government grows.

Indirectly, however, they perhaps do offer an explanation. The bureaucracy's ability to expand the budget beyond the amount the legislature or citizens demand depends in part on its ability to misrepresent the true prices and quantities of publicly provided goods. The ability to misrepresent is likely to depend in turn on the size and complexity of the budget itself. The bigger the bureaucracy is, the more difficult it is for outsiders to monitor its activity, and the more insiders there are who are working to increase the size of the bureaucracy. Thus, the growth of the bureaucracy is likely to depend on its absolute size.

To see this let us define G_t as the amount of publicly provided good the citizens or legislature truly demand. Let B_t be the total size of the budget. $B_t > G_t$ to the extent to which the bureaucracy is capable of forcing a greater expenditure of resources to the bureaucracy than is demanded, i.e.:

$$B_t = \alpha_t G_t, \ \alpha_t > 1 \tag{10}$$

Now let $\alpha_t = e^{aB_t}$ (11)

Let the amount of publicly provided goods demanded grow at a constant rate n equal to, say, the growth in national income

$$G_t = ce^{nt} \tag{12}$$

Then

$$B_t = ce^{aB_t}e^{nt} \tag{13}$$

The growth in the budget, g, is then

$$g = \ln B_t - \ln B_{t-1} = a(B_t - B_{t-1}) + n \tag{14}$$

The growth rate of the budget both exceeds the growth in national income, n, and increases with the absolute difference between this period and last period's budget. Other functional forms for α_t will yield other relationships between g and B_t, but so long as α_t increases with budget size, the growth in the size of the budget can be expected to increase with its absolute size.

Equation (13) is broadly consistent with the pattern of government expenditure growth observed in the United States over the past two centuries, slow but steady initial growth gradually shifting into more rapid rates of growth. But, this same pattern could be expected from any process that resulted in an S-shaped growth path for government. S-shaped growth paths for organizations are sufficiently common that we should not claim too much for a bureaucracy-size-of-government hypothesis merely because the hypothesis is consistent with at least the initial segment of the S, and so too are the data. Government growth cannot outpace national income indefinitely, and so the subsequent slowdown in growth characteristic of the S must also come. Indeed, the conservative governments, which have taken office in the United States, the United Kingdom, the Federal Republic of Germany, and several other developed countries, may have already initiated the slowdown.

This consideration raises a more general point. Given the steady growth in government both since World War II and over the last two centuries, any variable exhibiting a steady growth over the same period,

or for that matter any variable with a stable trend factor, is likely to be highly correlated with government growth. Tullock (1983), makes a similar point in critique of Meltzer and Richard's (1983) empirical support for their hypothesis. A key variable in their model is the ratio of median to mean income. This ratio has been virtually constant since World War II, yet it "explains" a significant fraction of the growth of government.

Testing hypotheses using time series data that have strong trend components is a familiar problem. That it is present in the growth of government literature is unfortunate if unsurprising. Its existence reinforces the importance of those studies that try to explain levels of government expenditure using cross-sectional data, even though these studies typically do rely on static rather than dynamic models of government size.

5. Fiscal illusion

The bureaucracy-size-of-government hypothesis presumes that the bureaucracy can deceive the legislature as to the true costs of supplying different levels of output. The fiscal illusion hypothesis presumes that the legislature can deceive the citizens as to the true size of government. Tanzi (1980) traces the argument back to Mill and also cites Pareto as a source for the hypothesis. But it is to Puviani (1903) that credit must go for emphasizing the importance of fiscal illusion to a positive theory of government. 1/

The fiscal illusion explanation for government size assumes that citizens measure the size of government by the size of their tax bill. To bring about an increase in government size, for which the citizens are not willing to pay voluntarily, the legislative-executive must increase the citizens' tax burden in such a way that the citizens are unaware that they are paying more in taxes, or pay the price of citizen displeasure at the next election. If tax burdens can be disguised in this way, citizens have the illusion that government is smaller than it actually is, and government can grow beyond the levels citizens prefer.

While this proposition seems reasonable enough, to develop it into a model to be used to explain the size and growth of government, one must make some specific assumptions about the kinds of tax burdens that can be disguised. Mill (1970) felt that direct taxes were more visible (pp. 220-21), and by implication excessive government growth would have to rely on indirect taxes. But the citizens of Boston had no illusions regarding the burden of the British tax on tea two centuries ago, and one can argue that employer withholding of income taxes, like bank

1/ See also the discussion in Buchanan (1967, pp. 126-43).

collection of property taxes with mortgage payments, make these forms of direct taxation less visible than some types of indirect taxation, like liquor and cigarette taxes. The issue of what sources of revenue are less visible to citizens, as well as the magnitude of any fiscal illusion caused, must be regarded as largely empirical.

The empirical literature on fiscal illusion is too large to be reviewed here. Fortunately, Oates (1985) has recently completed a comprehensive review of it. He breaks the fiscal illusion argument down into five subhypotheses: (1) Tax burden is more difficult to judge the more complex the tax structure. (2) Renters are less able to judge their share of property taxes in the community than are homeowners. (3) Built-in tax increases due to the progressivity of the tax structure are less clearly perceived than are legislated changes, making elastic tax structures more conducive to government growth than are inelastic structures. (4) The implicit future tax burdens inherent in the issuance of debt are more difficult to evaluate than are equivalent current taxes. (5) Citizens do not treat lump-sum cash subsidies to their government as being as much theirs as they would a cash subsidy to themselves (the flypaper effect). Each of these hypotheses implies a relationship between the size or growth in government and the relevant fiscal illusion variable. Oates examines carefully the evidence in support of each, and reaches the following conclusion: "It is my contention that although all five cases entail plausible illusion hypotheses, none of them have very compelling empirical support" (p. 26). Fiscal illusion, like the other hypotheses reviewed in this paper, does not provide a persuasive explanation for the growth of government by itself.

The lack of strong empirical support for the fiscal illusion hypothesis, despite its intuitive appeal, may be due to the rather vague way in which fiscal illusion has been defined and modeled in the literature. For example, it is not clear from the literature whether fiscal illusion is a short-run myopia on the part of voters allowing for temporary increases in expenditures, or a permanent astigmatism indefinitely concealing the true size of government. The latter is obviously a much stronger hypothesis. The tax revolts in Europe and the United States in the 1970s, and the deficit revolt of the 1980s, symbolized so dramatically by the Gramm-Rudman bill in the United States, suggest that fiscal illusion may not permanently impair voters' vision. Eventually, they may see the light and rise up to chain Leviathan.

From a public choice perspective, the most serious deficiency in the fiscal illusion literature is the gap between the potential existence of fiscal illusion on the part of voters, and its consequences for the size of government. Who is it within the government that takes advantage of the fiscal illusion, the bureaucrats, elected politicians? Is it perhaps groups outside of government who gain, interest groups, perhaps? If it is insiders, why do they not simply increase their salaries rather than

expand personnel and programs? While fiscal illusion explains why government could grow larger than citizens prefer, it does not provide an explanation for why it would. Such an explanation can be found only in the other theories of government growth examined here. To become a complete account of government growth, fiscal illusion must be combined with some other hypothesis that can supply the driving force behind the growth of government. Some suggestions are presented in the concluding section. 1/

III. Summary and Conclusions

The five sets of explanations of government size reviewed in this paper stem from two quite different conceptualizations of the state. The first three (II.1-3) are essentially drawn from the classic theory of the state (Pateman, 1970). Ultimate authority lies with the citizens. The state exists to carry out "the will of the people." Its policies are reflections of the preferences of individual voters. In the public choice literature the state often appears as simply a voting rule transforming individual preferences into political outcomes. Most of the classic works in public choice from Arrow (1951), Downs (1957), Black (1958), and Buchanan and Tullock (1962) up through Groves and Ledyard (1977), are based on this citizen over state view of the polity.

The fourth and fifth sets of hypotheses reviewed here (II.4 and II.5) place the state above the citizens. It is the preferences of the state, or of the individuals in the government, which are decisive. Citizens and political institutions constitute at most (loose) constraints in which political leaders and bureaucrats pursue their own personal interests. This state-rules-citizen view of politics underlies Puviani's (1903) work, and characterizes that of Niskanen (1971) and Brennan and Buchanan (1980).

If either of these two conceptions of the state is fully accurate, 2/ then the other must be rejected and so too the set of hypotheses associated with it in this paper. But both views might be correct to some degree. Government officials and bureaucrats may have discretionary power to advance their own interests at the citizens' expense to some degree, but citizens' preferences, as registered through existing political institutions, may also constitute a consequential constraint. If so, then all five sets of hypotheses may help to explain the size and growth of government.

1/ For further critique of the fiscal illusion hypothesis see Musgrave (1981), pp. 98-104, and Oates (1986).

2/ Tanzi (1980) discusses both of these conceptions of the state, as well as a third, paternalistic state in the context of the fiscal illusion issue.

Only one of the studies reviewed here attempts to explain the size of government using a model that incorporates both views of the state, that is the paper of Pommerehne and Schneider (1982). They first estimate the demand for government for 48 Swiss municipalities, which operate under direct democracy. They then use the estimated coefficients from this equation to simulate what the levels of government expenditure would be in the 62 municipalities that have representative democracy. They find that all of the individual spending categories are underestimated from the parameter estimates based on the direct democracies. The representative democracies spent 28 percent more than one predicts they would spend from the expenditure equation estimated over the direct democracies. The use of a representative form of government changes the nature of the political outcomes substantially, making government considerably larger than it would be if citizens directly determined outcomes. Moreover, in those municipalities in which representative democracy exists, the size of government is smaller if the citizens have the right to call a referendum and thereby reverse a government decision. These results of Pommerehne and Schneider suggest rather strongly that the existence of a layer of representative government between the citizens and political outcomes expands the size of the public sector considerably. They would appear to support the state-over-citizen view of government, and Pommerehne and Schneider interpret their results as indication of the importance of "the supply side of local services" (pp. 319-22). This inference may be warranted, but it is also possible that the existence of representative democracy facilitates the attainment of private gains by interest groups. Both Peltzman (1980) and Mueller and Murrell (1985, 1986), see the growth of government as a byproduct of the competition for votes between candidates and parties. Thus, government growth (or size) in these models is dependent on the representative nature of the democratic process, although the models assume that citizens' preferences, as channeled by interest group representation, are the driving force behind government programs.

Regardless of which of these interpretations is correct, the Pommerehne and Schneider results forcefully demonstrate what may be regarded as the single, most important message public choice has to teach--the rules of the game do affect the outcomes of the game. Institutions matter. Within Switzerland the more direct citizen influence on political outcomes is, the smaller the scale of government. Among the developed countries, citizens in Switzerland are able to exercise control over government more effectively than anywhere else. Only Switzerland makes much use of direct democracy and the referendum, and it has the strongest federalist system in the world. It also has the smallest public sector among the developed countries (see Table 2). The Pommerehne and Schneider results suggest that these facts are related.

The Pommerehne and Schneider study, as well as the others reviewed in II.1, explains the relative size of government across political jurisdictions. It sheds light on the third of the three questions posed in the opening section. Of course, any static model of government size can become a dynamic model of government growth by writing each variable as a percentage change rather than a static level. Among the explanatory variables in the cross section, government size models, increases in price and interest group strength, and perhaps income, appear as the most promising candidates to explain the growth of government, although it is doubtful that changes in these variables can explain all of the growth of government.

Meltzer and Richard (1978, 1981, 1983) and Peltzman (1980), address the growth of government issue directly. The key variable in their analyses is the skewness of the income distribution, the ratio of median to mean income. This variable changes so slowly over time that it is very difficult to believe that it has been the driving force explaining government growth across the world. The expansion of suffrage, which Meltzer and Richard emphasize, also does not seem to be a likely cause, particularly in Europe.

More promising as an explanation of the growth of government is the power of the bureaucracy hypothesis. Bureaucratic power stems from bureaucratic size. Growth in size is then a function of absolute size leading to the prediction that government grows exponentially. The bureaucratic power hypothesis might also explain the rachet effect in government growth to which attention was first drawn by Peacock and Wiseman (1961). The expansion of government bureaucracy in response to an external shock like a war increases the bureaucracy's discretionary power allowing it to achieve a permanent increase in size.

The citizen's role in a representative democracy is more passive than in a direct democracy, and Pommerehne and Schneider's work suggests that even this difference leads to a significant fillip to government size. Today's citizen, confronted by expanded and more complex government structures at the local, state, and federal levels, must feel he is a more passive spectator to the democratic process, as he watches a campaign commercial on television, than did the citizen of 150 years ago. How much of the growth of government in the intervening years can be explained by a slackening of the reins of government in citizens' hands, and how much is a reflection of the preferences of citizens transmitted through the political process remains, alas, a somewhat open question.

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