A Survey of the Impact of Budget Rules on State Taxation, Spending, and Debt

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State government spending has grown dramatically out of proportion to inflation and population growth. Between 1950 and 1990, real state spending grew by more than 500 percent. Real state spending grew two and one-half times faster than population during the 1970s and four times faster than population during the 1980s (Stansel 1994).

This paper reviews the empirical evidence on the impact of budget rules on the size and growth of state government. What affect do tax and expenditure limitations, the line-item veto, and balanced-budget laws have on government tax and spending behavior? Do these rules alter debt issuance and off-budget spending?[1]

Budget rules have been suggested as a means of controlling federal spending. Examination of these rules at the state level can provide important evidence about their potential effectiveness and optimal design. Currently, 23 states have some kind of tax or expenditure limitation, 49 states have requirements to balance the budget (the exception is Vermont), and 40 governors have the power to veto specific line-items of their states' budgets.

Many models of government explain public-sector behavior by treating institutional arrangements as a given. The equilibrium level of spending in the median-voter model (Downs 1957) is set to maximize the net benefits of the median voter, independent of institutional detail. The Tiebout model (Tiebout 1956) also ignores budget rules in determining the optimal size of government. The existence of

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[1]The list of institutions that influence government behavior can be expanded. For example, there is evidence that decentralization of budget decisionmaking (Crain and Muris 1995) and term limits (Besley and Case 1995) influence government spending and taxation. I focus on the three most common direct budget rules.

legislation directed at constraining politicians poses a challenge to these theories of government.

The special-interest model of government (Stigler 1971, Peltzman 1976, and Becker 1983), the monopoly model (Niskanen 1975), and the Leviathan model (Brennan and Buchanan 1979) all suggest the need for budgetary rules. In these models, equilibrium spending is greater than optimal and budget rules are needed to constrain politicians' tax and spending behavior.

In addition to reviewing the evidence on budget rules, a second objective is to illustrate the influence of empirical methodology in policy analysis. Early studies used cross-sectional data, which has serious empirical limitations. Results may be biased by the year chosen and researchers cannot control for unobserved factors. More recent studies use panel data (cross-sectional time-series data), producing more reliable estimates (see Hsiao 1986). Also, failure to take into account the endogeneity of budget rules can seriously bias results. If states with rapid spending growth are more likely to impose budgetary rules, then any association between rules and spending may be distorted.

Tax and Expenditure Limitations

A growing number of states have tax and expenditure limitations (TELs). TELs are laws that specify how much taxes or expenditures can increase from one year to the next. They usually limit the increase to the growth in state personal income or population growth plus inflation.

Not all TELs are the same. Some are initiated by citizens, through state initiative processes. Others are crafted in state legislatures. Of the 23 states with TELs, 8 states have TELs that were initiated by citizens, the remaining TELs were written by legislators. Because legislators constrain their own ability to cull political support when they limit state spending, we would expect TELs written by legislatures to be more flexible, to have more loopholes, and to be less binding.

TELs can be constitutional amendments or statutory laws. Constitutional amendments are difficult to modify. Statutory laws can be changed by legislative action. When spending becomes constrained by TELs, states whose TELs have only statutory authority may be more subject to revision, mitigating their usefulness in restricting spending. Of the 23 state TELs in existence today, 11 are constitutional.

The existence of a TEL may not be sufficient to influence the size of government. The way a TEL is written can have an important impact on its effectiveness. Hidden loopholes may make it easy for a

state legislature to work around the law. For example, expenditures can be shifted to an off-budget agency.

Empirical studies through 1990 found mixed results as to the effectiveness of TELs. Papers by Abrams and Dougan (1986), Cox and Lowery (1990), and Bails (1990) found TELs to be ineffective. These studies, however, are empirically weak. Abrams and Dougan along with Cox and Lowery use cross-sectional data. Bails does not adequately control for other factors that might influence government behavior (e.g. the business cycle).

Only one study has examined time-series data. Dougan (1988) examined time series data from 1960 to 1984 for 16 states that had TELs. In 7 of the 16 states, he found a significant and negative impact of TELs on government spending. But Dougan used only 25 years of data (1960–84), making it hard to be comfortable with his conclusions.

More recent studies have found evidence that supports the effectiveness of TELs in reducing the growth in government spending. Stansel (1994) looks at 18 states with TELS and compares state spending growth rates to the national average before and after the implementation of TELs. He finds state spending 0.8 percent above average before TEL passage and 2.9 percent below average after passage.[2] To see if the reductions in state spending are offset by increases in local spending, he also looks at combined state and local spending. As a result of TEL passage, combined state and local spending went from 2.3 percent above average to 1.2 percent below average. This indicates that reductions in state spending are offset to some degree by increased spending at the local level—that is, there is some shifting of spending to the local level when state spending is constrained.

Stansel's review of TELs suggests that the most effective TELs are written by voters, are constitutional rather than statutory, and are linked to spending rather than revenues. However, Stansel's analysis suffers from a problem common to earlier studies: it does not control for factors like regional recessions and unique state features that may bias the results.

The early findings that TELs are ineffective may be due to the fact that high-spending states are more likely to pass TELs, or because TELs may reflect a shift in voter preferences for less spending. In the latter case, it is not the TEL, but the change in voter preferences that causes a reduction in spending. In this case, TELs do not play

[2]He excludes Connecticut and North Carolina because the recent passage of their TELs resulted in insufficient data to do the analysis. Rhode Island and Nevada TELs only apply to the governors' proposed budget so they are also excluded. Alaska is not included even though it has a TEL, because its revenues are primarily related to oil production.

a causal role in reducing spending. This TEL endogeneity issue may have a significant impact on statistical inference, biasing the results. Work by Reuben (1995) attempts to address this issue.

Rueben estimates a model of government spending that includes a dummy variable for the presence of a TEL.[3] Next, the same model is estimated using an instrumental variables for the TEL dummy variable to control for possible endogeneity. The key is to find an instrumental variable, correlated with the chances of passing a TEL, that captures changes in voter preferences and, at the same time, is uncorrelated with the level of revenues raised through the tax system. This would separate the effect of TELs from any changes in voter tastes.

Reuben uses citizen direct legislation laws (which allow citizens to directly propose and then vote on laws) that should be positively related to the passage of TELs, but unrelated to current expenditure levels.[4] Most of these direct legislation rules were passed early in this century, so their existence will not influence current spending but will increase the chance of TEL passage.

As in previous studies, Reuben's simple ordinary least squares results show a positive relationship between TELs and government spending—limits actually *increase* state spending. But when the model is estimated using instrumental variables, spending *declines* by 1.8 percent due to TELs. (Actually, state spending falls by more than 1.8 percent, but reductions in state spending are partially offset by higher spending at the local level; 1.8 percent is the net decrease.) These results suggest that failing to control for the endogeneity of TELs leads to biases in empirical estimation.

Poterba (1994) suggests that TELs may impact how a state adjusts its budget to unexpected negative economic shocks. Using data for the period from 1988 to 1992, he finds that states with TELs experience lower tax increases in the face of negative economic developments. A $1.00 increase in the budget deficit results in a $0.47 tax increase in TEL states. In non-TEL states, the increase is much higher—$1.03. TELs appear to have no impact on the size of spending reductions.[5]

[3]Reuben uses a model that explains state and local government spending with explanatory variables that include a measure of the tax burden of government, a demand for government variable, demographic variables, and business-cycle variables.

[4]Matsusaka (1995) looks at the impact of citizen initiatives rights on spending. He finds state spending to be 12 percent less and local spending 10 percent higher in initiative states. Also, initiative state taxes are 8 percent lower and user fees 7 percent higher. This implies that in states where citizens have initiative rights, they prefer spending to be more local and rely more on direct user fees over taxation for revenues.

[5]Poterba also finds that, in response to shocks, single-party states increase taxes and reduce spending more than states with split party control.

Line-Item Veto

Most governors have some type of executive veto over state spending. Only 6 have all-or-nothing veto, 33 have line-item veto, and 11 have item-reduction veto power. In the all-or-nothing case, the governor must veto the entire budget (or a large portion) or nothing at all. Item vetoes are more flexible in that the governor can veto a particular item in the budget. In the item-reduction version, a governor has the flexibility to lower the level of funds without eliminating the entire item from the budget. If the governor likes a program, but thinks the allocation is too great, he or she can reduce funding to the program. In all these situations, the ability to sustain a veto is likely to have a large impact on the willingness of a governor to use veto power.

The effect of line-item veto power at the state level is particularly interesting to study as there has been considerable debate about giving the president this power to reduce pork barrel spending at the federal level. Recent legislation gives the president this power effective in 1997, but it will not be permanent. It will end in 2005.

Critics of the line-item veto argue it gives the governor too much power in the budget-making process. In addition, it can create a moral-hazard problem with respect to controlling government spending. The line-item veto shifts responsibility for cutting waste from the budget to the governor. As a result, the legislature may lose some of its fiscal discipline (Crain and Miller 1990).

Proponents argue that the line-item veto gives the governor much needed power to cut wasteful spending items from the budget. In this manner, spending is more likely to be consistent with the preferences of the median voter, rather than the spending level preferred by special interest groups representing a high-spending district. A factor that can influence the use of the line-item veto is the possibility that a legislature, with a large enough majority in the opposition party, can override a governor's veto. A veto is most likely to be used when the governor and legislature are of different parties and in situations where the governor is more likely to be able to sustain the veto (Holtz-Eakin 1988).

Studies by Rowley, Shughart, and Tollison (1986), Nice (1988) and Alm and Evers (1991) provide cross-sectional tests of the impact of the line-item veto on state spending. Generally, they find the presence of the line-item veto has little impact on spending growth. Controlling for differences in political parties between the governor and the legislature does not change the result.

Holtz-Eakin (1988) provides both cross-sectional and panel estimates of a median-voter government spending model for 48 states

(excluding Alaska and Nebraska) for the period from 1965 to 1983. He is careful to control for situations where the political affiliation of the governor and the legislature differ. He also includes a measure that indicates that a governor is of a different party than the legislature, but has enough votes in the legislature to sustain a veto.

Holtz-Eakin's cross-sectional results are consistent with other studies in the literature, indicating that the power to veto legislation on a line-item basis does not reduce spending at the state level. Using panel data, he finds that the line-item veto reduces spending when two conditions hold: (1) the parties of the legislature and governor differ and (2) the governor can sustain a veto (the majority party does not have enough seats to overturn a veto). In cases where the governor has veto power and the ability to sustain the veto, Holtz-Eakin finds that Democratic governors tend to reduce current spending while Republican governors focus on reducing capital spending.

Carter and Schap (1990) argue that if the line-item veto increases executive power, then the existence of veto power should increase chances of reelection, election to national office, and campaign contributions. Their results show veto power does not significantly increase chances of reelection. They find governors with veto power are elected to national office *less* often. Campaign contributions are positively influenced by veto power, but not significantly. These results do not suggest the line-item veto is a particularly powerful political tool.

Crain and Miller (1990) provide some evidence the line-item veto influences spending. Looking at the growth in state spending between fiscal years 1983–84 and 1985–86, they find that, although the existence of a line-item veto does not influence spending, the more flexible item-reduction veto does reduce state spending growth. They carefully control for a large range of institutional factors that might impact spending. Also, since they use growth rates, their results do not suffer from the criticism that unobserved fixed-state effects are biasing their results.

Finally, Dearden and Husted (1993) try to determine if governors with the line-item veto end up with budgets relatively closer to the ones they propose. Rather than using total spending as the dependent variable, they use the percentage difference between actual state expenditures and the expenditure level proposed by the governor. Using a panel of data covering the years from 1983 to 1989, they find governors with a line-item veto end up with a level of expenditures closer to what they propose than do governors without veto power. The impact is stronger if the governor has a spending-reduction veto rather than a simple line-item veto, and when the governor is in a

minority party that has sufficient presence in the state legislature to sustain a gubernatorial veto.

Balanced-Budget Requirements

Every U.S. state has a balanced-budget requirement except Vermont. The actual rules vary considerably from state to state. Only 44 states require the governor to submit a balanced budget at the start of the budget cycle. In 37 states, the legislature is required to pass a balanced budget. In 13 of those states, the government can legally run a budget deficit by simply carrying the deficit over to the next fiscal year. These are weak budget rules and are likely to be ineffective. In contrast, the remaining 24 states that require the legislature to pass a balanced budget prohibit deficit carryover. If a deficit develops during the year, it must be eliminated by cutting spending or raising taxes.[6]

In almost every case, the balanced-budget rule applies to the general fund or operating budget. Only 34 states apply these rules to special funds for which taxes are specifically earmarked. Fewer states have rules that constrain capital spending and trust funds (33 and 30 states, respectively).

Researchers have started investigating whether these rules influence the level of government spending, borrowing, and the size of deficits. Poterba's 1994 study (discussed earlier), found that, in response to a $100 unanticipated increase in the state deficit, states with strong anti-deficit rules reduced per capita spending by $44. In states with weak anti-deficit rules, the adjustment was only $17 per capita. In other words, states with strong balanced-budget rules adjusted faster to unexpected shocks.

Using an index to measure the stringency of budget rules, Von Hagen (1991) finds the ratio of nonguaranteed debt to guaranteed debt is higher in states with stringent rules on general fund deficits, suggesting a shift in borrowing to off-budget nonguaranteed debt. Since this type of borrowing is not covered by many balanced-budget rules, and does not require voter approval, it reflects an effort by politicians to work around such rules. Also, debt per capita is higher in states with weak budget rules, compared to states with strong rules.

The most complete examination of balanced-budget rules can be found in a paper by Bohn and Inman (1996). They construct a comprehensive deficit measure that includes the general budget and budgets

[6]It is possible to use gimmicks to eliminate the deficit. For example, budget administrators could postpone payments to eliminate some of the deficit. But these options are fairly limited.

from five other funds—the capital fund, insurance trust fund, public employees retirement fund, rainy-day fund, and rollover funds.[7]

Using this comprehensive deficit measure, they estimate a model for 47 states covering the period 1970 to 1991. They control for business-cycle conditions in the state, the state's asset position, and the political parties of the governor and majority in the legislature. Bohn and Inman find that balance-budget rules do matter. Tight end-of-year rules (i.e., no carry-over provision) significantly reduce general fund deficits, while weak beginning-of-the-year rules do not. These tight limits increase general fund balances by $100 per capita. The larger surpluses appear to be the result of lower spending rather than higher taxes. Rainy-day reserve funds are also higher in states with tight rules.

Bohn and Inman find that enforcement of balanced-budget rules varies across states. It appears to be most effective when done from outside the legislature or executive branch. Constitutional constraints that require a super-majority (two-thirds of the legislature) to overrule are more effective than statutory rules. States with supreme court justices that are popularly elected, as opposed to appointment by the governor or election by the legislature, have smaller deficits. Reducing legislative and executive control over legal enforcement increases effectiveness.

Finally, Bohn and Inman question whether balanced-budget rules move states farther away from optimal tax policies. To minimize the excess burden of taxation, taxes should change as little as possible in response to economic fluctuations (Barro 1979). Taxes should follow a random walk, making it impossible to predict tax changes, which should be permanent. Such "tax smoothing" implies procyclical surpluses. But, by reducing short-run fiscal flexibility, balanced-budget rules may force states to increase taxes during periods of fiscal distress, making it harder to achieve an optimal tax.

To examine the effect of balanced-budget rules, they test the null hypothesis that tax revenues follow a random walk. Their results reject the random walk hypothesis, suggesting that balanced-budget rules limit the amount of tax smoothing in a state. This means that, from a policy perspective, the positive aspects of balanced-budget rules must be weighed against the deadweight losses incurred as a result of decreasing the efficiency of a state's tax policy.

Bohn and Inman also examine whether the sensitivity of state budgets to movements in the business cycle is affected by tight balanced-budget rules. For example, if balanced-budget rules reduce spending

[7]A rollover fund contains short-term debt held in anticipation of future repayments.

on items such as unemployment compensation during recessions, budgetary cyclical sensitivity will decline. The results of Bohn and Inman's empirical tests are mixed. When they use income growth as a cyclical indicator, they find balanced-budget rules reduce the sensitivity of state budgets to movements in the business cycle. However, when unemployment is used as a cyclical indicator, they find that balanced-budget rules have no effect on budgetary cyclical sensitivity.

Alesina and Bayoumi (1996) make the point that policymakers should consider both the costs and benefits of budgetary rules. Using an index of the restrictiveness of state budgetary rules (this includes both balanced budget constraints and tax and expenditure limits), calculated by the Advisory Commission on Intergovernmental Relations, they find that budget restrictions, as measured by the index, are effective in controlling deficits. States with tighter budgetary rules have larger average surpluses and less variability in the budget over time.

On the cost side, they ask if increases in fiscal discipline resulting from strict budgetary rules come at the expense of fiscal flexibility and greater variability in state output. They find no relationship between tight budget restrictions and variability in state output. This finding suggests that state stabilization policy may be relatively unimportant. Also, although budget restrictions limit stabilization expenditures, which might raise state output in a recession, Alesina and Bayoumi suggest it also limits wasteful "pork barrel" spending that can increase budget variation.

Constraints on Debt

Von Hagen (1991) and Bunch (1991) examine the impact of debt limits on the composition and amount of state debt. Von Hagen does not find significant differences in debt per capita between states with and without limits. He also compares the frequency distributions of debt from limit and non-limit states. The distributions are significantly different with states with limits having a lower median.

Both Von Hagen and Bunch find that states that limit guaranteed debt issue relatively more nonguaranteed debt. This suggests that state governments use public authorities, which are not subject to the limit and taxpayer scrutiny, as a means to work around the limit. Public authorities issue nonguaranteed or revenue debt. Bennett and DiLorenzo (1982) find nonguaranteed debt, financed by revenue bonds, increase following the passage of a TEL.

What is interesting about these studies is that off-budget expenditures and the resulting debt are not subject to constitutional or

statutory laws. Clearly, legislators have used off-budget agencies and revenue bonds as a means to work around debt and spending limits, resulting in a continued growth in government. However, Marlow and Joulfaian (1989) find that TELs have not increased off-budget, state and local expenditures. These results may differ from Bennett and DiLorenzo because they examine the issue using only cross-sectional data, while Bennett and DiLorenzo examine movements in nonguaranteed debt over time.

One reason that budgetary rules may have a modest impact is that financial markets limit state fiscal mismanagement. By adding a risk premium to the cost of excessive state borrowing, the market raises the cost and may discourage irresponsible budgetary behavior.

The way it works is that a high level of outstanding debt or rapid growth in debt increases the probability that a state will have trouble servicing its debt or even default. Under these circumstances, lenders will require higher interest rates to compensate for the extra risk they bear. As borrowing costs rise, states face incentives to reduce deficit spending and borrowing.

Goldstein and Woglom (1992) and Bayoumi, Goldstein, and Woglom (1995) test the market discipline model using data from the state bond market. Their models are estimated for 38 states using data from the 1981 to 1990 period. The models explain interest premiums on state bonds with fiscal policy variables like outstanding debt, budget deficit, and growth in debt. Bond ratings, the state of the business cycle (measured by the state unemployment rate or year dummy variables), the state tax structure, and a measure of constitutional controls on state borrowing are also included in the empirical models. The borrowing control limit index ranges from a low of zero for Vermont, which has no limits, to an upper bound of 10 for 26 states.[8]

The models fit the data reasonably well. While estimation methods and model specification differ in the two papers, many of the explanatory variables are significant with the expected sign. For our purposes, the most interesting result is that the fiscal controls variable, which measures institutional constraints on budget deficits and borrowing, is significant at the 1 percent level. The estimated coefficient suggests that states with fiscal controls have a reduction in interest costs by as much as 50 basis points. This result indicates that lenders in U.S. capital markets believe that lending to states with fiscal constraints is

[8]They measure budget restrictions using an index calculated by the Advisory Commission on Intergovernmental Relations. The index ranges from 0 to 10, where a value of 10 is most stringent.

less risky. Strict budget rules result in more controlled spending and less borrowing, reducing the cost of financing to states.

Eichengreen (1992) uses a different specification to test whether state debt and budget limits influence state bond yields. Using U.S. state data for 1985 to 1989, Eichengreen finds debt limits do not influence yields. However, budget provisions that limit carry-overs and stringent balanced-budget rules do appear to lower yields. He also finds these rules reduce state per capita debt and increase the state per capita general fund surplus.

Conclusion

Based on the studies cited here, it is clear that budgetary rules impact the tax and spend behavior of politicians. Limits on taxation and spending, the power of governors to veto and reduce state spending on a line-by-line basis, and balanced-budget rules all have the intended effect, reducing state spending, taxes, and debt.

Citizens interested in establishing budgetary constraints should follow the guidelines gleaned from the empirical results of the studies reviewed in this paper:

- Limit the ability of politicians to work around constitutional tax and expenditure limitations by including restrictions on nonguaranteed borrowing and off-budget spending.
- Try to broaden the governor's power by including an expenditure-reduction veto, which is more effective than a simple line-item veto. The line-item veto is only useful when a governor's political party differs from the majority in the legislature, but has sufficient votes to keep the majority from overriding a veto.
- Do not allow deficits to be carried forward to the next fiscal year. Balanced-budget rules work best to limit spending when this constraint holds.

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