
THE CHANGING DETERMINANTS OF STATE EXPENDITURE IN THE UNITED STATES: 1965-1992

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Abstract

This study builds upon the literature on state government expenditure in the United States. The innovation in this study is twofold. First, we highlight the importance of demographic factors in driving state budgets. Second, we control for the presence of state specific effects that may be important in determining the preferences of the citizenry. We find that a number of economic and institutional factors are important determinants of expenditure, and that higher spending is associated with governments that are dominated by a single party. The largest changes over the period concern education and corrections spending, with the number of children of either primary or secondary school age becoming a less important determinant of expenditure, and the number of prisoners and college age students becoming an important positive determinant of expenditure.

Introduction

During a time when the public sector has continued to expand in the industrialized world, state budget policy makers in the United States have come under increasing pressure to make the government more efficient and more responsive to citizen preferences. In the late 1970s and throughout most of the 1980s, state governments were faced with 3 Rs - the revolt of taxpayers, recessions, and a reduction in grant-in-aid flows from the federal government (Cigler, 1993). A result of some of these influences has caused the size of state and local governments to remain relatively constant when measured as a

percentage of US Gross Domestic Product during a time when the collective size of federal, state, and local government has grown (Table 1).

Table 1
Government Expenditure: Percentage of GDP, current prices

	1970	1980	1990
Federal	19.0%	20.9%	23.3%
State and Local	12.6%	12.4%	12.7%

Source: Pryor (1996)

While there are some factors such as tax and expenditure limits that are likely to act as a restriction on spending, others such as the increasing number of prisoners are likely to increase state expenditure. A careful analysis of the relative importance of these factors, as well as the other influences on spending, is needed to predict what will be the likely path of future state expenditure. Over the period studied in this research (1965-1992), there have been quite dramatic demographic changes. As shown in Figure 1, the number of prisoners per capita and the number of college students per capita has risen sharply in all states, while the percentage of the population that is school age has fallen. Additionally, the percentage of the population that is over age sixty-five has risen sharply. While the picture in Figure 1 captures the average trends, these trends are fairly consistent across all 50 states.

The contribution of this study is two-fold. Within the context of a model of state expenditure (e.g. Garand, 1988; Dye and MacManus, 1990; Beck and Rice, 1985), we will test whether these demographic trends can explain changes in the composition of state expenditure over time. Second, we include state specific effects in the model to control for factors that are unique to a particular state. For example, some states may be more generous in its provision of public goods due to its underlying social preferences, and others may prefer to provide a low level of public goods. If one does not control for these factors, one can attribute

Figure 1: Number of Prisoners per capita
(in thousands)

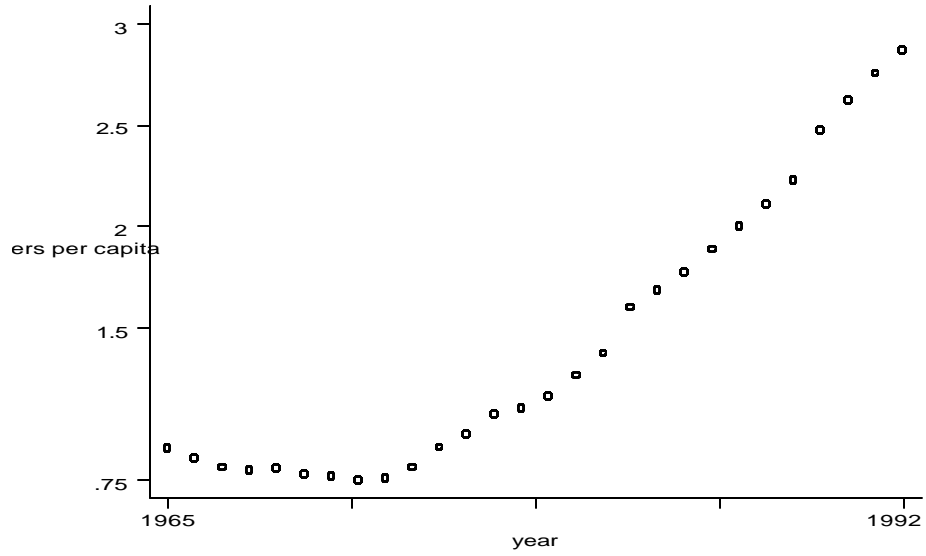
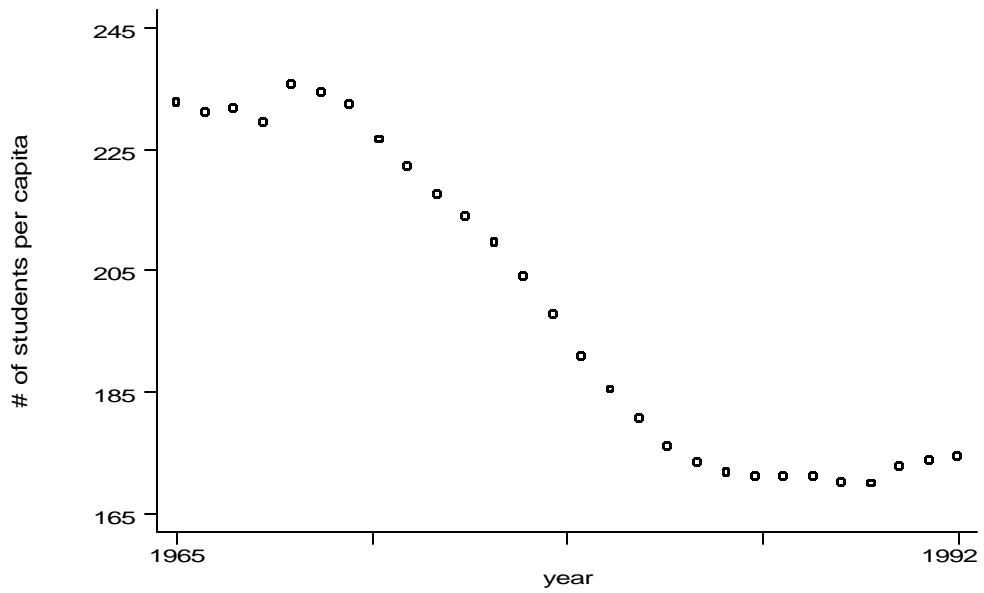
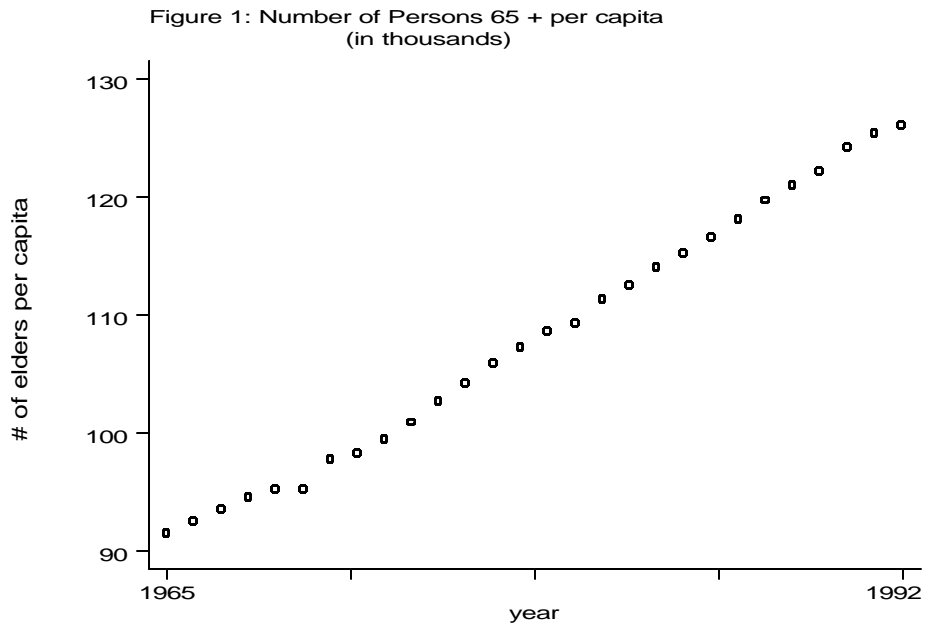
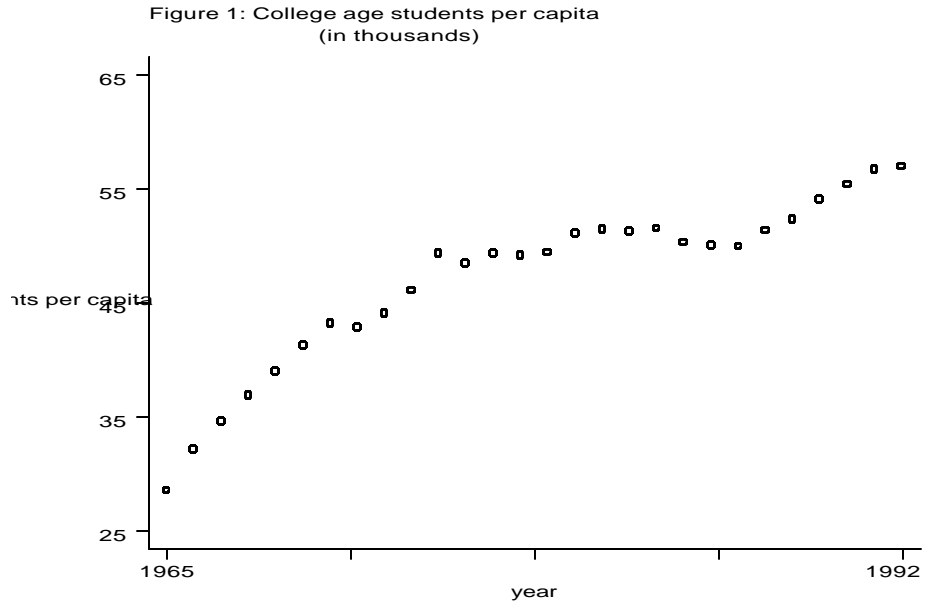


Figure 1: School age students per capita
(in thousands)





Source: Statistical Abstract of the United States

too much importance to particular political factors that may be correlated with a state's spending choices.

The remainder of the paper is organized as follows. The next section discusses the theoretical framework and the previous literature on the determinants of state expenditure in the US. The third section describes the data and empirical method used to estimate the model of state expenditure. Section IV presents the results, and conclusions are discussed in the final section.

Literature Review and Theoretical Framework

The standard model in the literature assumes that there are a number of factors that are likely to play a role in determining state expenditure growth. (In this study, we use the terms government growth and government expenditure synonymously since the former measures changes in level of expenditure.) These factors can be categorized as demographic, political, and institutional. Below, we outline the factors used in previous research, and also include a discussion of why variables which proxy for public good demand may be important determinants of state expenditure.

Demographic Determinants

Over one hundred years ago, Wagner postulated that government growth was a function of factors associated with increased industrialization, economic development, and population growth. A seemingly innumerable amount of scholars have attempted to test this law (Lowery and Berry, 1983 and Garland, 1988 are most similar to this study). Several studies (e.g., Ram, 1987: 194-205; Wallis and Oates, 1988: 397-417) indicate that Wagner's law is strongly supported, while others do not (e.g., Lall, 1969: 413-417; Cameron, 1978: 1243-1261).

While this paper does not intend to conduct a formal test of Wagner's law due to the length of time studied and a focus at the state level, Wagner's law provides a guide for what types of variables may influence spending. Many scholars use simply an income variable such as GNP or personal income per capita to test this law. This is only partially adequate for testing the first implication of Wagner's law, which is that the demand for government goods and services grows with the income of the populace. If demographic

trends change, then the demand for public goods may also shift. However, most research fails to test a second implication of the law; namely, increased industrialization and population are assumed to be associated with increased levels of societal interdependencies, greater need for police protection, and externalities requiring increased governmental regulation and intervention (Garland, 1988).

We test both implications of Wagner's Law by including a total of four indicators of the state's demographic characteristics and four measures of public good demand (also referred to as service demand).

We first use personal income per capita as a means of measuring economic development. We also include the state's population density to proxy for the scope and dispersion of the state's economic activities. Next, we include the unemployment rate and total long-term debt. High unemployment rates are likely to be related to higher demands for education and welfare spending (Gold, 1995; pp. 6-7). Total long-term debt is included because of the possible, positive impact of fiscal illusion on the size of state expenditure. If residents underestimate the true cost public goods, they may exhibit higher demand than they would otherwise (Goetz, 1967 and Oates, 1988).(1)

The final demographic variables are those that may influence the demand for public goods. States in which citizens have a higher demand for public goods are expected to have higher expenditure (Bunch, 1993). In particular, the demand may be driven by demographic changes. Following Bae, Duncombe, and Moone (1997), we select four variables to proxy for service demand: the proportion of prisoners, the proportion of children of school age, the proportion of over 65, and the proportion of higher education. As noted in Figure 1, the number of prisoners per capita has grown rapidly since the late 1970s, which in turn could increase corrections spending. The size of the school-aged population influence state and local finances because elementary-secondary education is the largest portion of spending at both levels of government. The elderly may influence the demand for public goods by reducing the demand for elementary-secondary education or increasing the demand for senior services. In addition, increases in enrollment of higher education are expected to lead to higher government expenditure, both because of increases in the amounts of state provided financial aid and because of increases in enrollment at state institutions (Gold, 1995).

Political Determinants

Many political factors are likely influence state government expenditure. We include measures for the governor's party, electoral competition (i.e., interparty competition), and bureaucratic influences for explaining the relationship between political determinants and government expenditure. Liberal governments would be expected to spend more than conservative. To that end, we include a categorical variable for whether a state has a democratic governor, and we include categorical variables for whether the democrats or the republicans control both chambers of the state legislature (the omitted category is a split legislature). The degree of interparty competition may be also be associated with higher spending because representatives may use spending to insure their incumbency. Next, we attempt to control for the election cycle, because some research has found that political business cycle is marked by increased spending and other reflationary policies in the period immediately before and after an election (Nordhaus, 1975).

One of the factors that has been debated in both the economics, political, and public administration literature is the influence of bureaucrat's behavior. The theory espoused by Niskanen (1971) and others (e.g., Wildavsky, 1974) assumes that government employees (bureaucrats) are self-interested, which results in the pursuit of larger government budgets. An implication of this theory is that bureaucrats are likely to push budgets beyond the level represented by median voter's preferences. Therefore, increases in the number of bureaucrats in state government would result in greater government spending, independent of public good demand.

Institutional Determinants

There are also a number of institutional factors that are likely to either restrict or increase state expenditure. The first influence, which in more recent years has potentially become more important in more recent years, is the influx of intergovernmental grants from the federal government, but the likely impact is subject to debate. Gramlich (1969) and Gramlich and Galper (1973) found that the influx of intergovernmental grants contributes to growth of state government expenditure by providing additional income to the state. Others have found that intergovernmental grants merely perform a replacement function (Borcherding, 1977). We also include a

measure of fiscal centralization because greater fiscal centralization in states is likely to be associated with higher state level expenditures. Finally, we include two institutional factors which may lower state expenditure: the presence of a governor's line item veto and the presence of a state level tax and expenditure limit. Many states initiated reforms to strengthen the power of the governor since 1960s. The line-item veto of the governor is one such reform currently adopted by forty-three states that constitutes a special budgetary power. The empirical literature is not conclusive regarding its likely magnitude on state expenditure.

Alm and Evers (1991) argue that the line item veto has often been an effective device in order to reduce the level of expenditures resulted from "pork barrel" politics and by the legislator's propensity for "logrolling." On the other hand, Abney and Lauth (1985) find that the presence of the line item veto does not produce fiscal restraint. The same authors argue, in a subsequent paper (1997), that the line item veto is most successful when three conditions are met: (1) governors have the power to reduce as well as delete appropriation items, (2) they can delete narratives accompanying dollar amounts as well as the dollar amount themselves, and (3) legislatures have not structured appropriations bills or packaged appropriations items so as to make it difficult for governors to exercise the item veto.

Tax revolt occurred in the late 1970s originating at the local level and continuing to higher levels of government in the United States. This movement led to enactment of tax and expenditure limits (TEs) in several states. Again, the literature is inconclusive as to its impact. Ladd (1978) mentions that exogenous budgetary forces (such as indexed spending and automatic increases in certain areas of the budget) make legislative adjustments by TEs difficult in the short run. Joyce and Mullins (1991) and Poterba and Rueben (1995) conclude that a TEL placed on either a local or state government has little impact, but that the concurrent combination of TEs at both levels can lead to an effective decrease in spending. Lowery (1983) concludes that while a local TEL placed on property tax lowers revenue from that source, accompanying increases in revenue from other sources make up the shortfall and lead to little net impact on overall taxation. Recent evidence (Rueben, 1997) suggests that after controlling for the policy endogeneity of TEs that these limits have reduced spending by about two percent. (4)

Data and Empirical Method

We utilize data derived from various sources - *Government Finances*, *State Government Finances*, *Public Employment* and *Statistical Abstract of the United States*. Table 2 details the variables used in the analysis. State expenditure is defined as the actual spending in a state in a particular year. The population of the state divides variables that are a function of the size of the state and all dollar values are adjusted for the Consumer Price Index to control for inflation. Finally, one should note the variable *interpat*, which was used by Clingermayer and Wood (1995). It ranges from zero to one half, with one half representing an equal number of republicans and democrats in the legislature and zero representing the legislature being solely comprised of one party.

As mentioned previously, the standard model in the literature for explaining state government expenditure is

$$Y = f(\text{Demographic Determinants, Political Determinants, Institutional Determinants}).$$

This study improves upon this standard model in two ways. The first improvement is to include significant variables for explaining government expenditure that other studies lack (Dye and MacManus, 1990; Lowery and Berry, 1983; Garland, 1988; Lewis-Beck and Rice, 1985). For example, Garland (1988) fails to include important service demand variables, and Dye and MacManus (1990) include only two political and institutional variables.

Table 2
Variable Descriptions
Description of the Empirical Indicators Used in the Analysis

Determinants	Variables	Description of Indicator
Political	Y	State Expenditure per capita in 1982 dollars
	dem_gov	= 1 if governor is a Democrat
	goelecty	= 1 if it is a governor's election year
	interpat	= 1 minus the absolute value of the average annual proportionate partisan majority in the chambers of the state legislature (Clingermayer and Wood, 1995)
	dem	= 1 if the Democrats control both chambers of the legislature
Institutional	rep	= 1 if the Republicans control both chambers of the legislature
	burecrat	= number of state and local government employees /state population (per capita)
	iveto	= 1 if the governor can exercise the line-item veto
	texlimit	= 1 if the state has a overall state limit on taxes or expenditures
	igracap	intergovernmental revenue per capita in 1982 dollars
Demographic	cenexpnd	ratio of state expenditure to state and local government expenditure
	Incomeca	per capita income in 1982 dollars
	unemrate	state unemployment rate
	totdebt	total long term debt per capita in 1982 dollars
	popdensi	total population / square miles
	prinerca	proportion of the population that are prisoners
	eldercap	proportion of the population that are aged 65 and over
	k12cap	proportion of the population that are of school age
hiedcap	proportion of the population that are attending an institution of higher education	

The second innovation of this study is to include an indicator for each state that will control for any state specific effect that is likely to influence spending.(2) The ability to control for these state specific effects will allow us to identify the common influences across

all states which impact the level of expenditure. The model is as follows:

$$y_{it} = a_0 + b'x_{it} + n_i + g_t + e_{it}$$

with a_0 as the constant term, b as a vector of coefficients on the independent variables, and e_{it} as the normally distributed error term.

This model also includes a 'group' effect (n_i) for each state and a 'time' effect (g_t) for each year. This allows a richer specification for the time effects when compared to using a simple time trend. Finally, we replicate the model for the sub-periods 1965-1979 and 1980-1992 to test for changes in determinants of state expenditure over time. This break is chosen because it may capture some of the changes that occurred as a result of the tax revolt movement and because of the changes in the trends of number of prisoners and school age children that occurred near the midpoint of the period (see Figure 1).(3)

Results and Discussion

Table 3 presents the full sample results of the analysis. Specifications [1] and [2] present standard OLS estimates for comparison. The results in the table suggest that most of the coefficient estimates are robust across specifications. The inclusion or exclusion of the service demand factors (comparing [1] and [2] or [3] and [4]) has only a modest impact on the other coefficients of the model, but are independently important. The state specific effects (comparing [1] and [3] or [2] and [4]) have the largest impact on the estimates of the political factors, with the estimate of the degree of interparty competition changing signs once state effects are included.

This implies that unmeasured state factors account for why states with balanced legislatures have higher levels of spending, and that competition itself lowers spending within a state.

In specification [4], we find that income per capita, total long-term debt, the unemployment rate, the proportion of prisoners, and the proportion of students of college age to be demographic factors that have a positive and statistically significant impact on state government expenditure. As expected,

Table 3
Statistical Results
(Dependent Variable = State Expenditure per Capita)

		Standard OLS Regressions			
		Specification	(1)	Specification	(2)
Factors	Variables	Coefficient	T-stat	Coefficient	T-stat
	Intercept	-957.135	-10.305	-1683.289	-6.273
Political	dem_gov	37.840	1.973	40.616	2.288
Factors	goelecty	4.947	0.196	16.640	0.717
	interpat	195.633	2.091	329.903	3.532
	dem	-104.259	-3.607	-58.876	-2.198
	rep	-69.404	-2.337	-55.674	-1.979
	burecrat	34.434	13.523	21.658	8.480
Institutional	iveto	37.800	1.480	1.296	0.054
Factors	texlimit	-96.033	-3.771	-127.798	-5.201
	igracap	1.701	19.690	1.926	21.317
	cenexpnd	0.054	0.091	0.187	0.344
Demographic	incomeca	0.079	12.901	0.092	11.333
Factors	unemrate	47.176	7.990	38.434	6.941
	totdebtc	0.305	13.022	0.343	14.479
	popdensi			-0.141	-2.628
	prinerca			105.377	8.034
	eldercap			-1.727	-2.741
	k12cap			3.269	4.293
	hiedcap			1.002	1.029
	R ²	0.80		0.84	

Notes: 1) Time effects are included in all specifications, and state fixed effects are included in specification 3 and 4. Both are not shown.

2) The Dependent Variable state expenditure, income per capita, and IGR per capita are measured in 1982 dollars.

Table 3
(continued)
Statistical Results
(Dependent Variable = State Expenditure per Capita)

		State Specific Effects Included			
		Specification	(3)	Specification	(4)
Factors	Variables	Coefficient	T-stat	Coefficient	T-stat
	Intercept	-885.179	-8.821	-439.429	-1.541
Political Factors	dem_gov	55.036	4.031	52.216	4.219
	goelecty	13.317	0.793	13.535	0.893
	interpat	-155.483	-1.475	-230.836	-2.396
	dem	-31.579	-1.346	-17.295	-0.803
	rep	-52.155	-2.091	-41.024	-1.797
	burecrat	83.020	19.572	48.663	10.465
Institutional Factors	iveto	91.010	1.450	189.778	3.294
	texlimit	-42.493	-1.865	-50.176	-2.326
	igracap	-0.603	-5.803	-0.140	-1.280
Demographic Factors	cenexpnd	0.377	0.946	0.369	1.033
	incomeca	0.091	11.656	0.076	7.765
	unemrate	27.043	5.557	17.977	3.898
	totdebt	0.331	14.251	0.257	11.510
	popdensi			-0.543	-1.008
	prinerca			174.661	11.674
	eldercap			-5.478	-4.726
	k12cap			0.840	1.034
	hiedcap			6.043	3.989
R ²		0.73		0.73	

Notes: 1) Time effects are included in all specifications, and state fixed effects are included in specification 3 and 4. Both are not shown.

2) The Dependent Variable state expenditure, income per capita, and IGR per capita are measured in 1982 dollars.

population density has a negative coefficient indicating that it is less expensive to serve a population that is less dispersed, but it is not statistically significant. The only demographic factor with perhaps an unexpected sign is the proportion of the population that is elderly. This would seem to indicate that the elderly influence public good demand at the state level negatively.(5)

Among the institutional factors, the presence of state level tax and expenditure limits lowers state expenditure. On the other hand, we find that the line item veto does not restrict expenditure. In fact, the coefficient on the line item veto in specification [4] has a statistically significant positive coefficient. Thus, our results agree more with Abney and Lauth (1985). The remaining institutional factors are not statistically significant. This is likely due to the control for state specific effects that are tied to influx of federal grants for states.

The results concerning the political influences of expenditure are less consistent with our prior expectations. States with Democratic governors and democratically controlled legislatures have higher levels of spending. Since higher values of inter-party competition are associated with split legislatures, the negative coefficient on the democratic legislature variable must be combined with its associated value for the inter-party competition variable. This result concurs with Berry and Lowery's (1987) arguments. On the other hand, the measure for election year and the level of electoral competition are negatively associated with state government expenditure. These results do not support previous studies regarding the importance of the political business cycle. Again, this result comes from the use of state specific effects that previous research has lacked. Finally, we find that the number of bureaucrats is an important positive determinant of expenditure. This concurs with Niskanen (1971) and Wildavsky (1974) that posited budget-increasing behavior of bureaucrats.

Tables 4 and 5 provide tests of whether there were changes in the determinants of state expenditure over the period (1965-1992). Many of the findings in Table 3 are not robust across time periods. Only the findings of the influence of the income per capita, the unemployment rate, total long-term debt, and the proportion of bureaucrats in the population are consistent across time periods.

The influence of the service demand variables has undergone a large shift

Table 4
Sub-Period 1965-1979

		State Specific Effects Included			
Factors	Variables	Specification	(3)	Specification	(4)
		Coefficient	T-stat	Coefficient	T-stat
	Intercept	-313.240	-3.402	-650.359	-3.994
Political Factors	dem_gov	2.176	0.270	-9.106	-1.262
	goelecty	10.789	1.213	8.446	1.092
	interpat	18.162	0.292	16.229	0.293
	dem	6.788	0.525	2.329	0.208
	rep	-14.146	-1.039	-4.668	-0.393
	burecrat	30.726	9.371	23.203	7.543
Institutional Factors	iveto	10.971	0.402	8.593	0.357
	texlimit	-16.035	-0.784	-8.143	-0.460
	igracap	0.631	8.638	0.821	10.401
Demographic Factors	cenexpnd	0.098	0.626	0.021	0.155
	incomeca	0.045	5.153	0.040	5.164
	unemrate	21.986	5.830	18.340	5.239
	totdebt	0.478	22.893	0.303	13.775
	popdensi			0.980	2.417
	prinerca			-35.244	-1.970
	eldercap			-1.996	-2.416
	k12cap			2.235	4.997
	hiedcap			2.665	2.929
	R ²	0.91		0.92	

Notes: 1) Time effects and state fixed effects are included in specification 3 and 4. Both are not shown.

2) The Dependent Variable state expenditure, income per capita, and IGR per capita are measured in 1982 dollars.

Table 5
Sub-Period 1980-1992

		State Specific Effects Included			
		Specification	(3)	Specification	(4)
Factors	Variables	Coefficient	T-stat	Coefficient	T-stat
	Intercept	180.644	0.813	314.636	0.637
Political	dem_gov	-2.068	-0.154	-0.124	-0.009
Factors	goelecty	2.386	0.160	2.454	0.167
	interpat	-463.000	-3.537	-453.498	-3.466
	dem	-59.235	-2.440	-41.025	-1.678
	rep	-25.568	-0.939	-43.223	-1.585
	burecrat	30.644	5.284	36.140	5.808
Institutional	iveto				
Factors	texlimit	38.924	0.851	23.085	0.505
	igracap	-0.117	-0.822	-0.088	-0.621
	cenexpnd	206.941	1.043	119.917	0.602
Demographic	incomeca	0.081	8.486	0.060	4.853
Factors	unemrate	37.481	7.310	33.166	6.051
	totdebtc	0.161	8.790	0.174	9.480
	popdensi			2.349	2.532
	prinerca			59.519	3.235
	eldercap			-1.217	-0.607
	k12cap			-2.247	-1.471
	hiedcap			1.264	0.621
	R ²	0.69		0.70	

Note: 1) Time effects and state fixed effects are included in specification 3 and 4. Both are not shown.
 2) The Dependent Variable state expenditure, income per capita, and IGR per capita are measured in 1982 dollars.
 3) Line item veto was collinear with the state effects and was dropped for this sample.

over time. Before 1980, the education variables were important positive predictors of expenditure, and the number of prisoners per capita was unimportant. After 1980, the coefficient on the number of prisoners per capita grew in magnitude, and the importance of the education variables reversed. It should be noted that the number of prisoners is not simply a demographic factor based on industrialization, but is also a policy choice by state governments. Therefore the increase in the number of prisoners in an environment in which most states have balanced budget amendments places increasing pressure on other components of the budget.

The other major change in the estimates concerns interparty competition. After 1980, greater competition between parties in the legislature created an environment in which there was less overall spending. This suggests that more competition may have allowed opponents to use votes on increases in spending in elections, and thereby may have voted for fewer spending increases. This may be due in part to the Reagan revolution in 1980, and the shift in the electorate's perception of the efficiency of government services.

Conclusion and Policy Implications

The study of the factors that influence government expenditure continues to be an area of fruitful research. We find that demographic factors, not surprisingly, are very important in describing the positive influence on state expenditure. Income per capita, total long term debt, and the unemployment rate are consistent predictors of state expenditure, while the number of prisoners became an important positive predictor of expenditure during the later half of the period studied (1980-1992). We also find that, over the full time period (1965-1992), state level tax and expenditure limits have served to restrict overall spending.

With respect to the political influences on spending, we find that including state specific effects in the model is important in determining the importance of inter-party competition on spending. We find that spending is less in those states with a more balanced legislature. Consistent with prior expectations was the finding that democratic administrations spent more than republican administrations and that greater amounts of spending are associated with a greater number of government workers per capita.

The findings with regard to the proportion of students and the proportion of prisoners are particularly important to state budget offices and policy makers. Over the last thirteen years studied, there was a dramatic increase in the number of prisoners per capita (Figure 1), and this component of the budget became very important. Should these trends continue, the results of this study suggest this will continue to place an upward pressure on state budgets. On the other hand, there has been a retraction in the importance of the number of elementary and secondary age students in the state budget. Part of this may be due to a reduction in the relative proportion of the population that is of school age, but this does not fully explain the model's prediction that the budget is not sensitive to the number of students. This estimated insensitivity may be due to the fact that state education budgets have not fallen as fast as the number of students. This is likely an artifact of many states assuming a larger proportion of the responsibility for primary and secondary education after 1980 (Fischel, 1999). It also may be partially due to the increase in the proportion of the elderly in the population, which have an estimated negative effect on spending during this period. Future research is needed to determine the exact reason for the drop in the importance of the proportion of the population that is of school age. This is especially important in states that are likely to face increases in the number of students due to immigration (e.g., California, Texas, and New York).

This study has also demonstrated that the relative importance of each of the determinants of state expenditure can often change over time. As suggested by Bird (1971) in his study of Wagner's law, the relative importance of various factors can and do change. This may preclude the need for more sophisticated techniques in future research. For example, it may be necessary to interact the time effects with the institutional factors that have changed over time. On the other hand, it may imply suggest that caution must be employed when forecasting budget trends too many years in the future.

Notes

1. Others have suggested that debt financing creates an expanding fiscal illusion because taxpayers discount future tax liabilities (Buchanan and Wagner, 1977)
2. The model is commonly referred to as a two-way, fixed effects model, in which the intercept varies over the state and time (Greene, 1993). This method is preferred to a procedure intended to adjust for the possibility of a serially correlated error term, which is inappropriate when the number of states is larger than the number of time periods (Beck and Katz, 1995). Numerous tests for serial correlation were conducted, and we found none. A simple Hausman specification test concurs that the fixed effects model is preferred to a random effects model, which may also be used in this context.
3. The results were robust with respect to choice of the break year. Both 1977 and 1983 were also used.
4. Other institutional factors that may be important were excluded due to insufficient data from all states. These include budget reforms such as aggregate budgeting vs. line-item budgets and more output oriented reporting. The goal of these reforms was to improve allocative and technical efficiency.
5. Clearly, the size of the elderly population affects federal budgets in a direct fashion as Social Security and Medicare/Medicaid expenditures will increase. At the state level, there are fewer programs directly targeted for the elderly. Therefore, the elderly population largely affects state budgets through their political pressure on programs that they may not favor, which could raise taxes.

References

- Abney, Glenn and Thomas P. Lauth 1985. "The Line-item Veto in the States." *Public Administration Review*, 45: pp. 372-377.
- Alm, James and Evers, Mark. 1991. "The Item Veto and State Government Expenditures." *Public Choice* 68: pp. 1-15.

Bae, Kwi-Hee, and William Duncombe, and Myung-Jae Moon. 1997. What is Driving Growth in state Debt Burdens? An Extended Model and Empirical Analysis. Present at the 58th ASPA National Conference, Philadelphia, Pennsylvania, July 26-30, 1997.

Beck, Nathaniel and Jonathan N. Katz. 1995. "What to Do (and Not to Do) With Time-Series Cross-Section Data." *American Political Science Review*, 89: pp. 634-647.

Bird, Richard M. 1971. "Wagner's Law of Expanding State Activity." *Public Finance* 26: pp. 1-26

Borcherding, Thomas E. 1977. "The Sources of Growth Public Expenditures in the United States, 1902-1970." In *Budgets and Bureaucrats: The Sources of Government Growth*. Ed. Thomas E. Borcherding. Durham: Duke University Press.

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

Cameron, David. 1978. "The Expansion of the Public Economy: a Comparative Analysis." *American Political Science Review* 72: pp. 1243-1261.

Cigler, Beverly A., 1993. "Challenges Facing Fiscal Federalism in the 1990s." *Political Science and Politics*, pp. 181-186

Clingermayer and B. Wood, 1995. "Disentangling Patterns of State Debt Financing." *American Political Science Review* 89: pp. 108-120

Dye, Thomas R. and Susan A. MacManus. 1990. "State vs. Local Sector Growth: A Comparison of Determinant Models." *Policy Studies Journal* 18: pp. 645-660.

Fischel, William. 1999. "The Homevoter Hypothesis: How Home Values Influence Local Government Taxation, School Finance, and Land-Use Policies." Presented at U.S.C.'s Marshall School of Business February 5, 1999.

Garand, James C., 1988 "Explaining government Growth in the U.S. States." *American Political Science Review*. 82: pp.837-849.

Goetz, Charles, 1977. "Fiscal Illusion in State and Local Finance." In *Budgets and Bureaucrats: The Sources of Government Growth*. Ed. Thomas E. Borcherding. Durham: Duke University Press.

Gold, Steven D. 1995. *The Fiscal Crisis of the States*. Washington, D.C.: Georgetown University.

Gramlich, Edward M. 1969. "The Effects of Federal Grants on State-Local Expenditures," *Proceedings of the National Tax Association*, pp.569-573.

Gramlich, Edward M. and Harvey Galper. 1973. "State and Local Fiscal Behavior and Federal Grant Policy." *Brookings Papers on Economic Activity*. 1: pp.15-58.

Greene, William H. 1993. *Econometric Analysis*, 2nd ed. New York: Macmillan.

Joyce, Philip G. and Daniel R. Mullins. 1991. "The Changing Fiscal Structure of the State and Local Public Sector: The Impact of Tax and Expenditure Limitations." *Public Administration Review*. 51(3): pp. 240-253.

Ladd, Helen F. 1978. "An Economic Evaluation of State Limitations on Local Taxing and Spending Powers." *National Tax Journal*. 31(1): pp. 1-18.

Lall, Sanjaya. 1969. "A Note on Government Expenditure in Developing Countries." *Economic Journal*, pp. 413-417.

Lewis-Beck, Michael S. and Tom W. Rice. 1985. "Government Growth in the United States," *The Journal of Politics*. 47: pp. 2-30

Lowery, David. 1983. "Limitations on Taxing and Spending Powers: an Assessment of their Effectiveness." *Social Science Quarterly*. 64(2): pp. 247-263.

Lowery, David and William Berry. 1983. "The Growth of Government in the United States: An Empirical Assessment of Competing Explanation," *American Journal of Political Science*. 27: pp. 665-94

Niskanen, William. 1971. *Bureaucracy and Representative Government*. Chicago: Aldine and Atherton.

Nordhaus, William D. 1975. "The political business cycle." *Review of Economics Studies*. 42: pp. 169-190.

Oates, Wallace, E. 1988. "On the Nature and Measurement of Fiscal Illusion: A Survey." In *Taxation and Fiscal Federalism: Essays in Honor of Russell Mathews*. Ed. G. Brennan. Sydney: Australian National University Press.

Poterba, James M. and Kim S. Rueben. 1995. "The Effect of Property-Tax Limits on Wages and Employment in the Local Public Sector." *American Economic Review*. 85(2): pp. 384-389.

Pryor, Frederic L. 1996. *Economic Evolution and Structure*. New York: Cambridge University Press.

Ram, Rati. 1987. "Wagner's Hypothesis in Time-Series and Cross-Section Perspectives: Evidence from Real Data for 115 countries." *Review of Economics and Statistics*. 69: pp. 194-205.

Rueben, Kim S. 1997. "Tax Limitations and Government Growth: The Effect of State Tax and Expenditure Limits on State and Local Government." Unpublished.

Wallis, John Joseph and Wallace E. Oates. 1988. "Does Economics Sclerosis Set in with Age? An Empirical Study of the Olson Hypothesis." *Kyklos* 41: pp. 397-417.

Wagner, Adolf. 1958. "The Nature of the Fiscal Economy." In *Classics in The Theory of Public Finance*. Eds. Richard A. Musgrave and Alan R. Peacock. London: Macmillan.

Wildavsky, Aaron 1974. *The Politics of the Budgetary Process*. Boston: Little Brown.

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