A House Divided against Itself Cannot Spend (as Much)

The Fiscal Effect of Separate Taxing and Spending Committees in State Legislatures

Matthew D. Mitchell and
Pavel A. Yakovlev

May 2015

MERCATUS WORKING PAPER

Matthew D. Mitchell and Pavel A. Yakovlev. "A House Divided against Itself Cannot Spend (as Much): The Fiscal Effect of Separate Taxing and Spending Committees in State Legislatures." Mercatus Working Paper, Mercatus Center at George Mason University, Arlington, VA, May 2015.

Abstract

In recent years, a raft of studies has examined the effect of various institutions on state fiscal outcomes, especially per capita spending. A review of the literature reveals that one institution has an especially large effect on government spending: states with separate legislative committees overseeing taxing and spending legislation spend significantly less than states without separate committees. The size of this effect was found to be an order of magnitude larger than that of any other institution. Despite this large effect, separate committees are one of the least studied state institutions. We found only one peer-reviewed study of separate taxing and spending committees, and it was based on data from a relatively short time period in the 1980s. We offer the first formal theoretical model of the institution, emphasizing the important role that transaction costs play in political logrolls. We empirically test the model, improving on the previous test with a longer panel (spanning 40 years), a larger set of controls, separate tests on different measures of fiscal policy, and tests to learn whether it makes a difference if taxing and spending committees are separate in one or both legislative chambers. Controlling for other factors, we find that states with separate taxing and spending committees spend between $300 and $450 less per capita than states without separate committees. Having these functions separate in one chamber seems to have a larger effect than having them separate in both chambers. Moreover, the pattern does not hold for all subcategories of state spending.

JEL codes: H11, H72, H75, H76

Keywords: institutions, state spending, public choice, legislative committees, legislative logroll, political transactions costs

Author Affiliation and Contact Information

Matthew D. Mitchell
Senior Research Fellow
Mercatus Center at George Mason
  University
mmitchell@mercatus.gmu.edu

Pavel A. Yakovlev
Associate Professor of Economics
Duquesne University
yakovlevp@duq.edu

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I. State Spending and Fiscal Institutions

As state governments have expanded in both size and scope, policymakers have adopted several fiscal institutions explicitly designed to rein in spending and minimize fiscal pressure. The earliest of these institutions were adopted in the wake of the fiscal crises of the late 1830s and were intended to limit state debt accumulation (Ratchford 1941, 121; Rodden 2006, 145). More modern institutional limits on state spending were adopted in the 1970s, beginning with New Jersey's adoption of a tax and expenditure limit (TEL) in 1976 and gaining momentum after California's adoption of Proposition 13 in 1978 and Colorado's Taxpayer Bill of Rights in 1992 (Bails and Tieslau 2000).

In recent decades, academic interest in institutions that might affect state spending has also grown. This interest has been fueled, in part, by a newfound theoretical appreciation for institutions as those "humanly devised constraints that shape human interaction" (North 1990a, 3). This interest has also been fueled by greater availability of panel data and newer techniques with which to analyze such data. A number of institutions have been studied, including term limits (Erler 2007), direct democracy (Matsusaka 2008), biennial budgeting (Crain 2003), baseline budgeting (Crain and Crain 1998), tax and expenditure limits (Mitchell 2010; Zycher 2013), certain varieties of vetoes (Besley and Case 2003), various balanced budget requirements (Primo 2007), supermajority requirements for tax increases (Crain 2003), "citizen" legislatures in which legislating is a part-time job (Owings and Borck 2000), government shutdown procedures in the event of a budgetary impasse (Primo 2007), and even legislature size (Chen and Malhotra 2007).

Besley and Case (2003) offer an overview of institutions and state policy outcomes, whereas Mitchell and Tuszynski (2012) review studies that specifically focus on the effect of institutions on state spending. Figure 1 (page 28), adapted from Mitchell and Tuszynski (2012), suggests that state institutions differ widely in their effect on per capita state spending. It also shows that among these institutions, one stands out. Crain and Muris's (1995) study found that those states in which separate committees have jurisdiction over taxing and spending decisions seem to spend significantly less than those in which one committee has jurisdiction over both issues. By their estimate, this institution of separate committees has an effect on per capita spending that is more than twice as large as an item reduction veto (the second-largest effect) and more than 12 times as large as the effects of other institutions surveyed by Mitchell and Tuszynski (2012) and commonly advocated as ways to rein in spending.

Although the estimated fiscal effect of separate taxing and spending committees is economically significant, this institution remains among the least studied. Whereas balanced budget requirements, supermajority requirements for tax increases, and TELs have each been analyzed extensively, separate taxing and spending committees have, to our knowledge, been studied only once, by Crain and Muris (1995). This research gap is unfortunate because, in many cases, subsequent analysis has yielded a more nuanced understanding of the way that institutions affect policy. TELs, for example, arrest state spending only in certain circumstances or when designed in certain ways (Mitchell 2010). In some cases, subsequent analysis has completely overturned previous understanding. Erler (2007), for example, finds that legislative term limits are associated with higher per capita spending whereas earlier estimates by Bails and Tieslau (2000) indicated that they were associated with lower per capita spending. More recently, Yakovlev, Tosun, and Lewis (2012) explore the fiscal effect of binding legislative term limits

and find that term limit stringency increases state government spending primarily through higher transfers to local governments. Similarly, more recent data may tell a more nuanced story on the fiscal effect of separate taxing and spending committees.

Crain and Muris's (1995) analysis is two decades old and is based on data from a six-year period in the 1980s. We improve on their study in a number of ways. First, we offer the first theoretical model of the institution, emphasizing the role that political transaction costs play in disrupting legislative logrolls. Second, we test the model with a longer and more up-to-date panel dataset, which includes a wider array of institutional and demographic factors as control variables. We also test to learn whether a difference occurs if these functions are separate in both legislative chambers or in just one. Finally, we evaluate the effect of the institution on several fiscal measures: general spending per capita, general revenue per capita, and five subcategories of state government spending.

In the next section, we offer further context for the institution. In section III, we develop a simple theoretical model. In section IV, we present the results of our data analysis, and in section V, we offer concluding remarks.

II. Political Transaction Costs and Separate Taxing and Spending Committees

A mutually beneficial exchange is costly. Beyond the price that a buyer agrees to pay a seller, both the buyer and the seller incur economic transaction costs that include the cost of searching for and acquiring information about one another and their respective products, the cost of bargaining with one another, and the cost of enforcing whatever agreement is struck. The subfield known as *transaction cost economics* (Williamson 1979; 1985; 1991) analyzes how different institutional arrangements affect those costs.

Beginning with North (1990b) and Dixit (1998), a number of authors have awakened political and economic theorists to the notion of *political transaction costs*. Like economic transaction cost models, political transaction cost models emphasize the costs associated with entering into an exchange. In this case, however, the focus is on political exchange rather than on economic exchange. Whereas North (1990b) and Dixit (1998) studied exchange among citizens and politicians, others have examined agreements or logrolls between politicians (Weingast and Marshall 1988; Epstein and O'Halloran 1999; Johnson and Libecap 2003; Spiller and Tommasi 2003). A frequent argument is that political transaction costs are likely to be substantially larger than economic transaction costs. First, political transactions typically involve agreements between more than two parties (Dixit 1998, 48). Second, these exchanges are often more vague, thereby allowing more room for interpretation (Dixit 1998, 49). Finally, these agreements involve significant commitment problems because "parties holding political power cannot make commitments to bind their future actions because there is no outside agency with the coercive capacity to enforce such agreements" (Acemoglu 2003, 620).

A number of political transaction cost models have focused on logrolls between legislators with different spending priorities (Weingast and Marshall 1988; Congleton and Tollison 1999; Johnson and Libecap 2003). In these models, one group of legislators agrees to vote for spending that benefits another group in exchange for the latter's support for the former's priorities. Typically, authors working in this literature have implicitly assumed that the power to appropriate funds to a particular end is commensurate with the power to raise those funds initially.

In some cases, this assumption is true. In South Carolina, for example, the House Ways and Means Committee crafts both revenue and appropriations bills, and the Senate Finance Committee does the same. In a number of states, however, these functions reside in separate

committees in each house. In Colorado, for example, the House and Senate Finance Committees put together revenue bills while separate Appropriations Committees develop legislation to allocate this money. In still other states, such as New Mexico, separate committees oversee these functions in one chamber (the House), while a single committee oversees them in the other chamber (the Senate). Consulting local officials, state statutes, and legislative websites, we have developed an original dataset that accounts for these arrangements.[1] Figure 2 (page 29) shows the current arrangement in all 50 states.

In seven states, these functions are separate in one chamber only, whereas in 25 other states, they are separate in both chambers. Sometimes the separation of these functions is effectuated through formal rules. In North Dakota, for example, House and Senate Rules specify the powers granted to the Appropriations Committees and do not include the power to raise revenue (North Dakota Legislative Assembly 2013). In Tennessee, in contrast, formal rules codify the union of these powers in one committee (Office of the Chief Clerk of the Senate 2013). Tennessee Senate Rules state that the Committee on Finance, Ways, and Means shall have responsibility for crafting all bills related to 10 areas, including the following:

> All measures relating to taxes and the raising of revenue . . . Expenditure of
> funds . . . All measures dealing with the appropriation of state funds . . . General
> appropriations bills . . . Assessment and collection of property taxes. (Office of
> the Chief Clerk of the Senate 2013, 24).[2]

In many states, however, the de facto separation of these powers into separate committees or the de facto union in one committee is achieved by informal norms and practices rather than by formal de jure rules. In the Idaho House, for example, where the Revenue and Taxation

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[1] See section IV of this paper for more details.
[2] In the House in Tennessee, the procedures are slightly less formal. That chamber has a similarly named House Committee on Finance, Ways, and Means. In practice, this committee has jurisdiction over both revenue raising and appropriations, and no other standing committees deal with either type of legislation. However, the House rules fail to explicitly name the respective jurisdictions of committees.

Committee is typically responsible for crafting bills to raise revenue and the Appropriations Committee is responsible for writing bills that spend the revenue, the formal House Rules say nothing about these de facto powers (State of Idaho Legislature 2014).

A number of new institutional economists have emphasized the importance of both formal and informal institutions. North (1990a, 4), for example, argues that "institutions include any form of constraint that human beings devise to shape human interaction" and emphasizes that these can be both "formal constraints" and "informal constraints—such as conventions and codes of behavior." Similarly, new institutional economist Avner Greif (2006, 30) defines an *institution* as a "system of social factors that conjointly generate a regularity of behavior" and is at pains to be clear that these factors include rules, beliefs, norms, and organizations. Yet despite the theoretical importance of informal as well as formal rules, most empirical institutional work tends to neglect the informal aspect (Shirley 2005).

In our empirical analysis of state committee powers (section IV of this paper), we account for both the formal and the informal separation of spending and taxing functions. In the next section, we present a stylized theoretical model of the institution.

III. Theoretical Model

Our model is a modified version of Meltzer and Richard's (1981; 1983) classic model of the size of government. It begins with the following assumptions:

1. Let the fraction of time that i spends in leisure be $l_i = 1 - n_i$, where n_i is the fraction of time i spends at work.

2. Let i's income be $y_i = n_i x_i$, where x_i is i's productivity.

3. Let i's consumption be $c_i = (1 - t)y_i + g_i$, where $(1 - t)y_i$ is after-tax private consumption, t is a flat tax rate, and g_i is i's share of public spending.

4. Let total government spending be $G = tH\bar{y} = tH\bar{n}\bar{x}$, where H is the size of the population and the bars indicate that these are mean values for the population's income, $\bar{y}$; fraction of time worked, $\bar{n}$; and productivity, $\bar{x}$.

5. Let i's share of government public spending be $g_i = \frac{G}{H^\gamma}$, where γ measures the degree of rivalry in public spending, so that $\gamma = 0$ indicates that public spending is completely nonrival and $\gamma = 1$ indicates it is completely rival.

6. Let i's utility be quasi-linear in leisure and take the form $U_i = c_i + \beta_i \ln(l_i)$.

Taxes reduce after-tax private consumption but fund an individual's share of public spending. Because of the labor–leisure tradeoff, some revenue-maximizing tax rate is less than 1. The first task of the tax writer is to understand the relationship between tax rates and average hours worked. If one makes the appropriate substitutions, a representative individual's utility function can be written as equation 1:

$$U_i = (1 - t)n_i x_i + g_i + \beta_i \ln(1 - n_i). \tag{1}$$

Though g_i is a function of the average fraction of time worked, $\bar{n}$, the individual can do little to affect this. All the individual can choose is his or her own fraction of hours worked. Taking the derivative of equation 1 with respect to n_i, setting it equal to 0, and solving for n_i yields $n_i = 1 - \frac{\beta_i}{(1-t)x_i}$. This equation is the individual's labor supply function. It says that the fraction of hours an individual works is a positive function of his or her ability, x_i, but a negative function of the tax rate, t, and his or her marginal value of leisure, β_i. If the average taxpayer has the same labor supply function, we can rewrite this as equation 2, where the bars indicate that these are average values:

$$\bar{n} = 1 - \frac{\bar{\beta}}{(1-t)\bar{x}}. \tag{2}$$

We can now define government spending in terms of this average labor supply function:

$$G = tH\bar{n}\bar{x} = tH\bar{x} - \frac{tH\bar{\beta}}{(1-t)}. \tag{3}$$

This equation tells the tax writer that at low levels of t, a marginal increase in the tax rate increases revenue, but at high levels of t, a marginal tax increase decreases revenue. The revenue-maximizing tax rate, found by taking the first-order condition, is

$$t_{max} = 1 - \sqrt{\frac{\bar{\beta}}{\bar{x}}}. \tag{4}$$

A. A Committee with Both Spending and Taxing Authority

We next consider the case of a direct democracy in which one legislative committee (a subset of the entire population) possesses both taxing and spending authority. This spending and taxing committee (STC) is capable of steering all rivalrous spending toward a subset of the population, *and* it is capable of setting its own tax rate. Though the committee members can steer spending to whomever they wish, whatever proposal they develop must still pass the full legislature if it is to become law. So in the extreme case, the STC will form a minimum winning coalition of size $\frac{H+1}{2}$ and distribute rivalrous public spending toward members of this coalition (Buchanan and Tullock 1962; Riker and Ordeshook 1973; Riker 1984).[3] The STC funds this spending with a flat income tax that is paid by the entire population. In this case, we can define the share of public spending allocated to a member of the STC:

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[3] This assumption is stylized. A number of authors (Weingast 1979; Collie 1988; Groseclose and Snyder 1996) have noted that coalitions are often significantly larger than the minimum necessary to win. Thus, one should think of our minimum winning coalition as an extreme bound.

$$g_{STC} = \frac{G}{\left(\frac{H+1}{2}\right)^{\gamma}} = \frac{tH\bar{n}\bar{x}}{\left(\frac{H+1}{2}\right)^{\gamma}}. \tag{5}$$

If spending is completely rival ($\gamma = 1$), then the coalition member's share of spending is equal to total spending, divided by the number of members of the minimum winning coalition (with whom he or she must share that rival spending). However, if spending is completely nonrival ($\gamma = 0$), then his or her share of spending is simply the entire government spending bill.

Now we substitute equation 2, the average fraction of hours worked, into equation 5, so that one's share of government spending can be written in terms of the tax rate:

$$g_{STC} = \frac{tH\bar{x}}{\left(\frac{H+1}{2}\right)^{\gamma}} - \frac{tH\bar{\beta}}{\left(\frac{H+1}{2}\right)^{\gamma}(1-t)}. \tag{6}$$

Now we consider the utility of the STC committee member:

$$U_{STC} = (1-t)y_{STC} + \frac{tH\bar{x}}{\left(\frac{H+1}{2}\right)^{\gamma}} - \frac{tH\bar{\beta}}{\left(\frac{H+1}{2}\right)^{\gamma}(1-t)} + \beta \ln(1 - n_{STC}). \tag{7}$$

This member will select the utility-maximizing tax rate:

$$t_{STC}^* = 1 - \sqrt{\frac{\bar{\beta}}{x-y_{STC}\frac{\left(\frac{H+1}{2}\right)^{\gamma}}{H}}}. \tag{8}$$

By substituting this tax rate and the labor supply function of equation 2 into the equation for total government spending, $G = tH\bar{n}\bar{x}$, we arrive at an equation for total government spending when one committee has the authority to both allocate rival spending and set the tax rate:

$$G_{STC}^* = \left(1 - \sqrt{\frac{\bar{\beta}}{\bar{x}-y_{STC}\frac{\left(\frac{H+1}{2}\right)^{\gamma}}{H}}}\right) H \left(\bar{x} - \frac{\bar{\beta}}{\sqrt{\frac{\bar{\beta}}{\bar{x}-y_{STC}\frac{\left(\frac{H+1}{2}\right)^{\gamma}}{H}}}}\right). \tag{9}$$

B. Separate Spending and Taxing Committees

In the previously described scenario, STC members are able to set the tax rate and allocate rival spending in whatever way they please. Now we consider an alternative institutional arrangement in which one set of legislators on a spending committee (SC) allocates rival spending, while members of a taxing committee (TC) set the tax rate. If transaction costs are minimal, then the members of these separate committees can easily logroll; SC members can ensure that TC members are part of the minimum winning coalition that obtains the rival spending.[4] In this case, separating these two legislative powers does not change the outcome. Total government spending will be equal to equation 9.

As the discussion in the previous section suggests, however, the assumption of zero transaction costs may be unrealistic. Because no court will enforce a logrolling agreement, TC members have no assurance that SC members will cut them in on the deal and allocate them their promised share of rival spending. And if no member simultaneously sits on both committees, then no official forum exists in which logrolling packages can be assembled. Thus, all deals must be struck behind closed doors and therefore are not easily monitored.

With transaction costs in mind, we consider the extreme case in which TC members believe that they have absolutely no reason to expect that SC members will allocate them their promised share of rival spending. In this case, SC members will continue to allocate rival spending to a minimum winning spending coalition of size $\frac{H+1}{2}$. But TC members will select the optimal tax rate by figuring the probability that they will be selected as members of the minimum winning coalition that will eventually pass the spending bill. If each member of the legislature

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[4] In assumption 6, i's utility is quasi-linear in leisure and takes the form $U_i = c_i + \beta_i \ln(l_i)$. Hence, preferences are not lexicographic, and individuals are willing to make tradeoffs.

has an equal chance of being selected for the minimum winning coalition, then the probability that any one member will be in the coalition is equal to the size of the coalition, divided by the size of the legislature, $\frac{\frac{H+1}{2}}{H}$. Thus, the TC member's expectation of benefiting from government spending is $\left(\frac{\frac{H+1}{2}}{H}\right)^{\gamma}$. Note that if the good is completely rival ($\gamma = 1$), this is equal to the probability that a TC member will be selected as a member of the coalition, whereas if the good is completely nonrival ($\gamma = 0$), this is simply equal to 1, because even those outside the coalition may consume the good.

Therefore, the TC member's *expected* share of government spending will be

$$g_{TC}^e = \left(\frac{\frac{H+1}{2}}{H}\right)^{\gamma} \frac{G}{\left(\frac{H+1}{2}\right)^{\gamma}} = \left(\frac{\frac{H+1}{2}}{H}\right)^{\gamma} \frac{tH\bar{n}\bar{x}}{\left(\frac{H+1}{2}\right)^{\gamma}}$$

$$= \frac{\left(\frac{H+1}{2}\right)^{\gamma}}{H^{\gamma}} \frac{tH\bar{n}\bar{x}}{\left(\frac{H+1}{2}\right)^{\gamma}} = \frac{tH\bar{n}\bar{x}}{H^{\gamma}}. \tag{10}$$

Substituting equation 2 for the average fraction of time worked and simplifying this equation results in the following:

$$g_{TC}^e = \frac{tH\bar{x}}{H^{\gamma}} - \frac{tH\bar{\beta}}{H^{\gamma}(1-t)}. \tag{11}$$

Now we consider the utility of a TC member:

$$U_{TC} = (1-t)y_{TC} + g_{TC}^e + \beta \ln(1 - n_{TC}). \tag{12}$$

Substituting equation 11 into equation 12, we obtain equation 13:

$$U_{TC} = (1-t)y_{TC} + \frac{tH\bar{x}}{H^{\gamma}} - \frac{tH\bar{\beta}}{H^{\gamma}(1-t)} + \beta \ln(1 - n_{TC}). \tag{13}$$

The TC member selects the tax rate that maximizes his or her utility:

$$\frac{\partial U_{TC}}{\partial t} = -y_{TC} + \frac{H\bar{x}}{H^{\gamma}} - \frac{H\bar{\beta}H^{\gamma}(1-t) - tH\bar{\beta}(-H^{\gamma})}{\left(H^{\gamma}(1-t)\right)^2} = 0. \tag{14}$$

This equation simplifies to equation 15:

$$t_{TC}^* = 1 - \sqrt{\frac{\bar{\beta}}{\bar{x} - y_{TC}\frac{H^\gamma}{H}}}. \tag{15}$$

We compare this tax rate with that selected by the committee with both taxing and spending powers, t_{STC}^*, equation 8. If we assume $y_{TC} \sim y_{STC}$ (and there is no obvious reason why incomes would be systematically different), then we obtain the following inequality:

$$1 - \sqrt{\frac{\bar{\beta}}{\bar{x} - y_{TC}\frac{H^\gamma}{H}}} \leq 1 - \sqrt{\frac{\bar{\beta}}{\bar{x} - y_{STC}\frac{\left(\frac{H+1}{2}\right)^\gamma}{H}}}$$

$$t_{TC}^* \leq t_{STC}^*. \tag{16}$$

In the presence of large transaction costs, the tax rate selected by the committee with only taxing authority, t_{TC}^*, will be less than or equal to that selected by the committee with both taxing and spending authority, t_{STC}^*. In the limiting case of a pure public good, when $\gamma = 0$, the two tax rates are equal.

By substituting this tax rate and the labor supply function of equation 2 into the equation for total government spending, $G = tH\bar{n}\bar{x}$, we can now write an equation for total government spending when the tax-writing committee lacks the power to allocate rival spending:

$$G_{TC}^* = \left(1 - \sqrt{\frac{\bar{\beta}}{\bar{x} - y_{TC}\frac{H^\gamma}{H}}}\right) H \left(\bar{x} - \frac{\bar{\beta}}{\sqrt{\frac{\bar{\beta}}{\bar{x} - y_{TC}\frac{H^\gamma}{H}}}}\right). \tag{17}$$

We know that $t_{TC}^* \leq t_{STC}^*$, so the question is whether G_{TC}^* is greater than or smaller than G_{STC}^*. The higher tax rate set by the STC will cause laborers to work less, so the net effect depends on whether or not these taxes are below the apex of the Laffer Curve. Recall from equation 4 that the apex of the Laffer Curve is at $t_{max} = 1 - \sqrt{\frac{\bar{\beta}}{\bar{x}}}$. Clearly,

$$t^*_{STC} = 1 - \sqrt{\frac{\bar{\beta}}{\bar{x} - y_{STC}\frac{\left(\frac{H+1}{2}\right)^{\gamma}}{H}}} \text{ and } t^*_{TC} = 1 - \sqrt{\frac{\bar{\beta}}{\bar{x} - y_{TC}\frac{H^{\gamma}}{H}}} \text{ are both below the revenue-maximizing tax}$$

rate, so we know that the higher tax rate selected by the STC will generate more revenue and spending than the tax rate selected by the TC.

The model offers two clear theoretical predictions. First, in the presence of transaction costs, those legislative bodies with separate taxing and spending committees will spend less on rival public spending than those with combined committees. Second, even if political transaction costs are significant, legislatures with separate taxing and spending committees will spend the same amount on nonrival goods as legislatures with combined committees. Because state government spending consists of both rival and nonrival categories, we expect total spending and total revenue to be lower in states with separate taxing and spending committees primarily as a result of lower rival expenditures.

IV. Empirical Investigation

A. Models and Data Description

To test these theoretical predictions, we surveyed state legislative bodies to create two dummy variables. The first, *separate committees in one chamber*, takes the value 1 only if one of the state's two legislative chambers has separate committees with jurisdiction over spending and taxing bills. The variable takes the value 0 otherwise. The second variable, *separate committees in both chambers*, takes the value 1 if both of the state's legislative chambers have separate committees with jurisdiction over spending and taxing bills; otherwise, it takes the value 0. This information was gathered from phone interviews with legislative committee members and their staff members. We then cross-checked the data against state legislative rules and committee

websites. To create a panel dataset, we asked respondents about past committee jurisdictions. In some cases, the historical record was clear enough to answer with certainty. In other cases, however, historical knowledge had a shorter timeline, which limited the length of the panel for some states. The resulting dataset is an unbalanced panel of 47 states from 1970 to 2010 (owing to uncertainty, some states have shorter time spans). Because these arrangements are dictated by longstanding formal and informal rules, we believe that reverse causality is a minimal concern.

We regressed seven measures of state fiscal policy on both of these dummy variables and a series of controls. The first two dependent variables—state general expenditures per capita and state general revenue per capita—gauge the institutions' relationship with the overall size of government. The remaining five—health care expenditures per capita, education expenditures per capita, highway and infrastructure expenditures per capita, welfare expenditures per capita, and local government aid per capita—gauge the institutions' relationship with particular categories of spending. All expenditure data were gathered from the US Census (US Census Bureau 2014a, 2014c).

All models are estimated using OLS (ordinary least squares) with Driscoll and Kraay (1998) standard errors that are robust to general forms of heteroskedasticity, autocorrelation, and spatial correlation. Exploiting institutional variation across time, we use a two-way fixed-effect model that controls for time and state fixed effects. We also use three vectors of controls that respectively account for demographic, economic, and politico-institutional differences that might affect state fiscal outcomes. Thus, for each of the seven fiscal outcomes, we estimate the following:

$$Fiscal\ Outcome_{i,t} = \alpha + \delta_1 Separate\ Committees\ in\ One\ Chamber_{i,t}$$

$$+ \delta_2 Separate\ Committees\ in\ Both\ Chambers_{i,t}$$

$$+ \mathbf{X}_{i,t}\boldsymbol{\beta_1} + \mathbf{Z}_{i,t}\boldsymbol{\beta_2} + \boldsymbol{\Theta}_{i,t}\boldsymbol{\beta_3} + \boldsymbol{\Gamma}_{i-1} + \boldsymbol{\Pi}_{t-1} + \varepsilon_{i,t}. \tag{18}$$

Subscripts $i = 1, \ldots, 47$ and $t = 1970, \ldots, 2010$ denote the state and year, respectively. The vector $\mathbf{\Gamma}_{i-1}$ is a set of all but one state dummies, the vector $\mathbf{\Pi}_{t-1}$ is a set of all but one year dummies, α is the y-intercept, and $\varepsilon_{i,t}$ is a random disturbance term. The vector $\mathbf{X}_{i,t}$ includes demographic factors known from previous studies to be significant determinants of state fiscal variables. It includes the natural logarithm of state population, the percentage of the population that is Caucasian, and the percentage of the population over 65 years of age (National Cancer Institute 2015).

The vector $\mathbf{Z}_{i,t}$ contains economic variables known to affect state fiscal outcomes. It includes real gross state product per capita (Bureau of Economic Analysis 2014), the unemployment rate (US Bureau of Labor Statistics 2014), federal aid to the state per capita (US Census Bureau 2014c), and percentage of revenue resulting from severance taxation (US Census Bureau 2014d).

The vector $\mathbf{\Theta}_{i,t}$ contains six politico-institutional variables known to affect fiscal policy. First, it includes Berry et al.'s (1998; 2012) measure of citizen ideology (higher values indicate more liberal states). Second, it includes an indicator variable that equals 1 if state i has lifetime term limits in year t and 0 otherwise. Third, to capture the varying stringency of term limits across states, it includes an index that is equal to the reciprocal of the term limit length in years so that shorter term limits, which are considered more stringent, cause the variable to take on a greater value. Fourth, it includes the Tax and Expenditure Limit index constructed by Amiel, Deller, and Stallmann (2009), in which greater values indicate stricter limits. Fifth, it includes a lame duck governor indicator variable (Klarner 2013a). This variable takes the value 1 if the governor is in his or her last term before being term limited and 0 otherwise. And sixth, it includes a divided

government indicator variable (Klarner 2013b).[5] This variable takes the value 1 if both chambers of the legislature and the executive branch are not controlled by the same party and 0 otherwise. Table 1 (page 30) describes each of the variables used and presents their descriptive statistics.

Previous studies have found the demographic, economic, and politico-institutional factors included in the vectors $\mathbf{X}_{i,t}$, $\mathbf{Z}_{i,t}$, and $\mathbf{\Theta}_{i,t}$ to be significant determinants of state fiscal variables (see, for example, Crain 2003, Erler 2007, and Besley and Case 2003).

B. Results

Table 2 (page 31) presents the results of a series of regressions using real per capita state expenditures as the dependent variable. In every specification, the estimated coefficient on *separate committees in one chamber* is negative and statistically significant at the 1 percent level. The magnitude of these estimates is quite large, suggesting that the institution is also economically significant. Moreover, the result is robust to the inclusion and exclusion of control variables.[6] Other factors being equal, we find that those states in which one chamber of the legislature has separate committees that oversee taxing and spending legislation spend between \$300 and \$450 less per capita than other states do. In other words, states with this institutional feature spend between 9 and 13 percent less per capita than does the average state. Though our estimated effect is not as large as that found by Crain and Muris (1995), if one compares it to the other estimates reported in figure 1, the effect is clearly larger than that of almost any other institution previously studied.

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[5] As a result, Nebraska, with its unicameral legislature and missing divided government data, is omitted from our analysis. Following standard practice, we also omit Alaska and Hawaii because of their unusual fiscal characteristics.

[6] We ran a number of robustness checks that are not reported. In one set of regressions, we used panel-corrected standard errors, which assume that the disturbances are heteroskedastic and contemporaneously autocorrelated. The estimated effect of *separate committees in one chamber* on general expenditures per capita remained statistically significant and did not change much in magnitude. In another set of tests, we clustered the robust standard errors on states. Again, the results did not change.

Table 2 also shows that those states with separate taxing and spending committees in both chambers spend statistically significantly less per capita. In three of the four specifications, the estimated effect of *separate committees in both chambers* is slightly smaller than that of *separate committees in one chamber*. This finding suggests that most of the expenditure-reducing effect of having separate taxing and spending committees is achieved when just one chamber separates these functions. Again, these results are robust to various specifications.[7]

Though they are not our primary focus, the estimated effects of our control variables are worth noting. Two of the three demographic control variables obtain statistical significance in predicting per capita expenditures. First, more populated states tend to spend less per capita, which suggests that there are economies of scale in state spending. Second, states with a larger population over age 65 spend more per capita, which is consistent with the theory that this portion of the population relies more heavily on government services. In our tests, the estimated effect of *percentage that is Caucasian* is consistently negative but never obtains standard statistical significance.

Three of our four economic control variables obtain statistical significance in the per capita expenditure regressions. In particular, states with higher per capita gross domestic product, more federal aid per capita, and a greater share of revenue from severance taxes tend to spend more per capita. Though the estimated effect of the unemployment rate is consistently positive, it does not obtain statistical significance in any of these tests.

Among the six politico-institutional control variables in our tests, three are statistically significant in predicting per capita expenditures. According to our estimates, states with lifetime and longer (less stringent) legislative term limits spend more per capita. This finding suggests

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[7] Nor do they change when we use panel-corrected standard errors or cluster the robust standard errors on states. The unreported results are available from the authors on request.

that nonlifetime term limits with shorter terms may restrain state spending. The estimated magnitude suggests that a one standard deviation increase in the stringency of the term limit is associated with $48 less in per capita expenditures. We also find that states with politically divided governments spend about $52 more per capita than other states. Three politico-institutional factors were statistically insignificant. Though a more liberal citizenry is positively related to per capita spending, the effect is not statistically significant. Tax and expenditure limits and lame duck governors are both negatively related to per capita expenditures, but neither effect is statistically significant.

Table 3 (page 32) presents the results when real general state revenue per capita is the dependent variable. States with separate taxing and spending committees in one chamber are found to collect between $100 and $350 less per capita in revenue. The effect is statistically significant at the 1 percent level and robust to various specifications.[8] The estimated effect of *separate committees in both chambers* is found to be statistically significant in only two regressions and changes signs in one (statistically insignificant) specification. Thus, most of the revenue-reducing effect of separate committees is achieved when just one chamber separates these functions. With one exception, the effects of the remaining explanatory variables in the general revenue regressions are comparable to those found in the general expenditures tests. The exception is the estimated effect of more stringent tax and expenditure limits. Interestingly, more stringent limits are found to *positively* correlate with general revenue per capita.

Table 4 (page 33) presents the results for the five main components of state government spending. Interestingly, the expenditure-reducing effect of having separate taxing and spending

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[8] In three of four specifications with panel-corrected standard errors, the estimated effect was statistically significant and comparable in magnitude. In all four specifications with robust clustered errors on states, the estimated effect was statistically significant. These results are available from the authors on request.

committees is not consistent across all subcategories of spending. Although having *separate committees in one chamber* has a negative and statistically significant relationship with health care and local aid per capita, it has a positive and statistically significant relationship with highway and infrastructure spending per capita (and no statistically significant relationship with education and welfare spending per capita). A somewhat similar pattern is evident with *separate committees in both chambers*: it has a negative and statistically significant effect on health care and welfare spending per capita, but a positive and statistically significant effect on highway and infrastructure spending per capita (and no statistically significant effect on education and local aid per capita).

Nondiscretionary spending may be one explanation. Some subcategories of spending, such as education and welfare, may possibly be so formula driven that they are largely unaffected by discretionary logrolling among legislators. However, the theoretical model of section III of this paper suggests another explanation. The model predicts that separate taxing and spending committees will spend less than unified committees on rival goods but will spend the same amount on nonrival goods. We note that those states with separate committees in either one or both chambers spend statistically significantly less on three subcategories: health care, welfare, and local aid expenditures per capita. Each of these goods is rival; when one constituent consumes it, another may not. Now we note that states with separate committees in one and both chambers spend statistically significantly more on highway and infrastructure spending per capita. This may be the least rival subcategory: one constituent's consumption of these services does not inhibit that of another. That states with separate committees spend *more* on this category rather than the same amount as states with combined committees is a somewhat mysterious finding. When legislators are unable to concentrate spending on rival goods, they may be more likely to substitute into nonrival public goods.

V. Conclusion

When James Buchanan won the Nobel Prize in economics, he was asked to summarize the central insight of public choice economics. Reportedly, he replied simply: "Don't let the fox guard the chicken coop." This idea—also evident in Juvenal's rhetorical question, "*Quis custodiet ipsos custodes?*"—is the motivation behind a number of institutional checks and balances adopted by states over the years. Some of these institutions—such as balanced budget rules, term limits, and tax and expenditure limits—have been the subject of extensive political and academic analysis. In this paper, we explore the fiscal implications of a relatively simple but mostly ignored institution: the separation of taxing and spending authority into different legislative committees.

First, we develop a simple theoretical model of the institution. The model assumes that in the states where taxing and spending functions are combined in one committee, members of that committee will allocate public spending to a minimum winning coalition of the whole legislature. In contrast, if tax writers and appropriators serve on separate committees, and if political transaction costs are significant (Dixit 1998; Acemoglu 2003), then tax writers cannot be certain that appropriators will include them in the minimum winning coalition. In accordance with this expectation, tax writers will therefore set a lower tax rate in such a setting and total government spending will be lower than in the case where the same committee sets the tax rate and appropriates funds.

Political transaction cost models typically stress the notion that transaction costs stand in the way of efficiency-enhancing Coasean bargains (see, for example, Acemoglu 2003). Our model, by contrast, highlights the positive role that transaction costs might play in thwarting

*in*efficient legislative logrolls of the nature explored by Riker (1984) and Buchanan and Tullock (1962). In other words, what's good for the goose may not be good for the gander.

To the best of our knowledge, this institution has been studied only once before, by Crain and Muris (1995). In an effort to improve on their study, we examine a longer panel, incorporate a larger set of control variables, run separate tests on seven different dependent variables, and examine whether it matters if states have separate committees in one or both chambers.

Other factors being equal, we find that those states with separate taxing and spending committees spend between $300 and $450 less per capita (between $790 and $1,200 less per household) than other states.[9] They also raise between $100 and $350 less in per capita revenue than do other states. We find that whether spending and taxing functions are separate in both chambers or merely in one makes little difference. Interestingly, we find that the effect also varies across subcategories of state spending. The marginal effect of having separate committees in one or both houses is negative and statistically significant for health care, welfare, and local aid spending per capita but is positive and significant for highway and infrastructure spending per capita. This finding may suggest that highway and infrastructure spending is less rivalrous than these other categories.

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[9] According to the latest estimates, a household has approximately 2.63 persons (US Census Bureau 2014b).
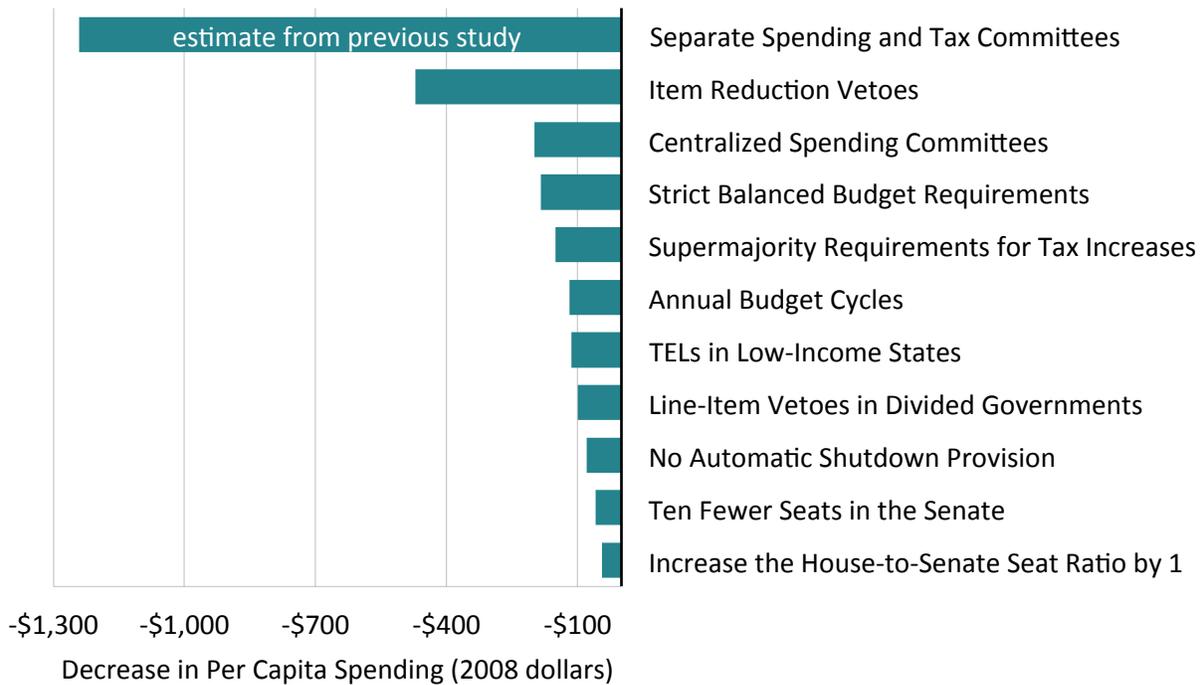
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Figure 1. The Marginal Effect of Institutions on Per Capita Spending

Separate Spending and Tax Committees — estimate from previous study
Item Reduction Vetoes
Centralized Spending Committees
Strict Balanced Budget Requirements
Supermajority Requirements for Tax Increases
Annual Budget Cycles
TELs in Low-Income States
Line-Item Vetoes in Divided Governments
No Automatic Shutdown Provision
Ten Fewer Seats in the Senate
Increase the House-to-Senate Seat Ratio by 1

-$1,300   -$1,000   -$700   -$400   -$100

Decrease in Per Capita Spending (2008 dollars)

Adapted from Matthew Mitchell and Nick Tuszynski (2012), "Institutions and State Spending: An Overview," *Independent Review* 17 (1): 35–49.

Sources: W. Mark Crain and Timothy J. Muris (1995), "Legislative Organization of Fiscal Policy," *Journal of Law and Economics* 38 (2): 311–33: separate committees, centralized spending committees. W. Mark Crain (2003), *Volatile States: Institutions, Policy, and the Performance of American State Economies* (Ann Arbor: University of Michigan Press): item reduction vetoes, supermajority requirements for tax increases, annual budget cycles, tax and expenditure limits in low-income states. David M. Primo (2007), *Rules and Restraint: Government Spending and the Design of Institutions* (Chicago: University of Chicago Press): strict balanced-budget requirements, shutdown provision. Jowei Chen and Neil Malhotra (2007), "The Law of k/n: The Effect of Chamber Size on Government Spending in Bicameral Legislatures," *American Political Science Review* 101 (4): 657–76: House-to-Senate ratio, number of senators.

Note: TEL = tax and expenditure limit. All figures are converted into 2008 dollars.

Figure 2. States with Separate Taxing and Spending Legislative Committees
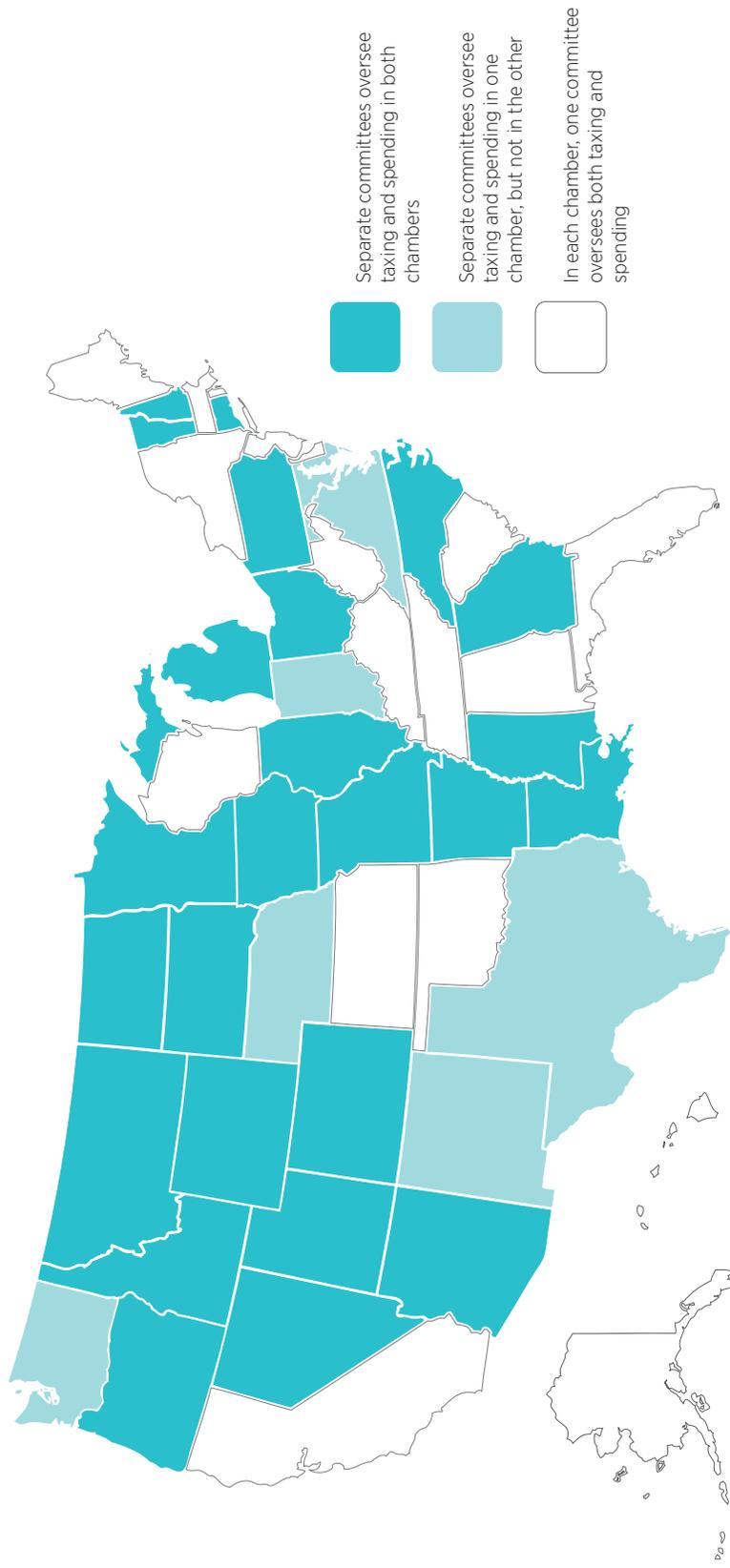

Separate committees oversee taxing and spending in both chambers

Separate committees oversee taxing and spending in one chamber, but not in the other

In each chamber, one committee oversees both taxing and spending

Table 1. Variables and Descriptive Statistics

Variable	Description	Observations	Mean	Standard deviation	Minimum	Maximum
General expenditures per capita	Total state expenditures per capita (2005 dollars); excludes utility expenditures, liquor store expenditures, and employee retirement or other insurance trust expenditures	1,421	3,552.07	1,203.33	1,307.16	9,129.62
General revenue per capita	Total state revenue per capita (2005 dollars); excludes revenue from utilities, liquor stores, and insurance trusts	1,421	3,562.50	1,169.73	1,310.65	9,818.47
Health care spending per capita	State health care expenditures per capita (2005 dollars)	1,421	221.89	98.67	51.54	630.26
Education spending per capita	State education expenditures per capita (2005 dollars)	1,421	573.52	191.61	189.40	1,316.06
Highway and infrastructure spending per capita	State highway and infrastructure expenditures per capita (2005 dollars)	1,421	305.71	141.20	103.29	1,220.72
Welfare spending per capita	State welfare expenditures per capita (2005 dollars)	1,421	705.82	385.96	28.19	2,008.69
Local aid spending per capita	State local aid expenditures per capita (2005 dollars)	1,421	1,026.47	404.26	127.14	3,119.58
Separate committees in one chamber	Separate taxing and spending committees in one chamber	1,421	0.12	0.32	0	1
Separate committees in both chambers	Separate taxing and spending committees in both Chambers	1,421	0.51	0.50	0	1
Ln(population)	Log of state population	1,421	14.99	1.01	12.72	17.44
Percentage that is Caucasian	Percentage of state population that is Caucasian	1,421	85.99	9.31	60.76	99.64
Percentage over age 65	Percentage of state population that is over age 65	1,421	12.24	1.93	6.92	18.41
Real gross state product per capita	Gross state product per capita (2005 dollars)	1,421	34,235.93	8,512.20	18,468.77	72,560.93
Unemployment rate	Unemployment rate	1,421	5.80	1.99	2.25	17.45
Federal aid to state per capita	Federal aid to state per capita (2005 dollars)	1,421	1,018.95	455.58	282.68	3,646.15
Percentage of state revenue resulting from severance tax	Percentage of state revenue resulting from severance tax	1,421	1.44	3.46	0.00	28.50
Citizen ideology	Citizen ideology index created by Berry et al. (1998) and subsequently revised (2012); value of 0 for the most conservative position and 100 for the most liberal position	1,421	47.73	15.45	7.49	95.97
Lifetime legislative term limit	Value of 1 if the state had a binding term limit in that year that prevents legislators from seeking office ever again; 0 otherwise	1,421	0.04	0.20	0	1
Term Limit Stringency index	Reciprocal of the term limit length in years; 0 if no term limit	1,421	0.01	0.02	0.00	0.08
Tax and expenditure limit	Tax and Expenditure Limit (TEL) index developed by Amiel, Deller, and Stallmann (2009); higher values indicate more restrictive rules regarding taxation and expenditures	1,421	6.53	7.85	0.00	30.00
Lame duck governor	Value of 1 if the governor is in the last term before he or she is term limited; 0 otherwise	1,421	0.33	0.47	0	1
Politically divided government	Value of 1 if both legislative chambers and the governor's office are not controlled by the same party; 0 otherwise	1,421	0.53	0.50	0	1

Table 2. Determinants of General Expenditures Per Capita

Variables	(1)	(2)	(3)	(4)
Separate committees in one chamber	−409.9***	−449.9***	−285.5***	−313.2***
	(81.06)	(92.27)	(62.29)	(67.48)
Separate committees in both chambers	−390.2***	−552.7***	−252.0***	−263.1***
	(100.9)	(116.4)	(68.07)	(78.30)
Ln(population)		−863.2***	−477.0***	−446.2***
		(216.4)	(116.4)	(123.8)
Percentage that is Caucasian		−8.215	−19.45	−16.69
		(8.680)	(12.58)	(13.39)
Percentage over age 65		147.9**	116.4***	109.8***
		(57.27)	(32.52)	(27.35)
Real gross state product per capita			0.0306***	0.0301***
			(0.00691)	(0.00695)
Unemployment rate			14.94	13.34
			(12.82)	(13.71)
Federal aid to state per capita			0.983***	0.991***
			(0.102)	(0.103)
Percentage of state revenue resulting from severance tax			29.03**	27.39**
			(12.77)	(12.59)
Citizen ideology				1.651
				(2.121)
Lifetime legislative term limit				190.7***
				(65.41)
Term Limit Stringency index				−2,381***
				(424.4)
Tax and expenditure limit				−1.820
				(2.848)
Lame duck governor				−3.560
				(16.03)
Politically divided government				52.54***
				(16.62)
Constant	2,144***	14,240***	8,423***	7,738***
	(63.32)	(2,746)	(1,288)	(1,488)
State fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R-squared	0.90	0.91	0.94	0.95
Observations	1,421	1,421	1,421	1,421
Number of groups	47	47	47	47

Note: Estimated with ordinary least squares with Driscoll and Kraay (1998) standard errors (in parentheses). State and year fixed-effects coefficients are not reported. Sample consists of 47 states (Alaska, Hawaii, and Nebraska are excluded).

*** indicates significance at 1 percent; ** indicates significance at 5 percent; * indicates significance at 10 percent.

Table 3. Determinants of General Revenue Per Capita

Variables	(1)	(2)	(3)	(4)
Separate committees in one chamber	−259.3***	−347.1***	−109.3**	−183.5***
	(39.78)	(54.11)	(46.72)	(52.87)
Separate committees in both chambers	−176.1**	−376.5***	32.85	−20.73
	(69.04)	(90.24)	(87.14)	(92.00)
Ln(population)		−1,241***	−776.2***	−730.1***
		(204.6)	(74.90)	(72.52)
Percentage that is Caucasian		2.838	−16.020	−8.747
		(15.93)	(13.02)	(12.60)
Percentage over age 65		113.7**	86.33***	95.51***
		(55.65)	(23.72)	(20.85)
Real gross state product per capita			0.0377***	0.0377***
			(0.00502)	(0.00473)
Unemployment rate			−11.02	−12.31
			(12.06)	(13.49)
Federal aid to state per capita			1.188***	1.173***
			(0.0580)	(0.0566)
Percentage of state revenue resulting from severance tax			65.01***	65.09***
			(8.910)	(8.091)
Citizen ideology				−2.211
				(1.439)
Lifetime legislative term limit				177.6***
				(45.15)
Term Limit Stringency index				−2,137***
				(555.6)
Tax and expenditure limit				3.584*
				(1.890)
Lame duck governor				10.26
				(13.26)
Politically divided government				49.10***
				(13.99)
Constant	1,952***	18,965***	12,403***	11,099***
	(38.63)	(2,061)	(768.5)	(948.0)
State fixed effects	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes
R^2	0.86	0.88	0.96	0.96
Observations	1,421	1,421	1,421	1,421
Number of groups	47	47	47	47

Note: Estimated with ordinary least squares with Driscoll and Kraay (1998) standard errors (in parentheses). State and year fixed-effects coefficients are not reported. Sample consists of 47 states (Alaska, Hawaii, and Nebraska are excluded).

*** indicates significance at 1 percent; ** indicates significance at 5 percent; * indicates significance at 10 percent.

Table 4. Determinants of Categorical Expenditures Per Capita

Variables	Health care spending per capita	Education spending per capita	Highway and infrastructure spending per capita	Welfare spending per capita	Local aid spending per capita
Separate committees in one chamber	-119.3***	-20.30	50.69***	21.20	-83.37**
	(13.71)	(13.08)	(17.24)	(16.04)	(33.94)
Separate committees in both chambers	-73.08***	-18.06	79.94***	-109.2**	106.1
	(18.31)	(21.38)	(28.29)	(41.75)	(69.65)
Ln(population)	74.92***	-247.0***	17.60	-109.4***	45.50
	(18.16)	(25.27)	(38.09)	(33.93)	(32.74)
Percentage that is Caucasian	-2.402	0.888	-6.855	1.178	9.200
	(2.628)	(3.131)	(4.243)	(7.762)	(8.783)
Percentage over age 65	29.47***	21.02***	6.134	-0.633	5.304
	(5.494)	(6.190)	(6.192)	(9.910)	(15.03)
Real gross state product per capita	0.00390***	0.00235***	0.00258**	0.000205	0.00322
	(0.000629)	(0.000847)	(0.00101)	(0.00231)	(0.00474)
Unemployment rate	5.379***	-2.702	-3.024	-2.272	6.452
	(1.253)	(2.927)	(2.639)	(5.559)	(5.416)
Federal aid to state per capita	0.0349**	-0.0101	0.0589***	0.339***	0.334***
	(0.0160)	(0.0153)	(0.0203)	(0.0515)	(0.0541)
Percentage of state revenue resulting from severance tax	-0.0660	0.656	-0.236	-0.278	23.10***
	(1.988)	(1.593)	(2.492)	(4.024)	(6.636)
Citizen ideology	-0.0634	0.821**	-0.274	2.086***	0.653
	(0.229)	(0.339)	(0.281)	(0.711)	(1.057)
Lifetime legislative term limit	4.952	53.33***	-23.04***	48.55**	132.2**
	(14.58)	(7.010)	(6.638)	(18.64)	(60.25)
Term Limit Stringency index	55.55	-846.7***	468.8***	-1,467***	-844.3**
	(187.4)	(92.52)	(80.21)	(292.2)	(391.0)
Tax and expenditure limit	0.576	0.130	0.603	-0.192	-4.914***
	(0.494)	(0.551)	(0.438)	(0.635)	(1.626)
Lame duck governor	-10.75***	-5.086	-8.224*	-14.29	24.21*
	(3.114)	(5.840)	(4.881)	(9.507)	(12.73)
Politically divided government	12.16***	2.153	8.077*	0.307	33.21**
	(3.522)	(2.646)	(4.228)	(7.496)	(14.72)
Constant	-1,137***	3,693***	536.9	1,504	-1,319
	(396.3)	(633.7)	(469.0)	(967.0)	(981.5)
State fixed effects	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes
R^2	0.54	0.85	0.31	0.92	0.74
Observations	1,421	1,421	1,421	1,421	1,421
Number of groups	47	47	47	47	47

Note: Estimated with ordinary least squares with Driscoll and Kraay (1998) standard errors (in parentheses). State and year fixed-effects coefficients are not reported. Sample consists of 47 states (Alaska, Hawaii, and Nebraska are excluded).

*** indicates significance at 1 percent; ** indicates significance at 5 percent; * indicates significance at 10 percent.