Consequences of State Balanced Budget Restrictions: Fiscal Constraints or Accounting Manipulations?

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Abstract

Although balanced budgets are widely used throughout the world, there is considerable debate on whether they are effective. Poterba (1997) provides two theories on the effectiveness of balanced budget restrictions. The institutional irrelevance view suggests that balanced budget rules are ineffective, as governments can circumvent budget rules through accounting manipulations. Alternatively, the public choice view argues that balanced budgets represent important constraints on political actors. In this paper we provide evidence on these contrasting theories by investigating the extent to which states cut expenditures and/or raise taxes to meet the budget or whether they use accounting gimmicks to comply with budget requirements. Our evidence is consistent with both theories; we find that when facing fiscal problems, states use a combination of expenditure cuts *and* accounting gimmicks like inter-fund transfers and selling assets to meet the budget. A $100 per capita deficit induces states with strong anti-deficit rules to transfer $20 into the governmental funds, to sell $6.10 public assets, and to reduce expenditures by $48.40. We find that the fiscal response to deficits varies based on the size of the deficit; states react to small deficits by increasing taxes and cutting expenditures, and states respond to large deficits using a combination of tax increases, expenditure cuts, and asset sales. Jointly, our results suggest that balanced budget restrictions do provide constraints on political actors, but they also result in the use of accounting gimmicks like fund sweeps and asset sales.

1. Introduction

There is a long literature suggesting that organizations use elements of their accounting systems to control agent's behavior and that budgets are one of the most common control mechanisms (see Zimmerman (2001) for a survey of this literature).[1] In U.S. state governments, budgeting requirements are ubiquitous. Every state has a budget, and every state other than Vermont has some form of constraint on fiscal discretion, including requirements for governors to submit a balanced budget, requirements for legislatures to pass a balanced budget, restrictions on rolling over a deficit, and restrictions on issuing debt to cover the deficit.

Existing research on the effectiveness of balanced budgets (e.g. Poterba, 1997) develops two opposing theories of these restrictions: the institutional irrelevance hypothesis and the public choice hypothesis. The institutional irrelevance hypothesis argues that balanced budget restrictions are ineffective, as governmental entities can use accounting gimmicks to avoid these restrictions. This theory is consistent with Gold's (1983) observation that "a state … usually has considerable latitude to accelerate tax collections, defer outlays, and adopt accounting practices which avert a deficit." In contrast, the public choice view argues that balanced budget rules represent important constraints on political actors and will result in expenditure cuts and/or increases in taxes. Poterba (1997) summarizes the existing research to date and concludes that the evidence is consistent with the public choice hypothesis; balanced budget restrictions are not irrelevant, and they do constrain the actions of political actors.

[1] Becker and Green (1962) suggest that the use of budgets by municipalities and state governments became popular during the 19th century. They were an important part of municipal reform and were used as a mechanism to coordinate accounting policies across different branches of governments and to control the behavior of elected officials. For a more in depth discussion of the adoption of balanced budget rules in the 1840's and 1850's see http://www.iie.com/publications/wp/wp12-1.pdf

In this paper we extend the literature along several dimensions. First, we investigate some of the accounting manipulations governments use to meet balanced budget restrictions, including asset sales and inter-fund transfers[2]. We also provide evidence on the relative magnitude of these actions and compare the magnitudes of accounting gimmicks to the extent of spending cuts and tax increases. Moreover, we provide preliminary evidence on the order in which states use these alternatives to meet balanced budget requirements. Jointly these tests provide a broader perspective on both the institutional irrelevance and the public choice theories.

We begin our analysis by focusing on the institutional irrelevance hypothesis, investigating the accounting gimmicks that states use to meet balanced budget requirements. The first accounting gimmick we investigate is fund sweeping. Gore (2012) describes how fund accounting rules allow governmental entities to transfer money from other funds into or out of the primary governmental fund in order to obfuscate the resources available to state governments. By transferring money out of funds that are not legally required to be balanced and into funds that have balanced budget provisions, fund sweeping is a means by which state governments can balance their budgets. However, we argue that this accounting gimmick has real economic consequences for state governments. For example, in a 2010 *New York Times* article, New York state comptroller Thomas P. DiNapoli indicates that politicians in New York have systematically swept into the governmental fund from other non-governmental funds like the Environmental Protection Fund, to meet payroll costs.[3] By sweeping funds into the governmental account, New York was able to meet their balanced budget requirements, but they did so by depleting resources that were appropriated for the purchase of land for parks and recreation.

[2] Throughout the paper, we use the terms inter-fund transfers and fund sweeping interchangeably.

[3] Http://cityroom.blogs.nytimes.com/2010/04/06/albany-accounting-hides-deficit-size-comptroller-says/?php= true&_type=blogs&_r=0

The second accounting gimmick we investigate is the state's propensity to sell capital assets to meet the budget. Governmental accounting rules allow the cash received from asset sales to be counted as revenue, and the proceeds from these sales can be used to balance budgets.[4] Like fund sweeping, selling off public assets has real economic implications for the state, as the politician is trading future revenue streams in order to meet current deficits. Asset sales often come with a political backlash; unlike expenditure cuts or changes in tax rates, asset sales are difficult to reverse and can potentially result in significant losses if they are done at fire sale prices. For example, in 2008 Chicago auctioned off its parking meters to a Morgan Stanley led partnership for a lump sum of $1.16 billion to balance the city's budget. While the sale of the parking meters helped the city meet its current period balanced budget requirement, many criticized the deal arguing that the assets were sold below market value.[5]

Next, we investigate the public choice view by examining whether states with stricter balanced budget restrictions are more likely to cut expenditures or raise taxes in response to deficits. Changes in appropriations and taxes typically need legislative approval, thus it is difficult to change these policies to address current year budget deficits. As a result, we investigate whether states with stricter balanced budget provisions are more likely to decrease expenditures and increase taxes in the fiscal period following a deficit.

[4] We ensured that the proceeds from asset sales are included in the general funds of state governments by reviewing the Comprehensive Annual Financial Reports (CAFR's) that are filed by these entities and verifying that the proceeds of asset sales are included in the primary governmental funds. There were a few instances where the proceeds from asset sales were in funds that were not subject to balanced budget provisions, and thus they could only influence balanced budget provisions if the proceeds were subsequently transferred into the general account. We believe that this would result in the two actions being positively correlated, but this should not bias the results of our tests.

[5] The transaction was structured as a 75-year concession agreement. For discussions of this transaction see Office of the Inspector General, City of Chicago, Report of Inspector General's Findings and Recommendations: An Analysis of the Lease of the City's Parking Meters, 2 June 2009 and Chicago Mayor Richard M. Daley press release on December2,2008:http://www.cityofchicago.org/city/en/depts/mayor/press_room/press_releases/2008/december_2008/chicago_receives_.html.

After investigating the extent to which each of these choices are employed individually, we then provide evidence on the relative magnitude of each fiscal action used to meet the budget. This analysis provides insights into the relative importance of each action available to politicians. We conclude our paper by investigating fiscal actions taken to meet the budget when states face a large deficit versus when states face a small deficit. Implicitly, this analysis provides evidence on the pecking order of fiscal responses to deficits, since rational politicians will employ the lowest cost actions first and the highest cost actions only when necessary (i.e., when deficits are large).

Consistent with prior research, to test our hypotheses we take advantage of the variation in the balanced budget requirements across the U.S. states. We use the analysis in the 2010 National Conference of State Legislatures (NCSL) report to identify the strictness of a state's balanced budget requirements. We consider a state to have rigorous balanced budget requirements if it is legally prohibited from carrying deficits through the next fiscal cycle. We expect these states to have stronger incentives to take actions to balance their budgets. To measure our test and control variables we collect data from the U.S. Census Bureau, the National Association of State Budget Officers (NASBO), and State's Comprehensive Annual Financial Reports (CAFRs) over the period of 1995-2010. Our main analysis contains 796 state-year observations and, due to unavailable CAFRs, our fund transfer analysis contains 430 observations.

Since balanced budget provisions are only binding when a state faces financial stress, we model the four fiscal actions as a function of a state's fiscal health, the strictness of their balanced budget requirements, and the interaction of these two effects. We control for characteristics of the state government, including the extent to which they have borrowed from

the debt markets, the availability of rainy day funds, and the amount of cash holdings; each of these controls are used to account for alternative mechanisms states can use to meet balanced budget requirements. We also control for other state characteristics like the types of revenues it receives, the extent to which it receives federal funding, and the size of the state. We include proxies for general macro-economic conditions like the state's unemployment rate, changes in state GDP, and changes in state personal income level. Finally, we use state and year fixed effects to control for unobserved state heterogeneity and time effects.

Overall, we find that compared to states with less rigorous balanced budget provisions, states with more rigorous provisions are more likely to engage in inter-fund transfers, asset sales, and spending cuts in times of fiscal stress. Consistent with Poterba (1994), we find that the strictness of anti-deficit rules is unrelated to tax changes. In terms of economic significance, we find that a $100 per capita deficit induces states with strong anti-deficit rules to transfer an additional $20 into the governmental funds, to sell an additional $6.10 of public assets, and to reduce expenditures by an additional $48.40, relative to states with weak anti-deficit rules. Thus like Poterba (1997), our results support the public view of balanced budget restrictions; budget restrictions do influence political actions like spending cuts, which have a real impact on the state's current taxpayers. However, our paper shows that balanced budget restrictions also result in previously unexplored fiscal actions, including accounting manipulations. We show that fund sweeping and asset sales are used more than half as much as expenditure cutting. While both fund sweeping and asset sales are considered part of the institutional irrelevance theory of balanced budget restrictions, they are likely to result in real economic consequences that will eventually be born by state taxpayers.

In addition, our paper provides preliminary evidence on the pecking order of the four fiscal actions states use to meet balanced budget restrictions. We find that states facing small deficits meet the budget by increasing tax rates and cutting expenditures. In contrast, states running large deficits use a combination of tax increases, expenditure cuts, *and* asset sales to meet strict budget rules. This finding is consistent with the idea that asset sales are more costly than other fiscal actions, since they are only employed in states with the largest negative fiscal shocks.

As a further test of the pecking order of fiscal actions, in robustness analyses we investigate the inter-relation of the fiscal responses to deficits. Specifically, we test whether spending cuts in the following period are influenced by asset sales or fund transfers in the current period. The results indicate that expenditure cuts are not associated with these actions, and thus it does not appear that asset sales or fund transfers are a substitute for expense cutting.

Our findings should be of interest to practitioners, academics, and governmental entities. From a practitioner's and governmental entity's perspective, there is an ongoing debate on the use of balanced budget restrictions both at the federal level in the United States and in the European Union (EU). Our paper highlights some of the consequences of these provisions. In addition to reducing expenditures in economic downturns, balanced budget requirements can incent agents to sell assets and to engage in fund sweeping to meet the balanced budget requirements. These actions are both potentially costly and likely to mask the true economic conditions of the government. Therefore, our results highlight how accounting control mechanisms, like budgets, lead to trade-offs for policymakers.

Our paper also adds to the growing literature on the economic consequences of control mechanisms. We provide evidence on the influence of balanced budget rules on fiscal actions,

and we investigate the relative economic importance of each action used to meet the budget. Murphy (2000) investigates the consequences of using budgeted numbers in compensation packages, providing evidence that managers will distort budgeted numbers (sandbag the budget) and take actions to avoid unusually large positive earnings realizations which may influence future payouts. Leone and Rock (2002) and Bouwens and Kross (2011) provide evidence that firms that employ ratcheting budgets will engage in income decreasing earnings management or real earnings management after meeting their targets. In the public sector, Gore (2009) examines government cash policies and finds that municipalities with independent councils are less likely to hoard cash while municipalities with staggered boards are more likely to hoard cash. Our paper adds to this literature by focusing on an alternative control mechanism, balanced budget requirements, and examines the consequences of this mechanism.

The rest of the paper proceeds as follows. Section 2 provides background information and develops the hypotheses. Section 3 discusses the research design, and Section 4 reports the results. Section 5 concludes.

2. Background and Hypothesis Development

Since the 1840s states and municipalities have been actively involved in budgeting. All 50 states engage in some form of budgeting, and 49 out of 50 states have some form of balanced budget requirement.[6] Despite the long lasting and nearly universal use of budgets, there is a considerable debate on the effectiveness of balanced budget rules. One side of the debate, which Poterba (1997) labels as the public choice view, argues that strong balanced budget rules are effective. The public choice theory suggests that governments with strong balanced budget rules

[6] The NCSL 2010 report highlights that researchers and policy makers often assert that 49 states must balance their budgets, with Vermont being the exception. There is sufficient lack of clarity regarding budgeting rules that some add Wyoming and North Dakota as exceptions, and some authorities in Alaska contend that it does not have an explicit requirement for a balanced budget.

are more likely to raise taxes or cut expenditures in response to deficits. Prior studies (e.g., Poterba, 1994; Bohn and Inman, 1996; Alt and Lowry, 1994) take advantage of the variation of budget rules across the 50 states and provide evidence that states with stronger balanced budget rules are more likely to cut expenditures after suffering a fiscal shock. For example, Poterba (1994) finds that a $100 deficit shock leads to a $44 reduction in expenditures in states that have strong balanced budget rules but only a $17 reduction in states with weak balanced budget rules. While these results highlight that balanced budget rules lead to a reduction in deficit spending, they also suggest that, on average, expenditure cuts do not fully close budget shortfalls. This suggests that states might use other actions like accounting manipulations to meet budget requirements.

The institutional irrelevance hypothesis posits that states use accounting gimmicks to meet balanced budget requirements, and hence, budget requirements do not result in real political actions. The main argument under this hypothesis is that balanced budget requirements will not be effective mechanisms in making the current taxpayer responsible for current period deficits, since politicians have considerable discretion in calculating the budget. Consistent with this argument, Granof and Ives (1996) suggest that balanced budget provisions are ineffective because they are vague in their definitions of revenues and expenditures and typically only apply to the general fund. As a result, the state can use cosmetic accounting gimmicks to pass deficits on to future taxpayers. Similarly, a recent book by Whitney (2013) argues "Over the past few decades, elected officials have figured out ways around these well-intended restrictions. Gaming the system wasn't even particularly hard, and it was impossible for the average person to track what was happening because information and disclosure were all but nonexistent."[7] While the

[7] See Page 53 of **Fate of the States** by Meredith Whitney published in 2013 by Portfolio/Penguin publishers.

previous literature examines whether deficit rules lead to expense cutting or changes in tax policies, there is virtually no large-sample evidence on the extent to which states employ accounting gimmicks.

In our paper we focus on the extent to which states use two accounting gimmicks, fund sweeping and asset sales, to balance state budgets. We argue that these gimmicks can have a significant impact on governmental finances, since fund transfers displace appropriations from other accounts and asset sales forgo potential future revenues. State governments follow modified accrual accounting and fund accounting to prepare their budgets. These accounting approaches have unique properties that allow states to engage in actions that will affect the extent to which they are in compliance with balanced budget rules. In particular, the proceeds from the sale of assets and the cash transferred into the primary governmental funds are counted as revenues. These revenues are netted against expenditures when determining the extent to which the state is in compliance with balanced budget requirements. Thus both of these accounting gimmicks can be used to meet balanced budget requirements, but both come with additional economic consequences.

States can use fund sweeping to meet budget requirements by transferring money from funds not legally required to be balanced into funds with a balanced budget provision. Fund sweeping only provides temporary budget relief since funds appropriated for alternative purposes are transferred into the governmental fund, and this inter-fund transferring might not be sustainable. Inter-fund transfers make it difficult to measure the overall fiscal health of the state; to balance the budget, the government is transferring funds from segments (or operations/business units) that are outside of the primary government into segments within the

primary government. This will reduce the extent to which the non-governmental units can use these funds in their operations.

Anecdotal evidence supports the idea that inter-fund transferring is used to achieve a balanced budget in the state's general fund. For example, according to a report by Stateline, a nonpartisan, nonprofit news service of the Pew Center on the States, Hawaii shifted $42 million from its Hurricane Relief Fund to balance the general fund in 2011. Therefore, in the event of a hurricane, Hawaii's relief fund may have had fewer resources to address future losses. Similarly, to cover spending in the general fund, Louisiana drained resources from the Mega Project Development Fund in 2013. While this enabled Louisiana to meet its 2013 balanced budget, it also limited the state's ability to attract large industrial projects.

The second accounting gimmick we examine is the states' decisions to sell public assets. Since states follow the modified-accrual basis of accounting, cash from the sale of an asset is counted as revenue in the general fund. Therefore, in an effort to meet balanced budget requirements states can use the accounting treatment for asset sales to their advantage and offset current period expenditures with an inflow of revenue. Selling capital assets requires a state to trade off future cash flows to meet current fiscal needs. This is potentially problematic since politicians have a limited horizon; politicians may not be in office in the future when the forgone cash flows from the capital asset are most needed. This can lead to elected officials to sell assets below market value in order to meet current budget shortfalls without considering potential future costs.

Anecdotal evidence supports the idea that states sell assets to achieve a balanced budget. Several press articles describe asset sales to meet budgetary requirements, including sales of parking meters, capitol buildings, prisons, roads, and toll ways. For example, in 2009, Arizona

Governor Janice Brewer decided to sell the state capitol building to reduce the state's deficits. A 2009 New York Times article estimated that while the sale of capitol buildings generated $735 million in revenue, the transaction was "expected to cost the state $1.5 billion in lease back fees over the next two decades."[8] In the long run, taxpayers are the ultimate bearer of these fees.

In addition to accounting manipulations, we also consider tax and expenditure changes as two alternative fiscal actions states take to meet balanced budget requirements. By considering all four of these mechanisms, we are able to provide empirical evidence on the relative magnitude of the public choice hypothesis and the institutional irrelevance hypothesis.

Moreover, we investigate whether a pecking order exists in the four fiscal actions states are likely to engage in when facing fiscal difficulties.[9] Some fiscal actions such as asset sales and raising taxes are highly visible and very controversial. There are numerous anecdotes of instances where politicians have decided to sell assets or raise taxes to meet unexpected deficits and faced political backlash. For example, the above-mentioned Arizona sale and lease back deal resulted in a sufficiently large enough political backlash that the state considered repurchasing the capitol buildings after the deal was consummated. Other actions, like inter-fund transfers, are typically only disclosed in a summary table in the state's financial reports. Thus, they are less visible and less likely to result in political controversy. Other actions, like reducing expenditures can be controversial, but the extent to which they are controversial depends on the circumstances.[10] Therefore, we view these tests as exploratory, and do not provide signed predictions. Instead, we argue that when the budget shortfall is small, states will use less costly

[8] http://www.nytimes.com/2009/09/25/us/25phoenix.html

[9] We thank the referee for making this suggestion.

[10] We recognize that we cannot predict whether, on average, any of the fiscal actions are controversial or are supported by taxpayers and other stakeholders. For example, while anecdotes suggest that asset sales are controversial, some asset sales may be viewed favorably, particularly if they offer little value to the majority of the constituency.

actions to meet the budget shortfall, and they will use more costly actions when the shortfall is large.

3. Research Design

3.1 The Impact of Balanced Budget Restrictions on State Fiscal Actions

Our first set of tests examines whether states respond to balanced budget restrictions by transferring money into the governmental fund, by selling assets, by reducing next period's expenditures, or by increasing taxes in the next period. To do so, we use the following model to examine the relation between budget constraints and fiscal actions, estimated using ordinary least squares:

$$\text{FISCAL\_RESPONSE} = \alpha_0 + \alpha_1 \text{POS\_NETREV} + \alpha_2 \text{NEG\_NETREV} + \alpha_3 \text{POS\_NETREV*BBR} + \alpha_4 \text{NEG\_NETREV*BBR} + \theta \text{ Controls} + \varepsilon \quad (1)$$

where the dependent variable, FISCAL_RESPONSE is either TRANSFERS, ASALE, EXPENDITURE, or TAX.

3.1. Measurement of dependent variables

The first fiscal action we investigate is the state's propensity to transfer money to meet the balanced budget.[11] We obtain data on the extent to which states transfer funds into governmental funds by hand collecting the information from state CAFR's. Our variable, TRANSFERS, is the dollar value transferred into the governmental fund from other government-wide funds, scaled by population. It is important to note that budget rules typically apply to the

[11] There has been an increased scrutiny on a state's decision to use fund sweeping to balance budgets. We examined the statutes underlying balanced budget restrictions for several states and did not note any regulations prohibiting this practice. However, farmers in Kentucky recently sued the state to stop inter-fund transfers, arguing it was against Kentucky's constitution. See http://www.mmlk.com/blog/2014/07/ky-supreme-court-approves-plugging-holes-with-others-piggy-banks.shtml for details.

general fund.[12] Unfortunately, GASB reporting standards limit our ability to observe general-fund-specific transfers; therefore, we use governmental fund transfers as our measure of transfer activity to meet the balanced budget requirement.[13] We demean the amount transferred into the governmental fund to account for sticky transfer policies that are unrelated to fiscal shocks and budget rules.

The second fiscal action we investigate is the state's propensity to sell capital assets to meet the balanced budget. Since states generally follow the modified accrual basis of accounting, the proceeds from asset sales are included as revenue and are netted against expenditures for budget rules. A recent report by the State Budget Crisis Task Force highlights the practice of counting asset sales as revenues as one of the four main shortcomings in state budget rules and accounting practices.[14] To measure the propensity in which a state sells their assets, we create the variable, ASALE, which we calculate as the per capita revenues from asset sales.

The third action we investigate is whether the state cuts expenditures in the next period. Strong BBR rules prohibit states to carry a deficit in the following fiscal year. Therefore current period deficits plus subsequent year's expenditures must be less than the subsequent year's tax revenues. EXPENDITURE is the per capita change in general fund expenditures between year t+1 and year t. Since states have planned expenditures at the beginning of the year, it is difficult to cut expenditures in time to address a current year fiscal shock. Therefore we focus our

[12] To verify this, we reviewed several state statutes to identify funds covered by balanced budget requirements. In all cases, we found that the general fund was the only fund subject to balanced budget requirements.

[13] Specifically, GASB 34 requires states to report the sources of revenue for governmental funds in a schedule included in the notes to the financial statements. The reporting requirements apply starting in 2002. Although some states voluntarily report transfers into the general fund in footnotes, voluntary reporting creates the potential for a selection issue. Our underlying assumption is that the majority of transfers into governmental funds go into the general fund, or that the amount transferred into the governmental funds is positively correlated with the amount transferred into the general fund. Our measure likely contains noise, which should bias against results on this variable.

[14] See pg. 60 of the report, which can be found at http://www.statebudgetcrisis.org/wpcms/wp-content/images/Report-of-the-State-Budget-Crisis-Task-Force-Full.pdf.

analysis on one-year-ahead expenditure changes resulting from current year budget deficits. We expect states to be more likely to cut future expenditures if they are running a current period deficit, and this relationship should intensify if they also have strong balanced budget restrictions.

The final fiscal action we investigate is the states' propensity to increase revenues through tax adjustments. TAX is the per capita change in general fund revenues between year t and year t+1. Since states have planned tax policies at the beginning of the year, it is difficult to raise taxes mid-year in order to address a current year fiscal shock. Therefore, like the expenditure estimation, we focus on one-year-ahead tax changes resulting from current year budget deficits. We expect states to be more likely to raise taxes next year if they are running a current period deficit, and this relationship should intensify if they also have strong balanced budget restrictions.

3.1.2 Test variables and control variables

The variable of interest in all four tests described by equation (1) is the interaction term, NEG_NETREV*BBR. We measure NETREV as the per capita difference between the revenues and the expenditures in the general fund after subtracting out the revenues from asset sales, and we split NETREV into POS_NETREV and NEG_NETREV since our predictions relate to fiscal deficits (negative values of NETREV).[15] We have no predictions for how budget rules might impact states that are carrying surpluses since the budget rules are not binding, in that case.[16]

[15] NETREV includes any tax increases or spending cuts enacted during the *current* fiscal year but excludes tax increases and spending cuts in the subsequent fiscal year. NETREV also excludes revenues from current year asset sales. We do not subtract revenues from inter-fund transfers due to limitations in our TRANSFERS variable. Specifically, the schedule in the CAFR that reports fund transfer information only provides the cumulative transfers into the governmental funds as a whole, rather than transfers into the general fund specifically. Thus, to the extent possible, we avoid mechanical relationships between NETREV and our dependent variables.

[16] In untabulated sensitivity analyses we used an alternative measure of deficit shock. Specifically, we examined the difference between budgeted surpluses and actual surpluses after removing the effects of asset sales. Results from these analyses were qualitatively and quantitatively similar to those we report in the paper.

To measure the restrictiveness of balanced budget requirements we rely on the classification in the 2010 report published by NCSL, which is based in part on a survey conducted by the National Association of State Budget Officers (NASBO) in 2008.[17] The NCSL 2010 report focuses on three elements: (1) whether governors are required to propose a balanced budget, (2) whether the enacted budget is required to be in balance, and (3) whether the state can carry a deficit over.

The first two elements of the NCLS report represent cross-state heterogeneity in the extent to which the budget has to be balanced, while the third element captures the strength of the enforcement of budget rules employed by states. The focus of our study is the strength of the enforcement of budget rules. If a state's constitution restricts the state's ability to carryover a deficit, then a fiscal shock must result in actions to meet the budget Thus, we classify states as having strong balanced budget rules if they are restricted from carrying over a deficit. We note that there are other classification schemes that are similar to the NCSLs (see for example the General Accounting Office 1993 report and Hou and Smith, 2006), but we chose to rely on the NCSL 2010 report because it is the most current classification.[18] BBR is an indicator variable equal to one if the state is legally prohibited from carrying any deficit forward. Specifically, if the state has a restriction that actual revenues plus rainy day funds must exceed actual expenditures, we consider the state to have a strong balanced budget requirement.

We expect states to be more likely to sell assets, raise taxes, and transfer funds into the general account if they are running a deficit, and this relationship should intensify if they also

[17] Balanced budget restrictions, and the extent to which they are binding, have been around since the early 19th century. We recognize that the fiscal soundness of the state and the political make-up of the state's voters likely influenced the adoption of balanced budget restrictions. However, since these regulations were adopted well before our sample period, we consider them to be exogenous for our analysis. We also incorporate state fixed effects to account for any unobserved heterogeneity.

[18] To validate our results, we also conduct cross sectional analysis using restrictions on a state's ability to engage in borrowing as an alternative measure for state budget restrictions (untabulated).

have strong balanced budget restrictions. Therefore, we expect the coefficient on NEG_NETREV*BBR to be negative for these variables. We also expect states to cut expenditures in period t+1, and thus predict that the coefficient on NEG_NETREV*BBR will be positive for this variable.

In our regressions we include a set of control variables for other mechanisms that states can use to balance their budgets, for general characteristics of the revenues received by the state, and for the general macroeconomic conditions in the state. We also include state and year fixed effects to control for state specific heterogeneity in budgeting practices. To control for other mechanisms that states can use to meet balanced budget restrictions we include three variables. First, we measure the extent to which states can rely on credit markets to fund their deficits. We split debt issuances into short-term debt and long-term debt, since states might use short-term borrowings to cover temporary fiscal shocks. ST_DISSUE is the per capita short-term debt issuance during the year, and LT_DISSUE is the per capital long-term debt issued during the year.

Second, we control for alternative sources of revenues that states can use to balance the budget. Specifically, we control for the availability of rainy day funds. A rainy day fund accumulates previous period general fund surpluses to cover shortfalls during economic downturns. BALANCE is the per capita change in total fund balance, where the total fund balance is the sum of the balance in the general fund and the rainy day fund. Finally, we control for the cash balance (CASH) to account for additional funds held in cash.

We also consider the characteristics of the state's revenue streams. When states have access to a variety of revenue sources, they can raise funds relatively more quickly and should be less likely to use these other mechanisms to balance the budget. In contrast, when states with

limited revenue resources are subject to adverse revenue shocks they may be more likely to need to use other actions to balance the budget. REVLIMITED is the decile ranking of a state-year's revenue concentration index where the higher the rank, the more limited revenue sources.

Another revenue characteristic that may affect the actions states take to balance their budgets is revenue uncertainty. Compared to states with a steady revenue stream, states with volatile revenues are more likely to face unforeseen contingencies and need to engage in other actions to balance their budgets. REVUNCERTAIN is the decile ranking of state revenue uncertainty. Following Core et al. (2006) and Gore (2009), we measure revenue uncertainty using the coefficient of variation of total revenue, defined as the ratio of the standard deviation of revenue to mean revenue measured over the previous 5 years. The final revenue characteristic we consider is the amount of aid from the federal governments. States with a higher reliance on federal funding tend to be in financial trouble and are more likely to use asset sales, transfers, expense cuts, or tax increases to balance the budget. FEDERAL is the per capita revenues from the federal government.

In addition to the above control variables, we include a set of variables to control for time-varying macroeconomic conditions of the state. States with good macro conditions should be less likely to have to sell assets, transfer funds, raise taxes, or cut expenditures. GDPGROWTH is the state GDP growth in percentage. PIGROWTH is the state personal income growth in percentage. UNEMPLOYMENT is the state unemployment rate in percentage. Finally we control for the size of the state by including the inverse of the state population (INVPOP). Although we scale all the monetary variables by the state's population to control for the scale of the state and to reduce the heteroscedasticity in the error term, we also include size as a control to reduce the possibility that our results are simply capturing a scale effect.

In the TRANSFERS regression, we control for transfers out (TRANSOUT) so that our dependent variable only captures the net value transferred into the governmental fund. Many states transfer into the governmental fund and redistribute to other funds by transferring out. We therefore expect transfers in and transfers out to be positively related. Finally, since states might sell assets because they are replacing them with newer assets, we control for per capita asset purchases during the year (APURCHASE) in the ASALE regression.[19] Our sample of asset purchases is limited since states were required to disclose purchases only in the post-GASB 34 period, and some states do not disclose purchases as a separate line item. Thus we report the regression with this variable included and excluded form the analysis.

We estimate equation (1) by pooling all the data over the sample period. In all our analyses we cluster standard errors by state to correct for possible correlations across observations of a given state (Rogers, 1993; Petersen, 2009). We also include state and year fixed effects to account for time-invariant unobserved effects.[20] Appendix I lists detailed variable definitions.

3.3 Relative Importance of Fiscal Actions

In order to estimate the relative importance of each of the four fiscal actions we investigate, we estimate the following reverse regression:

$$NEG\_NETREV_t = \alpha_0 + \alpha_1 TRANSFER_t + \alpha_2 ASALE_t + \alpha_3 EXPENDITURE_{t+1} + \alpha_4 TAX_{t+1} + \varepsilon \quad (2),$$

where NEG_NETREV is the per capita difference between revenues and expenditures in the

[19] States might also delay purchases of previously scheduled asset acquisitions. Since we cannot observe planned, but not executed, asset purchases, we do not investigate this alternative.

[20] Note that the state fixed effect subsumes the main effect of BBR in our analyses since the BBR definition does not change over time. Therefore, we do not include a separate variable to estimate the main effect of BBR on fiscal actions.

general fund for the sub-sample of state-years where this value is negative. Using a reverse regression allows us to include all four fiscal actions into one equation in order to estimate the relative importance of each action to meet the budget shortfall. If all four actions are used when states have deficits we expect positive coefficients on α1-α4, and the magnitude of each coefficient will indicate the relative importance of each action.

3.3 Sample selection

Our sample period covers the fiscal years 1998 through 2010. We use multiple public data sources to construct the sample. We obtain the state governments' financial data and asset sale data from the Census Bureau's Annual Survey of Governments. We collect the transfers and asset purchases from the states' Comprehensive Annual Financial Reports (CAFR). We also collect states' budget data from the NASBO fiscal surveys. The NASBO conducts a survey each year on all 50 state budget offices. These surveys focus on states' general funds and obtain information on the revenues and expenditures in the general fund balances. We obtain the state population from the U.S. Census Bureau and the state unemployment rate from the Bureau of Labor Statistics. We collect states' GDP and personal income data from the Bureau of Economic Analysis. After requiring non-missing data, our main analyses contain 796 state-year observations. Limitations in disclosures of inter-fund transfers limit our transfer analysis to 430 state-year observations.

4. Results

4.1 Descriptive statistics

Table 1 presents descriptive information on variables used in estimating equation (1). We find that the average demeaned transfer over our time period is -$0.84 per capita, and the mean

asset sale during the sample period is $6.93 per capita. The net revenues without considering the revenues from asset sales are on average $37.78 per capita in states with positive net revenues and -$46.13 per capita in states with negative net revenues. The positive net revenues are largely driven by the beginning (1998-2000) and latter sample periods (2005-2006) when most states were running surpluses. On average, the change in the future period expenditures is $54.14 per capita, and the change in the future period revenue is $48.47 per capita.

We find that 74% of our sample has strong balance budget restrictions that do not allow states to carry forward deficits. The average annual long-term debt issuance is $445 per capita, and the average short-term debt issuance is $1.67 per capita. On average, states receive $1262 per capita from the federal government. During our sample period the states' GDP growth and personal income growth are 4.7% and 4.9%, respectively, and the average unemployment rate is about 5.2%.

Table 2, panel A presents Pearson correlations between the primary variables of interest. Transfers are negatively related to changes in both future revenues and future expenditures, but positively related to asset sales. Asset sales are positively correlated to the other three fiscal actions, suggesting that there is a complimentary relationship between these actions. Panel B of Table 2 reports the Pearson correlations between the remaining variables of interest and our control variables. Negative net revenues are significantly correlated with debt issuances and federal funding, suggesting that states are more likely to issue debt and to receive federal aid when they have fiscal trouble.

4.2 The Impact of Balanced Budget Restrictions on State Fiscal Actions

4.2.1 Accounting Gimmicks

Tables 3 and 4 present the regression results of equation (1), where transfers into the governmental funds and asset sales are the dependent variable. Thus, these tables provide evidence on the extent to which states use accounting gimmicks to meet balanced budget requirements. The results reported in Table 3 suggest that our model explains a large portion of the variation in TRANSFERS, with an R^2 of 0.95. We find that the coefficient on NEG_NETREV*BBR is negative and significant (-0.200, *t*-statistic of -2.361). This result is consistent with our hypothesis that states that have deficits and face strict budget rules are more likely to transfer money into the governmental funds. For states with strong anti-deficit rules, a $100 per capita deficit induces states to transfer and additional $20 into the governmental fund. We do not find that states reporting surpluses transfer money into the governmental funds. This is not surprising, because balance budget restrictions are not binding unless the state incurs a deficit.

A large proportion of our explanatory power comes from transfers out of the governmental fund and the state and year fixed effects. The positive relation between transfers into the fund and transfers out of the fund suggests that some transfers are temporarily held in the governmental fund before they are redistributed to other funds, and this confirms the importance of controlling for transfers out. State fixed effects absorb a large portion of the explanatory power, suggesting that transfer policies are a function of state-specific characteristics.

Table 4 reports the results of equation (1), where ASALE is the dependent variable. Again, we find that the coefficient on NEG_NETREV*BBR is negative and statistically significant (-0.061, *t*-statistic of -4.737). States that cannot carry deficits into the next fiscal cycle sell more public assets in response to deficits than states who do not fact strong budget

restrictions. [21] For states with strong anti-deficit rules, a $100 per capita deficit leads to an increase in asset sales of $6.10[22]. We do not find that states reporting surpluses sell additional assets, or that states facing weak budget rules sell additional assets.

In column (2) of Table 4, we add APURCHASE, which captures the asset purchases during the fiscal year. If asset sales are simply a result of capital asset replacement, we would expect purchases to be positively correlated with sales. Since we collect data on asset purchases from CAFRs, and this information is only available in the CAFRs for some states after 2002, our sample shrinks to 398 observations. We find that asset purchases are not statistically related to asset sales, and our main variable of interest is still statistically significant. Specifically, for states with strong anti-deficit rules, a $100 per capita deficit leads to an increase in asset sales of $5.30.

Our other control variables are generally related to asset sales in the way we expect. Specifically, we find LT_DISSUE to be positively associated with asset sales, suggesting that states relying more on the credit markets may need to maintain higher liquidity and, therefore, are more likely to use asset sales to bring in cash. We also find asset sales are related to a state's general fund balance (including rainy day funds). If states carry adequate reserves in the rainy day funds, they are less likely to sell assets.

[21] A possible concern with the finding is that our control variables do not capture the constraints on asset sales. Specifically, states that incur large asset sales in prior years may have fewer assets available for sale and therefore, are less likely to sell assets to meet balanced budget restrictions. To investigate this possibility, we collect data on states' capital asset balances in 2004 and 2005. We focus two years of date to reduce collection costs. We find that, on average, the amount of the assets sold constitutes only 2% of the total capital assets. Therefore, it is unlikely that states face constraints on selling assets simply because they do not have enough assets available for sale.

[22] One shortcoming of our analysis is that our asset sale data is obtained from the census bureau, which is an aggregate number for all the funds in the state. Some asset sales were likely done in funds other than the general fund. This creates noise in our ASALE variable. We do not believe this noise biases towards finding results, but it may dampen the economic significance of the asset sale variable. Funds from the sale of assets in non-general funds might be swept into the general fund, thus impacting our TRANSFER variable. Again, we do not believe this biases in favor of our results.

Overall, Tables 3 and 4 provide evidence that states use accounting gimmicks like asset sales and fund transfers when facing deficits. The requirement to balance the budget intensifies states' incentives to use accounting gimmicks to fill the budget holes.[23]

4.2.Taxes and Expenditures

Table 5 reports the results of equation (1), where next period's change in expenditures is the dependent variable. The empirical model explains a reasonable portion of the variation in expenditures, with an R-squared of 0.437. We find a positive relation between NEG_NETREV and EXPENDITURE. This suggests that states with budget deficits reduce their expenditures in the next period; this result is stronger for states with strong BBRs. Economically, a $100 per capita decrease in NETREV leads to an additional cut in expenditures of $48.40 in states with strong BBRs.

We also find that states reporting surpluses in the current period increase their expenditures in the next period. A $100 increase in surplus this period increases expenditures by $89.50 in the next period. Additionally, carrying a higher cash balance increases expenditures in the next period. Overall, the results in Table 5 show that negative fiscal shocks in the current year lead to a decrease in expenditures in the subsequent year, and this result is magnified for states in strong balanced budget regimes.

Finally, Table 6 reports the results of equation (1) where the dependent variable is next period's change in revenues from taxes. NEG_NETREV is negatively related to next period's tax change, suggesting that states running deficits in the current period increase their taxes in the

[23] Given our small sample size, one concern with our regression analysis is that one state or year could influence our overall results. To address this concern, in all regressions we calculate the Cook's Distance to identify any outlying observations. In untabulated analysis, we then run robust regressions, eliminating any outliers; our results and inferences remain unchanged.

subsequent period. However, the coefficient on NEG_NETREV*BBR is not statistically different from zero, suggesting that the tax policy response to deficits is not different for BBR states and non-BBR states. We find that cash and rainy day funds are positively related to next period's tax change, suggesting that on average, states with more reserves also have more aggressive tax policies. Overall, Table 6 shows that tax policies are not more likely to be used to fill budget deficits for states with strong budget rules.

4.3 The relative importance of state's fiscal actions

Table 7 reports the results of equation (3), which reverses the previous equations by using NEG_NETREV as the dependent variable and all fiscal actions as the independent variables. This allows us to gage the relative importance of each action in closing budget deficits. In panel A, we report the results of equation (3) for all state-years running fiscal deficits (NEG_NETREV). Our analysis is limited to 220 observations because we require non-missing values for TRANSFERS, ASALE, EXPENDITURE, and TAX. We find that, on average, states running deficits use asset sales, expenditure cuts, and tax increases to address budget deficits. Along with the evidence in Table 2, this suggests that these fiscal actions are complementary in addressing fiscal shocks. We find that TRANSFERS are subsumed by the other fiscal actions; the coefficient is not statistically different from zero.

Our evidence suggests that multiple actions are used to address fiscal shocks. However, this result may depend on the size of the fiscal shock. Specifically, states that have large deficits may need to employ multiple fiscal actions to address the large shortfall, while states with small deficits may be able to close the deficit with fewer fiscal actions. Therefore, in panel B we split our sample into those with large deficits (greater than the median deficit) and those with small deficits (smaller than the median deficit). Column (1) of panel B reports that states with large

deficits use asset sales, expenditure cuts, and tax increases to address budget shortfalls. However, column (2) of panel B shows that states with small deficits use only expenditure cuts and tax increases in the next period to address budget shortfalls. Overall, the evidence in Table 7 shows that states use multiple actions to fill budget gaps, and states with larger deficits use more fiscal responses than states with smaller budget gaps.

5 Robustness Analysis

Poterba (1997) suggests that balanced budget restrictions are effective, in the sense that tax and expenditure policies are more likely to be influenced by deficits if a state has a strong balanced budget requirement. So far, the results in our paper indicate that states are more likely to cut expenditures if they have balanced budget restrictions, and thus they are consistent with Poterba's (1997) arguments. We also find that states with strong balanced budget requirements sell assets and transfer funds into the general fund when they face deficits. Thus, even though balanced budget restrictions are effective, they also lead states to take costly accounting actions when they are faced with deficits. We also provide evidence that when deficits are small, states are more likely to cut expenditures/raise taxes, and when deficits are large, states cut expenditures, raise taxes, and sell assets. This test provides preliminary evidence on the pecking order of the actions states take.

We conclude our paper by conducting an exploratory analysis on how the accounting gimmicks states use to address budget shortfalls impact the extent to which states have to cut expenditures.[24] Ideally, we would model this as a system of equations, and control for the endogeneity of fiscal choices in the research design, but it is difficult to identify plausibly

[24] Since we do not find results on taxes in our main tests, we do not extend this analysis to whether asset sales or fund transfers influence tax decisions

exogenous variables. Instead, we rely on the difference in timing of the spending decisions versus the accounting gimmicks and argue that accounting choices in period t are semi-exogenous to spending decisions in period t+1. A caveat to this analysis is that accounting choices and expenditures could be simultaneously determined, which will limit the extent to which we can provide causal inferences. To provide evidence on these relationships we use the following model:

$$EXPENDITURE_{t+1} = \alpha_0 + \alpha_1 POS\_NETREV_t + \alpha_2 NEG\_NETREV_t + \alpha_3 POS\_NETREV_t*BBR + \alpha_4 NEG\_NETREV_t*BBR + \theta Controls_t + \varepsilon \ , \quad (3)$$

where the dependent variable is the change in expenditures from year t to year t+1. We measure POS_NETREV, NEG_NETREV, and all control variables in period t. To determine whether asset sales in period t impact expenditures in period t+1, we partition the data based on whether the state is above the median (LG_ASALE) or below the median (SM_ASALE) of asset sales in period t. Similarly, to determine whether fund transfers in period t impact expenditures in period t+1, we partition the data based on whether the state is above the median (LG_TRANSFERS) or below the median (SM_TRANSFERS) of fund sweeping in period t. We then estimate equation (3) for each subsample. If asset sales are substituting for expense cutting in period t+1, we predict that the positive relation between NEG_NETREV*BBR and EXPENDITURE will be dampened for larger values of ASALE. Specifically, the coefficient α_4 will be higher for the sub-sample of SM_ASALE than it is for the sub-sample of LG_ASALE. Similarly, if transfers in year t are substituting for expense cutting in period t+1, the coefficient α_4 should be higher for the sub-sample of SM_TRANSFER than for the sub-sample of LG_TRANSFER.

Table 8 reports the results of these analyses. Focusing on the regressions partitioned by the magnitude of asset sales, our results of the expenditure model are consistent with those reported in Table 5. Specifically, the coefficient on NEG_NETREV*BBR is positive and

significant for both the SM_ASALE and LG_ASALE sub-samples, indicating that states respond to deficits in strong BBR regimes by decreasing expenditures in the future period, regardless of the magnitude of asset sales in period t. A test of the difference in the α_4 coefficients between the SM_ASALE and LG_ASALE estimations reveals that they are not statistically different. Thus these tests do not support the hypothesis that asset sales substitute for expense cutting.

Columns 3 and 4 report the results for our estimation of the EXPENDITURE model, partitioning the sample into SM_TRANSFER and LG_TRANSFER. The results fail to establish a relationship between deficit shocks and expense cutting for strong BBR states that had either large or small transfers in period t. The non-result could be due to the lower sample size; when we drop state and year fixed effects for this smaller sub-sample, the results are similar to those reported in Table 5. Test statistics reveal that the coefficients are not statistically different across the TRANSFER partition, and thus the results from these tests do not support the hypothesis that fund transfers substitute for expense cutting.

Overall, the results in Table 8 provide preliminary evidence on the relationship between the accounting gimmicks that states use to balance their budgets and the real actions states take. Specifically, neither the propensity to engage in asset sales or fund sweeping in period t affect the extent to which states cut expenditures in period t+1. In addition to the caveats mentioned above regarding endogeneity, in the later part of our sample period, states had access to federal funds to meet balanced budget requirements (Whitney, 2013), and thus the relationship between these variables is likely to be affected by this alternate source of funding.

5. Conclusions

This paper investigates the consequences of balanced budget requirements. Almost all states in the U.S. have some form of balanced budget provisions to curb deficit spending by state

governments. Existing research on balanced budget restrictions supports the public choice hypothesis, suggesting that balanced budget restrictions influence the actions taken by politicians. In this paper we add to this literature by providing additional insights on the accounting gimmicks states use to avoid balanced budget requirements. Our paper adds additional insights to the relevance of budget requirements by showing that both the public choice and the institutional irrelevance theories hold.

Our paper provides evidence on two potentially costly accounting actions that states use to balance their budgets: fund sweeping and asset sales. Our results indicate that these actions are used about half as often as expense cutting, and we provide preliminary evidence that, on average, expense cutting and tax increases are perceived by politicians to be the less costly approach to balancing the budget. Our paper also suggests that asset sales and fund sweeping are not being used as substitutes for expense cutting, but that all of these actions are used jointly to meet balanced budget restrictions.

The paper contributes to the accounting literature along a number of dimensions. First, given the heightened interests in the accountability of state and local governments, our paper is timely in that we provide evidence on the accounting actions that states use to comply with budget constraints. Our paper also adds to the literature on the consequences of using a budget as a control mechanism and the literature on real earnings management, both of which have largely focused on the for-profit sector. We extend these literatures by identifying specific actions (selling public assets and transferring between funds) governmental entities engage in when they face fiscal problems and by providing evidence that such behaviors are more prominent when they also face strong balanced budget requirements.

The results of the paper should be of interest to policymakers, governmental entities, and more broadly, organizations that have enforced balanced budget provisions. If organizations can circumvent budget rules using accounting behaviors, those interested in enforcing budgets may consider whether these actions are costly and whether they need additional control mechanisms in place to restrict accounting discretion.

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Appendix I

Variable Definitions

APURCHASE:	Per capita asset purchases
ASALE:	Per capita revenues from asset sales
BALANCE:	Per capita change in total fund balance, where total fund balance is the sum of the balance in the general fund and budget stabilization fund (rainy day fund)
BBR:	An indicator variable equal to 1 if the state is restricted from carrying over a deficit, zero otherwise. The classification follows the National Conference of State Legislatures (NCSL) 2010 report.
CASH:	Per capita cash holding
EXPENDITURE:	Per capita change in general fund expenditures between year t+1 and year t
FEDERAL:	Per capita revenues from the federal government
FISCAL_RESPONSE:	Either TRANSFERS, ASALE, EXPENDITURE, or TAX
GDPGROWTH:	The state's GDP growth in percentage
INVPOP:	1/population, where population is measured in thousands
LG_ASALE:	An indicator variable equal to 1 if ASALE in period t is greater than the sample median, zero otherwise
LG_TRANSFERS:	An indicator variable equal to 1 if TRANSFERS in period t are greater than the sample median, zero otherwise
LT_DISSUE:	Per capita long term debt issuance
NEGS:	Indicator variable equal to 1 if NEG_NETREV is larger than median (small deficits)
NETREV:	Per capita difference between the revenues and the expenditures in the general fund after subtracting out the revenues from asset sales
NEG_NETREV:	NETREV if the variable is smaller than zero and zero otherwise
PIGROWTH:	The state's personal income growth in percentage
POS_NETREV:	NETREV if the variable is greater or equal to zero and zero otherwise
REVLIMITED:	Decile ranking of a state-year's revenue concentration index, where the concentration index is the product of the portion of total revenue from each revenue source
REVUNCERTAIN:	Decile ranking of the coefficient of variation of the states' total revenues
SM_ASALE:	An indicator variable equal to 1 if ASALE in period t is less than the sample median, zero otherwise
SM_TRANSFERS:	An indicator variable equal to 1 if TRANSFERS in period t are less than the sample median, zero otherwise
ST_DISSUE:	Per capita short term debt issuance

TAX:	Per capita change in general fund revenues between year t+1 and year t
TRANSFERS:	Demeaned per capita transfers in to the governmental fund
TRANSOUT:	Demeaned per capita transfers out from the governmental fund
UNEMPLOYMENT:	The state's unemployment rate in percentage

Table 1: Descriptive Statistics

This table presents summary statistics on the main variables used in the analyses. All variables are defined in Appendix I

	N	Mean	Median	Std Dev
ASALE	796	6.934	0.703	35.527
EXPENDITURE	745	54.138	50.303	198.019
TAX	745	48.468	52.521	362.595
TRANSFERS	430	-0.844	-5.337	250
TRANSOUT	430	0.256	-5.691	251.354
NEG_NETREV	796	-46.125	0	132.883
POS_NETREV	796	37.788	2.326	205.713
BBR	796	0.741	1	0.438
ST_DISSUE	796	1.673	0	40.278
LT_DISSUE	796	445.428	360.832	327.714
CASH	796	2698.240	1221.523	7166.436
BALANCE	796	20.894	8.158	240.549
REVLIMITED	796	4.5	4.5	2.878
REVUNCERTAIN	796	4.506	5	2.874
FEDERAL	796	1262.069	1158.98494	552.066
INVPOP	796	0.0005	0.0002	0.0005
GDPGROWTH	796	4.745	4.816	3.341
UNEMPLOYMENT	796	5.233	4.9	1.818
PIGROWTH	796	4.885	5.178	3.172

Table 2: Correlations

This table present Pearson correlation coefficients between the main variables used in the analyses. Panel A reports the correlations for our main dependent variables, and Panel B reports the correlations for all other variables. Bold text indicates significance at the 0.10 level or better. All variables are defined in Appendix I

Panel A

	[1]	[2]	[3]	[4]
TRANSFERS [1]	1	**0.120**	**-0.175**	**-0.099**
ASALE [2]		1	**0.267**	**0.171**
EXPENDITURE [3]			1	**0.221**
TAX [4]				1

Panel B:

	[1]	[2]	[3]	[4]	[5]	[6]	[7]	[8]	[9]	[10]	[11]	[12]	[13]	[14]	[15]
NEG_NETREV [1]	1	**0.064**	-0.036	0.012	**-0.255**	**-0.565**	**0.088**	**-0.093**	**-0.060**	**-0.116**	**-0.306**	**-0.189**	**0.130**	**-0.207**	**0.197**
POS_NETREV [2]		1	0.046	0.007	**0.082**	**0.366**	**0.567**	**0.136**	-0.046	**0.095**	**0.145**	**0.092**	**0.127**	-0.021	**0.112**
BBR [3]			1	-0.005	**-0.180**	**0.123**	0.035	0.001	**0.289**	**0.091**	**0.062**	**0.219**	**0.066**	-0.057	0.054
ST_DISSUE [4]				1	**-0.061**	0.005	-0.048	0.010	0.055	0.039	0.014	-0.014	0.037	0.031	-0.004
LT_DISSUE [5]					1	**0.304**	**0.079**	0.055	**-0.151**	**0.116**	**0.391**	**0.275**	**-0.099**	**0.123**	**-0.126**
CASH [6]						1	**0.501**	**0.096**	**0.133**	**0.196**	**0.518**	**0.437**	0.015	**0.106**	0.009
BALANCE [7]							1	0.075	-0.035	0.050	**0.202**	**0.169**	**0.108**	-0.024	**0.158**
TRANSOUT [8]								1	**-0.094**	0.010	**0.220**	-0.011	**-0.136**	0.044	-0.021
REVLIMITED [9]									1	0.003	-0.027	**0.463**	**0.110**	**-0.183**	**0.118**
REVUNCERTAIN [10]										1	**0.306**	**0.086**	**0.096**	**-0.272**	**0.132**
FEDERAL [11]											1	**0.457**	**-0.125**	**0.326**	**-0.201**
INVPOP [12]												1	**0.064**	**-0.204**	**0.063**
GDPGROWTH [13]													1	**-0.424**	**0.728**
UNEMPLOYMENT [14]														1	**-0.560**
PIGROWTH [15]															1

Table 3: The Relation between Transfers In and Balanced Budget Restrictions

This table reports the regression results of equation (1) where the dependent variable is TRANSFERS:

$$TRANSFERS = \alpha_0 + \alpha_1 POS\_NETREV + \alpha_2 NEG\_NETREV + \alpha_3 POS\_NETREV*BBR + \alpha_4 NEG\_NETREV*BBR + \theta\ Controls + \varepsilon$$

All variables are defined in Appendix I. *t*-statistics are in brackets and are calculated based on heteroscedastic consistent standard errors clustered by state. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed).

	TRANSFERS
POS_NETREV	-0.178
	(-1.092)
NEG_NETREV	0.109
	(1.519)
POS_NETREV*BBR	0.225
	(1.357)
NEG_NETREV*BBR	-0.200**
	(-2.361)
TRANSOUT	0.925***
	(25.385)
ST_DISSUE	-0.144
	(-1.027)
LT_DISSUE	0.010
	(0.354)
BALANCE	0.036
	(1.006)
CASH	-0.007
	(-1.112)
REVLIMITED	2.944
	(0.792)
REVUNCERTAIN	1.277
	(0.417)
FEDERAL	0.081*
	(2.004)
INVPOP	-424,143.069
	(-0.917)
GDPGROWTH	-2.354
	(-1.064)
UNEMPLOYMENT	0.844
	(0.184)
PIGROWTH	0.827
	(0.238)
Year and State FE	Yes
Observations	430
R-squared	0.950

Table 4: The Relation between Asset Sales and Balanced Budget Restrictions

This table reports the regression results of equation (1) where the dependent variable is ASALE:

$$ASALE = \alpha_0 + \alpha_1 POS\_NETREV + \alpha_2 NEG\_NETREV + \alpha_3 POS\_NETREV*BBR + \alpha_4 NEG\_NETREV*BBR + \theta\ Controls + \varepsilon$$

Column (2) controls for asset purchases for the sub-sample of state-years where purchases are reported in the Comprehensive Annual Financial Report. All variables are defined in Appendix I. *t*-statistics are in brackets and are calculated based on heteroscedastic consistent standard errors clustered by state. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed).

	ASALE	
	(1)	(2)
POS_NETREV	0.029	0.029
	(0.887)	(1.657)
NEG_NETREV	-0.020	0.007
	(-1.391)	(0.640)
POS_NETREV*BBR	0.008	-0.005
	(0.265)	(-0.284)
NEG_NETREV*BBR	-0.061***	-0.053***
	(-4.737)	(-3.718)
ST_DISSUE	-0.005	-0.015
	(-0.468)	(-0.752)
LT_DISSUE	0.017	0.012*
	(0.997)	(1.990)
BALANCE	-0.003	-0.019*
	(-0.445)	(-1.698)
CASH	0.001	-0.001
	(1.234)	(-0.334)
REVLIMITED	-0.172	-0.401
	(-0.362)	(-1.096)
REVUNCERTAIN	0.328	0.093
	(0.533)	(0.393)
FEDERAL	0.024	-0.014
	(1.002)	(-1.391)
INVPOP	-65,099.816	85,575.738
	(-0.335)	(1.097)
GDPGROWTH	0.899	-0.441
	(1.477)	(-0.665)
UNEMPLOYMENT	2.551	-0.534
	(1.313)	(-1.213)
PIGROWTH	0.091	0.692
	(0.093)	(0.745)
APURCHASE		-0.001
		(-0.594)
Year and State FE	Yes	Yes
Observations	796	398
R-squared	0.634	0.969

Table 5: The Relation between the change in next period's expenditures and Balanced Budget Restrictions

This table reports the regression results of equation (1) where the dependent variable is EXPENDITURE:

$$EXPENDITURE = \alpha_0 + \alpha_1 POS\_NETREV + \alpha_2 NEG\_NETREV + \alpha_3 POS\_NETREV*BBR + \alpha_4 NEG\_NETREV*BBR + \theta\ Controls + \varepsilon$$

All variables are defined in Appendix I. *t*-statistics are in brackets and are calculated based on heteroscedastic consistent standard errors clustered by state. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed).

	EXPENDITURE
POS_NETREV	0.895**
	(2.141)
NEG_NETREV	0.472*
	(1.932)
POS_NETREV*BBR	-0.736*
	(-1.715)
NEG_NETREV*BBR	0.484**
	(2.116)
ST_DISSUE	0.068
	(0.231)
LT_DISSUE	0.075
	(1.113)
BALANCE	-0.330***
	(-2.746)
CASH	0.018**
	(2.336)
REVLIMITED	-5.956
	(-1.386)
REVUNCERTAIN	3.218
	(0.935)
FEDERAL	-0.035
	(-0.458)
INVPOP	-603,916.251
	(-0.953)
GDPGROWTH	1.308
	(0.395)
UNEMPLOYMENT	-0.460
	(-0.063)
PIGROWTH	7.778*
	(1.687)
Year and State FE	Yes
Observations	745
R-squared	0.437

Table 6: The Relation between the change in next period's taxes and Balanced Budget Restrictions

This table reports the regression results of equation (1) where the dependent variable is TAX:

$$TAX = \alpha_0 + \alpha_1 POS\_NETREV + \alpha_2 NEG\_NETREV + \alpha_3 POS\_NETREV*BBR + \alpha_4 NEG\_NETREV*BBR + \theta\ Controls + \varepsilon$$

All variables are defined in Appendix I. *t*-statistics are in brackets and are calculated based on heteroscedastic consistent standard errors clustered by state. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed).

	TAX
POS_NETREV	-0.345
	(-0.830)
NEG_NETREV	-1.131***
	(-2.777)
POS_NETREV*BBR	-0.799*
	(-1.851)
NEG_NETREV*BBR	0.071
	(0.211)
ST_DISSUE	-0.683
	(-1.245)
LT_DISSUE	0.055
	(1.401)
BALANCE	0.081**
	(2.067)
CASH	0.045***
	(3.533)
REVLIMITED	-5.076
	(-0.988)
REVUNCERTAIN	-6.954
	(-0.983)
FEDERAL	0.112
	(0.476)
INVPOP	-1185848.078
	(-1.230)
GDPGROWTH	23.249
	(1.386)
UNEMPLOYMENT	49.623
	(1.432)
PIGROWTH	-1.621
	(-0.115)
Year and State FE	Yes
Observations	745
R-squared	0.558

Table 7: The relation between deficits and states' fiscal actions

This table reports the results of equation (2):

$$Neg.\ Netrev = \alpha_0 + \alpha_1 Transfers\ In + \alpha_2 ASale + \alpha_3 Exp.\ Change + \alpha_3 Tax\ Change + \varepsilon$$

Panel A reports the result for the full sample of state-years, and Panel B reports the results conditional on the size of the fiscal deficit. Column (1) of Panel B reports the results for large deficits (greater than the median), and column (2) of Panel B reports the results for small deficits (less than the median). All variables are defined in Appendix I. *t*-statistics are in brackets and are calculated based on heteroscedastic consistent standard errors clustered by state. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed).

Panel A:

	NEG_NETREV
TRANSFERS	0.017
	(0.921)
ASALE	-2.269***
	(-6.359)
EXPENDITURE	0.284***
	(2.757)
TAX	-0.063*
	(-1.747)
Observations	220
R-squared	0.71

Panel B:

	NEG_NETREV	
	(1)	(2)
	NEGS=1	NEGS=0
TRANSFERS	0.009	0.001
	(0.565)	(0.175)
ASALE	-2.156***	-0.241
	(-5.480)	(-1.211)
EXPENDITURE	0.255*	0.099***
	(1.948)	(4.266)
TAX	-0.058*	-0.067***
	(-1.773)	(-4.833)
Observations	126	94
R-squared	0.73	0.18

Table 8: The impact of current period accounting gimmicks on next period expenditures

This table reports the regression results of equation (3):

$$EXPENDITURE_{t+1} = \alpha_0 + \alpha_1 POS\_NETREV_t + \alpha_2 NEG\_NETREV_t + \alpha_3 POS\_NETREV_t*BBR + \alpha_4 NEG\_NETREV_t*BBR + \theta Controls_t + \varepsilon$$

All variables are defined in Appendix I. *t*-statistics are in brackets and are calculated based on heteroscedastic consistent standard errors clustered by state. ***, **, and * indicate significance at the 1%, 5%, and 10% levels, respectively (two-tailed).

	$EXPENDITURE_{t+1}$			
	LG_ASALE	SM_ASALE	LG_TRANSFERS	SM_TRANSFERS
	(1)	(2)	(3)	(4)
POS_NETREV	0.308	1.180***	1.767*	0.469
	(0.404)	(3.568)	(1.799)	(0.716)
NEG_NETREV	0.381	-0.046	0.840*	1.045**
	(1.654)	(-0.159)	(1.974)	(2.432)
POS_NETREV*BBR	-0.152	-0.487	-1.862*	1.117*
	(-0.197)	(-1.360)	(-1.917)	(1.823)
NEG_NETREV*BBR	0.617***	0.633**	0.217	-0.454
	(2.894)	(2.577)	(0.496)	(-0.826)
ST_DISSUE	0.295	-0.104	-0.096	-0.530
	(0.796)	(-0.558)	(-0.451)	(-1.040)
LT_DISSUE	0.155	0.010	0.001	-0.100
	(1.182)	(0.455)	(0.007)	(-0.803)
BALANCE	-0.395***	0.187	-0.047	-0.433*
	(-5.212)	(1.416)	(-0.627)	(-1.836)
CASH	0.020***	0.005	-0.018	0.032
	(2.724)	(0.284)	(-1.362)	(0.433)
REVLIMITED	-10.480	-0.600	-6.643	-4.384
	(-1.113)	(-0.153)	(-0.551)	(-0.249)
REVUNCERTAIN	0.456	-0.006	10.767	1.742
	(0.087)	(-0.003)	(1.125)	(0.150)
FEDERAL	-0.030	0.011	-0.177	-0.067
	(-0.269)	(0.289)	(-1.446)	(-0.223)
INVPOP	-956,667.724	-184,416.383	554,418.662	-3151003.274
	(-0.979)	(-0.806)	(0.566)	(-1.009)
GDPGROWTH	1.595	-5.137	-3.612	5.118
	(0.460)	(-1.316)	(-0.635)	(0.766)
UNEMPLOYMENT	-4.958	4.625	-45.023*	-3.997
	(-0.425)	(0.550)	(-1.769)	(-0.194)
PIGROWTH	8.024	8.555*	-4.699	12.385
	(1.079)	(1.879)	(-0.575)	(1.071)
Year and State FE	Yes	Yes	Yes	Yes
Observations	372	373	192	192
R-squared	0.487	0.656	0.744	0.799