



Property Tax Limits, Balanced Budget Rules, and Line-Item Vetoes: A Long-Run View

John A. Dove

Manuel H. Johnson Center for Political Economy, Troy University, 137N Bibb Graves Hall, Troy, AL 36082, USA.

E-mail: jadove@troy.edu

This paper explores the early development of three important fiscal institutions faced by U.S. state governments: property tax limits (PTLs), balanced budget rules (BBRs), and the gubernatorial line-item veto (LIV). Specifically, this study attempts to provide historical context for their development and an empirical investigation of their long-run effect on state finances (running from 1830 to 1920). Results, which are robust to a number of specifications, suggest that early PTLs decreased both revenues and expenditures, BBRs had a larger effect on revenues rather than expenditures, while the LIV had a somewhat limited effect on both revenues and expenditures.

Eastern Economic Journal (2017) 43, 288–317. doi:10.1057/s41302-016-0001-1; published online 28 July 2016

Keywords: Tax and expenditure limits; balanced budget rules; line-item veto

JEL: D78; H71; N91

INTRODUCTION

A significant amount of scholarship has been devoted to understanding fiscal institutions and constraints imposed on various governmental jurisdictions. Much of this research has revolved around state, local, and federal comparisons within the United States.¹ Three constraints in particular have received much of this scholarly attention. These include state tax and expenditure limits (TEs), state balanced budget requirements (BBRs), and the gubernatorial line-item veto (LIV).

The majority of this literature has found that each of those institutions has had an important effect on a number of fiscal outcomes across states, including revenues, expenditures, and borrowing costs. However, these studies generally focus around the so called “tax revolts” of the 1970s and after, when a number of states, through legislative action or initiative and referenda, passed stringent caps on the tax and spending authority of state governments.

Although an important period in the history of state fiscal policy, most of these studies miss the richness involved in the development of these fiscal limitations. This is especially important as TEs, BBRs, and LIVs actually began developing in some form over 150 years ago [Rodriguez-Tejedo and Wallis 2012]. Further, although some of these early constraints are thought to have had little to no impact on state fiscal outcomes, no formal empirical work has been undertaken to investigate this conjecture. Given this, the purpose of this paper is several folds.

First, the article adds to the institutional evolution of these fiscal constraints with a brief discussion of their historical development and the political context within which they emerged and were implemented through the mid-nineteenth and into the early twentieth centuries. Interestingly, the vast majority of these limits were imposed constitutionally (and subsequently are the ones analyzed in this paper) rather than statutorily. This brief history should provide important information for future scholars to

draw out about why it is that these safeguards persisted and slowly transformed in the ways that they did through the twentieth century.

Second, this paper is also an attempt to go beyond mere anecdotal conjectures that, by-and-large, these constraints had little effect on state fiscal outcomes by undertaking an empirical investigation that explores their actual impact on several important indicators of state fiscal policy over the long run (covering the period 1830–1920). These indicators specifically are state revenues and expenditures. Overall, early TELs (which were actually property tax limits or PTLs) appear to have had the most significant impact by decreasing both state revenues and expenditures, BBRs actually increased revenues while having a lesser effect on expenditures, whereas LIVs seemed to have a much less pronounced effect on both. These results are robust to a number of specifications and add important nuances about the development and persistence of these important early state fiscal constitutions.

This paper adds to several important strands of the literature, which includes recent developments on the fiscal effects of state TELs, BBRs, and LIVs. Although early work on many of these issues showed mixed results at best regarding the effectiveness of these institutions [see: Abrams and Dougan 1986; Lowery 1983; Bails 1982, 1990; Joyce and Mullins 1991; Mullins and Joyce 1996 in regard to TELs; and Carter and Schap 1990; Endersby and Towle 1997; Alm and Evers 1991; Nice 1988; Gosling 1986 in regard to the LIV], later scholars, incorporating both panel data and accounting for potential endogeneity within the analysis, have to some extent shown that each of these constraints can at times perform consistent with their stated goals

Current literature would also suggest that state BBRs have had the most profound effect on state public finance. Specifically, Bohn and Inman [1996] show that strict BBRs consistently reduce state deficits, which are even more pronounced with the presence of the LIV. Poterba [1994] notes that states with BBRs augmented with TELs are better able to withstand fiscal shocks and more rapidly recover from unexpected deficits. Most of these results are largely corroborated by Alesina and Bayoumi [1996], Bails and Tieslau [2000], and Primo [2006].

Specifically, Primo [2006] suggests that BBRs are relatively more effective in states with an elected judiciary, as legislatures may be more likely to appoint judges who are sympathetic toward deficit spending. Additionally, Hou and Smith [2006] create several indices of state BBRs based on political and technical limits included in their language, which are used by Smith and Hou [2010] to empirically evaluate which sets of rules matter. They find that technical rules (such as debt limits and no carry over rules) have a more significant effect on a state's fiscal performance than do political rules (such as requirements that a governor submit or pass a balanced budget).

Further, more recent literature that explores TELs would suggest that these limits are, in general, effective at reducing expenditures or increasing budgetary surpluses, though it may depend on the particular makeup of the given constraint. In regard to state TELs, Bails and Tieslau [2000] show a negative and significant effect of the presence of a TEL on state expenditures when analyzing a panel of states from 1969 to 1994. Shadbegian [1996] finds TELs slow the growth of government expenditures. Rueben [1997] notes that, when accounting for the endogenous nature of TELs, tax revenues are roughly two percent lower. Many of these results have also been supported by other studies [see: New 2010; Bae and Gais 2007; Shadbegian 1998].

Additional and relatively recent work has analyzed under what circumstances TELs limit overall government growth. Theoretically, Seljan [2014] suggests that TELs can only be effective when limited-government preferring agents oversee political actors. Further, Amiel et al. [2014] show that the extent to which a TEL is effective depends on



its overall restrictiveness, while Kousser et al. [2008] suggest that no single TEL is completely effective at limiting government growth, though some such as Colorado's TABOR and Washington state's I-601 appear to act as relatively better constraints.

In regard to LIVs, Bohn and Inman [1996] show that its presence leads to lower deficits. Further, Dearden and Husted [1993] suggest that LIVs result in a budget which is closer to that preferred by the governor. However, of the three fiscal institutions, it would appear that the effect that the LIV has on state public finance is the most ambiguous, and may be used to achieve political ends. For example, Abney and Lauth [1985] find evidence to suggest that LIVs are used more often when government is divided, and especially when a Republican governor faces a legislature controlled by Democrats. Also of interest is the interconnectedness of these institutions and how the presence of one constraint may dampen or strengthen the impact of another [Crain and Miller 1990].

A final body of research encompasses the historical development of many of these constitutional constraints. Here the evidence overwhelmingly suggests that early procedural debt limits (PDLs) emerged as a result of perceived excesses in state borrowing and "taxless finance" for infrastructure investment (dubbed internal improvements) through the 1830s, which culminated in default and repudiation by eight states and one territory as a result of the Panic of 1839 and ensuing depression [Wallis 2005].² As PDLs developed states began to modify budgetary accounting standards in order to circumvent those constraints, which led to the imposition of additional restrictions [Rodriguez-Tejedo and Wallis 2012].

The remainder of the paper is structured as follows: "Historical Overview" section provides a historical overview and political context within which many of these constraints developed. "Data and Model Specification" section discusses the data to be employed within the empirical exercise as well as the empirical model. "Results and Interpretation" section lays out the results and a brief discussion of those results, while "Conclusion" section concludes.

HISTORICAL OVERVIEW

Nineteenth century U.S. state fiscal history is one filled with significant change, especially with regard to the scope of fiscal policy over that period. These changes came in several important episodes and were usually tied to financial crises that left numerous state governments in precarious fiscal situations. These episodes also followed patterns of relatively significant state involvement in the economy, especially regarding economic development through the support of quasi-public projects in the form of canal, railroad, and banking aid (generally dubbed "internal improvements") [Rachford 1941; Goodrich 1960; Larson 2001].

The first of these episodes came in response to the relative success of New York's involvement in the construction of the Erie Canal, which greatly increased economic activity throughout the region and brought with it a large increase in the state's tax base. Due to this success, numerous other state governments began to pour public funds into similar projects throughout their states in the hope of increasing economic development and with it public revenue.

During this episode which lasted through the 1830s and into the early 1840s, state governments generally invested in these internal improvement projects by either guaranteeing large portions of the existing debts that many of these canal, railroad, and banking corporations had incurred, or by lending state credit directly in order to see through the completion of these projects. The policies ultimately led to a system of



“taxless finance,” whereby citizens only incurred contingent liabilities from the construction of internal improvements in the event that they failed or were never completed [Wallis 2005]. Thus, between 1830 and 1840 state government debt increased by \$178,500,000 [Porter 1880].

States pursued these policies with the belief that it would avoid the need to ever tax citizens directly in order to finance these projects and, once completed, those internal improvement projects would turn profits large enough to not only repay the outstanding debt that existed but also provide large and perpetual revenue streams to those respective state governments. Further, the general belief was that these outstanding debts were the obligations of the private corporations actually building the improvements, and thus would be costless investments to the state.

Although it was possible for such a policy to persist so long as economies were growing, with the onset of economic downturn these circumstances would change, and soon did. Largely stemming from the Panic of 1839 and ensuing economic downturn, many banks and internal improvement projects began failing en-masse.³ As this happened, states found themselves in financially precarious situations, with debt obligations mounting and few options available to pay them off. This directly led eight states and one territory to default on their obligations, five of which repudiated all or part of those debts outright.⁴

The aftermath of this upheaval was largely one of constitutional change meant to credibly recommit state governments to avoid over investment in similar projects and default in the future and to also eliminate policies of “taxless finance” which had been previously pursued [Dove 2012; Wallis 2005].⁵ This led to a number of fiscal reforms meant to constrain or, for some, completely deny state legislatures the ability to borrow or use state credit for any purpose. These procedural debt limits generally provided states the ability to borrow, relatively unconstrained, up to a certain limit. However, once this limit was reached if a state government was permitted to increase indebtedness beyond it, generally supermajority approval of the legislature, some majority of citizens, or some combination of the two were required. The result was a brief period of declining state activity in economic development, which was quickly replaced by county and municipal governments providing economic assistance to internal improvement projects.⁶

Along with constraints to limit debt, state governments also began to be confronted through the latter half of the 1840s and into the 1850s with early, constitutionally mandated, balanced budget rules. These early amendments normally stipulated that a state must raise annual revenue sufficient to meet all expenditures, and when deficiencies occurred, states were required to raise taxes sufficient to balance revenues and expenditures. Such an amendment can be seen within Article 10, Section 4 of Arkansas’ Constitution of 1868 stipulates the following:

“The general assembly shall provide for raising revenue sufficient to defray the expenses of the state for each year; and also a sufficient sum to pay the interest on the state debt.”

Language similar to this was found in most state’s early constitutions attempting to maintain annual budget balance. For instance, Article 11, Section 3 of Kansas’ Constitution of 1859 stated:

“The Legislature shall provide, each year, for raising revenue sufficient to defray the current expenses of the state.”



Most of these early BBRs required that revenues equal expenditures every year, and where deficiencies emerged, the legislature was required to increase taxes in order to meet the obligation. Several restrictions also allowed casual deficits to be rectified through borrowing, but only up to a specified limit, while some also allowed for deficit carryover, which was to be rectified the following year. As these limits developed, many state governments responded by adopting new and relatively creative methods of accounting, which allowed state legislatures to maneuver around the constraints and in many instances abrogate them, leading to further refinement of those fiscal constitutions [Rodriguez-Tejedo and Wallis 2012].

Although this early financial crisis led to significant safeguards on borrowing and the accumulation of public debt, it left the taxing and budgetary authority (save for several early BBRs) intact. This legislative authority was not altered until after the U.S. Civil War and largely beginning with the constitutional conventions of the Southern governments held during the Reconstruction era. As part of the requirement for readmission into the Union, Southern states were to call constitutional conventions and accept a number of stipulations including emancipation and the extension of the franchise to newly freed slaves. Though civil rights played a major role in the debates within and leading up to those conventions, state fiscal policies were, in many instances, also at center stage.

Though most state governments were economically devastated, through Reconstruction state expenditures for the purposes of rebuilding wrecked economies exploded. These expenditures were again largely used for railroad and other internal improvement investments. However, much of this aid was tied (either through perception or in reality) to rampant corruption within state legislatures, coming to a head especially as a result of the Panic of 1873.⁷ Due to these alleged abuses with the public purse, numerous states again passed constitutional constraints to limit these activities in order to refocus state fiscal policy.⁸ The most important means through which this occurred was through strict property tax limits (the early form of a TEL) that curtailed either the maximum tax rate, or the amount a state could raise through taxation [Rodriguez-Tejedo and Wallis 2012].

The desire to limit and constrain state legislatures and government spending through this period is largely corroborated through contemporary accounts and the debates that occurred during many of these constitutional conventions.⁹ For instance in regard to Alabama's proposed convention of 1875, one of the state's debt commissioners, Levi Welbourne Lawyler, suggested that:

“If the present constitution were perfect in all other respects, the evils which have been entailed upon the State under the authority conferred upon the legislature to endorse railroad bonds and otherwise use the credit of the state in aid of internal improvements, would justify the trouble and expense of holding a convention for the purpose of incorporating a positive prohibition of such authority.”

From the *Mobile Register* (July 7, 1875) as quoted in McMillan [1955]

This sentiment is corroborated by Samuel Davies Weakly, a member of the convention of 1875 and later chief justice of the Alabama Supreme Court, who suggested the purpose of the convention was

“An economical administration of the government, the protection of the treasury from spoliation, the prevention of appropriations for any but public purposes, the saving of the credit of the state and its government agencies by denying it use in aid of private

enterprise, even though of a quasi-public character, and the preservation of the property of a citizen from large tax levies.”

As quoted in McMillan [1955]

These same thoughts were present in the buildup to many of the antebellum constitutional conventions of the 1840s and 1850s as well as a number of other Reconstruction conventions of the 1860s and 1870s. For example, Green [1930] suggests that severe anti-tax sentiment in Maryland through the 1840s was the leading reason for the Convention of 1850, the purpose of which was to limit the legislature’s appropriations and lending of state credit. These same issues echoed the conventions of Arkansas, Georgia, Louisiana, and South Carolina [Perman 1984].

Table 1 provides a list of every state through this period and the year in which they adopted a PTL, BBR, LIV, or some combination of those.

As can be seen, most of these restrictions, with the exception of the early BBRs, were adopted through the 1870s and 1880s. Further, it generally appears to be the case that Southern Reconstruction states led the charge in adopting many of these institutional constraints, with a number of Western states including them in their original constitutions. Further, a majority of New England states completely avoided adopting any of those safeguards. However, these latter states were, in general, the most fiscally prudent in the Union through the nineteenth century.

The LIV was a relic of the Confederate constitution, and after the dissolution of the Confederacy many states passed that authority onto their respective executives. Further, as noted early TELs generally were restrictions on property taxes (which at the time was the largest revenue source for state governments). These restrictions usually stipulated

Table 1 State TELs, BBRs, and line-item veto by year of first adoption

<i>State</i>	<i>PTL</i>	<i>BBR</i>	<i>Veto</i>	<i>State</i>	<i>PTL</i>	<i>BBR</i>	<i>Veto</i>
Alabama	1875		1875	North Dakota	1889	1889	1889
Arizona			1912	Nebraska			1875
Arkansas ^a		1868	1874	New Hampshire			
California			1908	New Jersey			1875
Colorado	1876	1876	1876	New Mexico	1911		1911
Connecticut				Nevada		1864	
Delaware			1897	New York			1874
Florida		1868	1875	North Carolina			
Georgia	1903	1877	1865	Ohio		1851	
Idaho	1890	1890	1890	Oklahoma	1907	1907	1907
Illinois		1848	1884	Oregon	1916	1857	1916
Indiana				Pennsylvania			1874
Iowa				Rhode Island			
Kansas		1859		South Carolina		1868	1896
Kentucky		1891	1891	South Dakota	1889	1889	1889
Louisiana	1878		1878	Tennessee		1870	
Maine ^a				Texas	1876		1866
Maryland			1890	Utah	1895	1895	1895
Massachusetts				Vermont			
Michigan	1909		1909	Virginia			1902
Minnesota		1857	1876	Wisconsin		1848	
Missouri	1875		1875	Washington			1889
Mississippi			1890	West Virginia			1872
				Wyoming	1889		1889

^a Denotes states for which no revenue or expenditure data are available.

that property tax rates were to be capped at a maximum rate, with no ability for state governments to increase them above that. Other early TELs stipulated that tax rates could only increase based on some percentage of assessed property values, pegged at a hard percentage.

Overall then, it would appear that many of these limitations were adopted through periods of financial and political crisis, the end result being significant attempts to constrain state governments and legislatures from unsustainably increasing government outlays. This brief history has attempted to draw out some of these nuances and the historical context within which they were developed. However, the question still remains: to what extent then were they effective at carrying out their stated goals and purpose? The remainder of the paper is devoted to empirically addressing that question.

DATA AND MODEL SPECIFICATION

The data employed in this empirical analysis come from a number of sources. The three fiscal constraints under analysis were obtained through a search of each state's constitution(s) that existed from 1830 to 1920. The bulk of this came from the NBER/University of Maryland State Constitution Project, which compiled most state constitutions along with every amendment to those constitutions over the sample range listed above.¹⁰ Where specific constitutions were missing, the remaining data were obtained from hand searches of state constitutions over the sample period. This source is also important in that along with each state's initial constitution it also documents all subsequent amendments to those constitutions and the date on which the amendment was adopted. Thus, along with being able to observe and evaluate the initial constraints in place, I am also able to empirically evaluate the evolution of these de jure constraints over the sample period.¹¹

This work also includes state revenues and expenditures as the two main dependent variables of interest. Each of these variables runs annually and is converted to a per capita basis in order to control for the size of a state's population. These data were taken from the Inter-university Consortium for Political and Social Research's (ICPSR) "Sources and Uses of Funds in State and Local Governments, 1790–1915."¹² This database is a collection of all annual state revenues and expenditures taken from direct and also second-hand sources. Although data for every state are not always consistently available, and per the ICPSR investigator's own recognition there may be other inadvertent errors or omissions within these data, this is the most comprehensive collection of state finances in existence for the nineteenth and early twentieth century. Even with these potential issues, it is still the best and largely the only aggregated source for annual state finances.¹³ This dataset provides an unbalanced panel to empirically analyze.

With these data, the empirical model takes the following form:

$$(1) \quad Y_{it} = \alpha + \beta_{1t}BBR_{it} + \beta_{2t}PTL_{it} + \beta_{3t}LIV_{it} + \delta'Z_{it} + \mu_i + \sigma_t + \varepsilon_{it}$$

where $i = 1, 2, 3, \dots, 45$; $t = 1830, 1831, 1832, \dots, 1920$.

Here, Y_{it} represents each of the main dependent variables of interest discussed above. BBR_{it} is a dummy variable representing whether or not state i had a constitutionally mandated balanced budget rule in year t .¹⁴ PTL_{it} is another dummy variable for whether or not state i had constitutionally imposed a property tax limit in year t , while LIV_{it} is a final dummy variable for whether or not state i had granted the gubernatorial line-item veto in year t . Each of these is represented by a "1" if a state was faced with such a constraint and "0" otherwise.

Z_{it} is a vector of control variables that may also have an influence on a state’s revenues and expenditures. These variables include several measures of a state’s political ideology (to be discussed in greater detail below) as well as whether or not a state granted home rule authority to county and local governments, the percentage of the population that was white, whether or not a state was a slave state in a given year, the population density and population growth rate of a state, the percent of the population that was urbanized, total land area, per capita debt, and a variable for whether or not a state had a procedural debt limit, a dummy variable for states under Reconstruction governments, and a dummy variable for the time of secession and reentry by each Confederate state.¹⁵

Through the nineteenth century states were increasingly granting greater authority in local political and fiscal matters to county and municipal governments through the passage of home rule laws. Thus, as greater responsibility was delegated to those local governments, it may have had a direct impact on the revenues and expenditures of a state government. Further, controlling for slavery should proxy both for geographic location and also for the overall level of economic development and general economic activity within a state. Also, as the population grows it may provide an increased tax base but, along with greater population density and urbanization may require a greater provision of public services. Finally, higher levels of debt would require greater expenditures to service that debt while procedural debt limits may reduce the necessary revenues and expenditures required to cover any outstanding debt.

The PDL variable represents both a binding PDL and also procedural limits placed on state government’s before debt could be increased above a certain limit. This PDL is equal to “0” if there is no limit in place, “1” if there is a procedural safeguard, and “2” if there is a binding hard cap on the amount of debt that can accrue. Additionally, both the Civil War and Reconstruction may have had a powerful effect on state fiscal outcomes, especially in the South, and are thus included as well. Finally, in order to control for as many unobservable variables as possible I have included both state and year fixed effects, represented by μ_i and σ_t respectively. Table 2 provides all of the summary statistics for the above discussed variables.

Table 2 Summary statistics

<i>Variable</i>	<i>Observations</i>	<i>Mean</i>	<i>SD</i>	<i>Min</i>	<i>Max</i>
Per capita revenue	2050	2.990	2.989	0.004	34.060
Per capita expenditures	2069	2.931	3.122	0.020	33.446
BBR (1 = Yes)	2162	0.228	0.419	0	1
PTL (1 = Yes)	2162	0.118	0.343	0	1
LIV (1 = Yes)	2162	0.310	0.463	0	1
Governor	2162	0.467	0.499	0	1
House DW-NOMINATE	2260	-0.063	0.438	-1.026	0.994
Home rule state (1 = Yes)	2162	0.068	0.251	0	1
% of the population that is white	2317	86.174	17.622	39.284	99.849
Slave state (1 = Yes)	2162	0.123	0.329	0	1
Population density	2257	55.185	66.614	0.62	429.141
Population growth	2294	5.034	33.108	-3.481	1057.463
% urban population	2326	26.369	20.334	0	88.3
Land area (In 1000s)	2260	50.942	46.166	1.033	261.231
Per capita debt	2291	6.317	7.788	0	73.425
Procedural debt limit index	2340	0.913	0.980	0	2
Civil war (1 = Yes)	2162	0.045	0.207	0	1
Reconstruction government (1 = Yes)	2162	0.010	0.100	0	1
Southern democrat (1 = Yes)	2162	0.186	0.390	0	1

Important issues to address are the potential endogeneity and omitted variable bias that might arise between the dependent and main independent variables of interest. Here, it may be that the adoption of each of these constraints is due to unobservable voter preference. Thus, by including proxy variables for voter preference it may be possible to reduce any correlation between the dependent and main independent variables of interest, as it should minimize the observed correlation between each of the fiscal rules and fiscal outcomes, to one between those fiscal outcomes and voter preference.¹⁶ Therefore, I have included three additional control variables that should act reasonably well as a proxy for voter preference. The first is the political affiliation of the state's governor, with a "1" representing whether he is a Democrat and "0" otherwise. I also include a dummy variable for Southern Democrats specifically, as they generally had more conservative policy preferences relative to Northern Democrats.

Finally, I include the average DW-NOMINATE score for each state's House delegation to the U.S. Congress.¹⁷ This score was first developed by Poole and Rosenthal [1985], and now is a measure which runs from the 1st through the 111th US Congress. This measure specifically provides a score for the ideological disposition of each member of congress based on that individual's overall roll call voting record from between "-1" and "1."

As another step to mitigate any potential endogeneity that might still exist after the inclusion of these two control variables, I also incorporate instrumental variables and consider two-stage least square regressions. Here I follow Knight and Levinson [2000] and include variables for the legislative majority required to pass a constitutional amendment and also whether or not two consecutive legislatures are required to pass an amendment before it can be adopted.

Both of these variables should be correlated with each of the fiscal rules, especially since only constitutionally enacted fiscal rules are included in the analysis, while being uncorrelated with the underlying tax preferences within a state. Additionally, the larger the majority and/or the need for two legislative sessions to pass a given amendment should reduce the likelihood that a given fiscal constraint is imposed. The legislative majority is simply the majority required to pass an amendment as written in each state's respective constitution.

RESULTS AND INTERPRETATION

Results

The results suggest a number of interesting outcomes. Tables 3 and 4 list the findings obtained from the baseline models, with Table 3 using per capita revenue and Table 4 using per capita expenditures as the dependent variable, respectively.

Here columns 1 through 8 present the OLS regressions, while columns 9 through 14 include the 2SLS results. Columns 1 through 4 and 9 through 11 list the main independent variables of interest without the inclusion of any controls, while columns 5 through 8 and 12 through 14 include all controls discussed above. Further, columns 1 through 3, 5 through 7, and all of the 2SLS regressions show the results when each of the main independent variables of interest is regressed separately, while columns 4 and 8 describe the results when each of those variables are regressed together.¹⁸ Further, given the presence of autocorrelation and heteroscedasticity within panels, Newey–West standard errors were calculated and included to account for both problems.

Table 3 suggests that under every specification BBRs increase revenues with 4 of 6 results statistically significant (the only two not being so when all controls are included in



Table 3 Regression results: dependent variable = per capita revenue

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue
	OLS	OLS	OLS	OLS	OLS	OLS	OLS
BBR (1 = Yes)	1.157*** (0.189)			0.634*** (0.230)	0.437* (0.252)		
PTL (1 = Yes)		-0.0516 (0.418)		-1.038** (0.446)		-1.112** (0.435)	
LIV (1 = Yes)			0.911*** (0.195)	1.010*** (0.225)			-0.0575 (0.216)
Governor (1 = Democrat)					-0.0177 (0.141)	-0.0203 (0.139)	-0.0201 (0.141)
House DW-NOMINATE					0.0970 (0.186)	0.0730 (0.185)	0.0743 (0.191)
Home rule state (1 = Yes)					0.777** (0.391)	1.206*** (0.457)	0.810** (0.391)
% white					0.0834** (0.0351)	0.0785** (0.0347)	0.0803** (0.0348)
Slave state (1 = Yes)					0.0701 (0.276)	-0.109 (0.252)	-0.0135 (0.262)
Southern democrat governor (1 = Yes)					0.159 (0.305)	0.327 (0.318)	0.158 (0.305)
Civil war (1 = Yes)					0.926** (0.448)	0.927** (0.446)	0.922** (0.453)
Southern reconstruction (1 = Yes)					-0.704** (0.359)	-0.943** (0.393)	-0.741** (0.367)
Population density					0.000409 (0.00321)	0.000576 (0.00320)	0.000158 (0.00318)
Population growth					-0.000203 (0.00250)	-9.15e-05 (0.00249)	-0.000131 (0.00250)
% urban population					0.0692*** (0.0128)	0.0681*** (0.0128)	0.0710*** (0.0129)
Land area (in 1000s)					0.0763*** (0.0273)	0.0891*** (0.0261)	0.0826*** (0.0263)

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Revenue OLS	Revenue IV	Revenue IV	Revenue IV	Revenue IV	Revenue IV	Revenue IV
Per capita debt					0.0655*** (0.0151)	0.0651*** (0.0150)	0.0656*** (0.0157)
Public debt limit index					-0.360** (0.150)	-0.274* (0.142)	-0.314** (0.144)
Observations	2050	2050	2050	2050	2014	2014	2014
R ²	0.010	0.000	0.020	0.028	0.227	0.232	0.226
Craig-Donald F-statistic					Y	Y	Y
State fixed effects	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y
BBR (1 = Yes)	0.396 (0.266)	2.681** (1.156)			1.377 (1.124)		
PTL (1 = Yes)	-1.167*** (0.446)		-0.484 (1.450)			-2.658** (1.247)	
LIV (1 = Yes)	0.105 (0.227)			1.526* (0.851)			-3.195 (2.341)
Governor (1 = Democrat)	-0.0168 (0.138)				-0.0156 (0.142)	-0.0226 (0.137)	-0.102 (0.161)
House DW-NOMINATE	0.0985 (0.188)				0.134 (0.190)	0.0632 (0.188)	-0.237 (0.323)
Home rule state (1 = Yes)	1.185*** (0.455)				0.735* (0.397)	1.775*** (0.660)	1.509** (0.699)
% white	0.0809** (0.0346)				0.0912** (0.0368)	0.0768** (0.0351)	0.105** (0.0509)
Slave state (1 = Yes)	-0.0260 (0.268)				0.221 (0.307)	-0.259 (0.278)	-0.740 (0.618)
Southern democrat governor (1 = Yes)	0.328 (0.322)				0.178 (0.313)	0.573 (0.376)	0.618 (0.494)
Civil war (1 = Yes)	0.935** (0.451)				0.921** (0.448)	0.927** (0.446)	0.623 (0.568)
Southern reconstruction (1 = Yes)	-0.915** (0.390)				-0.634* (0.375)	-1.231** (0.486)	-0.998* (0.552)



Table 3 continued

	(8)	(9)	(10)	(11)	(12)	(13)	(14)
	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue	Revenue
	OLS	IV	IV	IV	IV	IV	IV
Population density	0.000792 (0.00321)				0.00103 (0.00325)	0.00121 (0.00322)	0.00217 (0.00407)
Population growth	-0.000159 (0.00249)				-0.000349 (0.00250)	-3.06e-05 (0.00249)	0.000129 (0.00252)
% urban population	0.0659*** (0.0133)				0.0663*** (0.0131)	0.0648*** (0.0130)	0.0961*** (0.0230)
Land area (in 1000s)	0.0835*** (0.0271)				0.0633** (0.0297)	0.0985*** (0.0277)	0.0979*** (0.0351)
Per capita debt	0.0656*** (0.0156)				0.0640*** (0.0152)	0.0634*** (0.0150)	0.0282 (0.0334)
Public debt limit index	-0.313** (0.149)				-0.455*** (0.176)	-0.216 (0.158)	-0.269 (0.177)
Observations	2014	2050	2050	2050	2014	2014	2014
R ²	0.233						
Craig-Donald F-statistic					112.612	103.699	11.549
State fixed effects	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y

Newey-West Standard Errors in Parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 4 Regression results: dependent variable = per capita expenditure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS
BBR (1 = Yes)	1.037*** (0.208)			0.529*** (0.231)	0.276 (0.264)		
PTL (1 = Yes)		-0.161 (0.439)		-1.216*** (0.462)		-0.628 (0.425)	
LIV (1 = Yes)			0.991*** (0.199)	1.118*** (0.221)			0.345 (0.238)
Governor (1 = Democrat)					0.0627 (0.149)	0.0649 (0.148)	0.0664 (0.150)
House DW-NOMINATE					0.380 (0.286)	0.364 (0.288)	0.402 (0.294)
Home rule state (1 = Yes)					0.545 (0.452)	0.808* (0.486)	0.478 (0.462)
% white					0.0905** (0.0363)	0.0865** (0.0360)	0.0853** (0.0354)
Slave state (1 = Yes)					-0.250 (0.304)	-0.342 (0.289)	-0.210 (0.285)
Southern democrat governor (1 = Yes)					0.145 (0.320)	0.232 (0.327)	0.0945 (0.317)
Civil war (1 = Yes)					2.327*** (0.974)	2.332*** (0.974)	2.355*** (0.977)
Southern reconstruction (1 = Yes)					-0.721** (0.356)	-0.855** (0.375)	-0.710** (0.361)
Population density					-0.00299 (0.00554)	-0.00289 (0.00555)	-0.00325 (0.00548)
Population growth					0.00126 (0.00277)	0.00133 (0.00275)	0.00129 (0.00276)
% urban population					0.0848*** (0.0158)	0.0842*** (0.0158)	0.0831*** (0.0153)
Land area (in 1000s)					0.0774*** (0.0285)	0.0849*** (0.0277)	0.0801*** (0.0274)

Table 4 continued

	(1) Expenditure OLS	(2) Expenditure OLS	(3) Expenditure OLS	(4) Expenditure OLS	(5) Expenditure OLS	(6) Expenditure OLS	(7) Expenditure OLS
Per capita debt					0.0688*** (0.0161)	0.0686*** (0.0160)	0.0737*** (0.0168)
Public debt limit index					-0.5488*** (0.169)	-0.488*** (0.166)	-0.520*** (0.163)
Observations	2069	2069	2069	2069	2039	2039	2039
R ²	0.006	0.000	0.017	0.023	0.239	0.239	0.240
Craig-Donald F-statistic					Y	Y	Y
State fixed effects	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y
	(8) Expenditure OLS	(9) Expenditure IV	(10) Expenditure IV	(11) Expenditure IV	(12) Expenditure IV	(13) Expenditure IV	(14) Expenditure IV
BBR (1 = Yes)	0.175 (0.275)	2.017** (0.982)			0.897 (1.005)		
PTL (1 = Yes)	-0.896** (0.435)		-0.0792 (1.818)			-1.759 (1.376)	
LIV (1 = Yes)	0.460* (0.247)			1.795** (0.808)			-1.786 (2.679)
Governor (1 = Democrat)	0.0764 (0.148)				0.0680 (0.149)	0.0730 (0.147)	0.0289 (0.159)
House DW-NOMINATE	0.409 (0.292)				0.400 (0.290)	0.352 (0.290)	0.207 (0.418)
Home rule state (1 = Yes)	0.777 (0.482)				0.494 (0.460)	1.242* (0.692)	1.031 (0.828)
% white	0.0831** (0.0353)				0.0956** (0.0377)	0.0832** (0.0363)	0.104** (0.0481)
Slave state (1 = Yes)	-0.227 (0.293)				-0.156 (0.325)	-0.432 (0.306)	-0.718 (0.681)

Southern democrat governor (1 = Yes)	0.225 (0.331)	2069	0.166 (0.327)	0.406 (0.379)	0.348 (0.440)
Civil war (1 = Yes)	2.363** (0.976)		2.319** (0.972)	2.335** (0.975)	2.205** (1.066)
Southern reconstruction (1 = Yes)	-0.852** (0.371)		-0.679* (0.362)	-1.062** (0.452)	-0.895* (0.483)
Population density	-0.00270 (0.00556)		-0.00252 (0.00548)	-0.00234 (0.00553)	-0.00292 (0.00582)
Population growth	0.00128 (0.00276)		0.00115 (0.00275)	0.00137 (0.00275)	0.00139 (0.00275)
% urban population	0.0796*** (0.0157)		0.0828*** (0.0154)	0.0817*** (0.0157)	0.0991*** (0.0244)
Land area (in 1000s)	0.0821*** (0.0284)		0.0684** (0.0313)	0.0912*** (0.0288)	0.0883*** (0.0328)
Per capita debt	0.0741*** (0.0168)		0.0677*** (0.0162)	0.0676*** (0.0160)	0.0461 (0.0389)
Public debt limit index	-0.502*** (0.171)		-0.620*** (0.205)	-0.438** (0.178)	-0.495*** (0.182)
Observations	2039	2069	2039	2039	2039
R^2	0.242				
Craig-Donald F-statistic		203.614			
State fixed effects	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y
		58.873	135.088	92.295	6.635
		Y	Y	Y	Y
		Y	Y	Y	Y
		60.429			
		Y			
		Y			

Newey-West standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

the OLS and 2SLS results). Interpretation of the coefficient suggests that BBRs increase state revenues between \$0.40 per capita and \$2.68 per capita. Next, the results for PTLs indicate that the presence of this constraint decreases revenues across each specification again with 4 of the 6 results being statistically significant, the only ones not being significant when there are no controls included (columns 2 and 10). Finally, the presence of a LIV appears to net relatively mixed results, with four coefficients positive (3 of which are significant) and two negative.

Next Table 4 provides the findings for per capita expenditures, with the layout the same as that for Table 3. Here it seems the impact that BBRs have on expenditures is slightly less robust, with all results positive and three statistically significant, though the 2SLS results with all controls included (column 12) is insignificant. Next, the findings for PTLs are again consistently negative with 2 of 6 results statistically significant. Finally, LIVs appear to increase expenditures in general; however the 2SLS results with all controls included (column 14) indicate that the veto actually decreases state expenditures, which would be generally consistent with the literature. Importantly, in both Tables 3 and 4 it would appear that the sign coefficients for the 2SLS results are generally consistent with the OLS results. Further, as is generally the case, the standard errors are significantly larger under those 2SLS specifications, which may be giving rise to the statistical insignificance.

Overall, there are several important implications that come out of these findings. First, PTLs appear to have the most profound effect, lowering both revenues and expenditures. Given that the property tax was the most important revenue source for state governments through much of this period [Wallis 2001], this finding would suggest that those limits may have served their intended purpose. Further, BBRs appear to generally increase both revenues and expenditures, with revenue increases outpacing expenditures. The LIV seems the most ambiguous with inconsistent sign coefficients, though the 2SLS results when controls are included indicate that the veto significantly decreases both revenues and expenditures. Finally, to the extent that the OLS regressions provide any information, it would seem that the inclusion of control variables, and especially the inclusion of a PTL significantly dampens the impact of both BBRs and LIVs.

Robustness Checks

In this subsection, I reconsider how both BBRs and PTLs are specified in order to see how robust the initial findings are. As noted, many of these early BBRs and PTLs had similar language and requirements across states. However, just as exists with current BBRs and TELs, there were a number of important distinctions and qualifications that did arise between them. Thus by accounting for these differences it may be possible to better pinpoint how a BBR and PTL affected state finances.

First, I follow Hou and Smith [2006] who provide a broad framework for evaluating the strength of state BBRs, detailing nine specific features. Although the majority of these did not develop until well into the twentieth century, four of these characteristics were present in early state BBRs. These include provisions that, (1) own-source revenue should equal expenditures, (2) own-source revenue should equal expenditures with any deficiencies made up by issuing debt, (3) prohibitions on deficits being carried over to the next fiscal year, and (4) strict limits on the amount of debt that may accumulate to meet those deficits.

Given this, the first robustness check includes a dummy variable for each of the categories (1), (2), (3), and (4) listed above as separate measures of a state's BBR in place.¹⁹ Tables 5 and 6 show the results when each of these categories are included, with Table 5 listing the uncontrolled results and Table 6 including all the control variables.²⁰ Additionally, I include an index variable for state PTLs as well. The most distinctive

Table 5 Robustness checks: BBR categories dependent variable = per capita revenue and expenditures

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue IV	Revenue IV	Revenue IV	Revenue IV
BBR category 1	0.731*** (0.270)				0.218 (0.209)			7.931 (8.094)			
BBR category 2		1.346*** (0.227)				0.730*** (0.262)			2.822*** (1.230)		
BBR category 3			1.312*** (0.195)				0.668*** (0.243)			2.681*** (1.156)	
PTL index				-0.0365 (0.219)	-0.524*** (0.253)	-0.504*** (0.250)	-0.491*** (0.251)				-0.298 (0.718)
LIV (1 = Yes)					1.101*** (0.204)	0.999*** (0.217)	0.975*** (0.225)				
Observations	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050	2050
R ²	0.001	0.009	0.011	0.000	0.025	0.027	0.027	12.786	196.212	179.274	107.274
Craig-Donald											
F-statistic											
State fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure IV	Expenditure IV	Expenditure IV	Expenditure IV
BBR category 1	0.621*** (0.257)				0.0737 (0.214)			6.578 (6.952)			
BBR category 2		1.207*** (0.265)				0.640*** (0.252)			2.015*** (1.010)		
BBR category 3			1.168*** (0.224)				0.549*** (0.231)			2.017*** (0.982)	
PTL index				0.0622 (0.281)	-0.432 (0.318)	-0.419 (0.314)	-0.408 (0.314)				-0.140 (0.895)
LIV (1 = Yes)					1.142*** (0.199)	1.053*** (0.206)	1.037*** (0.214)				



Table 5 continued

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure	Expenditure
	OLS	OLS	OLS	OLS	OLS	OLS	OLS	IV	IV	IV	IV
Observations	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069
R ²	0.001	0.006	0.007	0.000	0.019	0.021	0.021				
Craig-Donald								14.019	282.401	239.867	62.241
F-statistic											
State fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Newey-West standard errors in parentheses.

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.

Table 6 Robustness checks: BBR categories dependent variable = per capita revenue and expenditures

	(1) Revenue OLS	(2) Revenue OLS	(3) Revenue OLS	(4) Revenue OLS	(5) Revenue OLS	(6) Revenue OLS	(7) Revenue OLS	(8) Revenue IV	(9) Revenue IV	(10) Revenue IV	(11) Revenue IV
BBR category 1	0.568 (0.397)				0.391 (0.386)			-7.449 (9.306)			
BBR category 2		0.350 (0.287)				0.301 (0.304)			1.727 (1.197)	1.340 (1.151)	
BBR category 3			0.460* (0.269)				0.384 (0.289)				
PTL index				-0.515** (0.220)	-0.525** (0.227)	-0.530** (0.227)	-0.513** (0.228)				-1.297** (0.587)
LIV (1 = Yes)					0.0951 (0.215)	0.0727 (0.226)	0.0490 (0.230)				
Governor (1 = Democrat)	-0.0160 (0.141)	-0.0195 (0.141)	-0.0190 (0.141)	-0.0118 (0.139)	-0.00736 (0.139)	-0.0104 (0.139)	-0.0109 (0.138)	-0.0535 (0.145)	-0.0229 (0.143)	-0.0198 (0.142)	-0.00140 (0.138)
House DW-NOMINATE	0.107 (0.190)	0.0771 (0.187)	0.0910 (0.185)	0.0710 (0.185)	0.0987 (0.192)	0.0754 (0.190)	0.0850 (0.188)	-0.272 (0.457)	0.0657 (0.187)	0.112 (0.187)	0.0573 (0.188)
Home rule state (1 = Yes)	0.802** (0.392)	0.778** (0.392)	0.779** (0.391)	1.090** (0.426)	1.078** (0.424)	1.066** (0.425)	1.063** (0.424)	0.727* (0.404)	0.704* (0.404)	0.745* (0.397)	1.534*** (0.539)
% white	0.0858** (0.0367)	0.0790** (0.0349)	0.0807** (0.0348)	0.0790** (0.0347)	0.0823** (0.0362)	0.0777** (0.0344)	0.0793** (0.0343)	0.00171 (0.103)	0.0759** (0.0363)	0.0824** (0.0355)	0.0778** (0.0350)
Slave state (1 = Yes)	0.0860 (0.294)	0.00289 (0.258)	0.0331 (0.263)	-0.102 (0.252)	-0.0228 (0.289)	-0.0855 (0.253)	-0.0626 (0.257)	-1.131 (1.325)	0.0151 (0.257)	0.0968 (0.266)	-0.257 (0.273)
Southern democrat governor (1 = Yes)	0.145 (0.304)	0.160 (0.303)	0.164 (0.305)	0.306 (0.318)	0.292 (0.320)	0.308 (0.320)	0.310 (0.322)	0.209 (0.387)	0.199 (0.307)	0.192 (0.313)	0.543 (0.367)
Civil war (1 = Yes)	0.918** (0.448)	0.932** (0.448)	0.930** (0.448)	0.927** (0.447)	0.930** (0.451)	0.938** (0.451)	0.934** (0.451)	1.051** (0.462)	0.948** (0.449)	0.934** (0.448)	0.927** (0.447)
Southern reconstruction (1 = Yes)	-0.654* (0.362)	-0.761** (0.369)	-0.719** (0.359)	-0.929** (0.392)	-0.868** (0.396)	-0.949** (0.396)	-0.910** (0.388)	-1.815 (1.729)	-0.858** (0.386)	-0.686* (0.368)	-1.221** (0.480)
Population density	0.000344 (0.00321)	0.000213 (0.00320)	0.000430 (0.00321)	0.000656 (0.00321)	0.000759 (0.00322)	0.000705 (0.00321)	0.000881 (0.00322)	-0.00281 (0.00446)	0.000578 (0.00322)	0.00102 (0.00326)	0.00147 (0.00324)
Population growth	-0.000172 (0.00249)	-0.000167 (0.00250)	-0.000187 (0.00250)	-0.000118 (0.00249)	-0.000151 (0.00249)	-0.000150 (0.00249)	-0.000165 (0.00249)	0.000351 (0.00258)	-0.000291 (0.00250)	-0.000285 (0.00250)	-9.06e-05 (0.00249)
% urban population	0.0700** (0.0127)	0.0699*** (0.0127)	0.0691*** (0.0128)	0.0686*** (0.0128)	0.0673*** (0.0132)	0.0673*** (0.0132)	0.0670*** (0.0132)	0.0788*** (0.0160)	0.0671*** (0.0130)	0.0663*** (0.0132)	0.0655*** (0.0130)



Table 6 continued

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)
	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue IV	Revenue IV	Revenue IV	Revenue IV
Land area (in 1000s)	0.0792*** (0.0269)	0.0795*** (0.0268)	0.0770*** (0.0272)	0.0882*** (0.0261)	0.0856*** (0.0265)	0.0855*** (0.0266)	0.0834*** (0.0270)	0.124** (0.0505)	0.0682** (0.0274)	0.0667** (0.0288)	0.0970*** (0.0274)
Per capita debt	0.0654*** (0.0153)	0.0662*** (0.0150)	0.0658*** (0.0151)	0.0648*** (0.0150)	0.0653*** (0.0156)	0.0656*** (0.0155)	0.0651*** (0.0155)	0.0772*** (0.0196)	0.0659*** (0.0149)	0.0650*** (0.0150)	0.0627*** (0.0150)
Public debt limit index	-0.326** (0.145)	-0.344** (0.148)	-0.362** (0.150)	-0.285** (0.143)	-0.294** (0.144)	-0.310** (0.147)	-0.325** (0.150)	-0.170 (0.203)	-0.456*** (0.167)	-0.451** (0.178)	-0.240 (0.154)
Observations	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014
R ²	0.227	0.227	0.227	0.231	0.231	0.231	0.232	9.106	143.257	121.234	120.788
Craig-Donald F-statistic	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

	(12)	(13)	(14)	(15)	(16)	(17)	(18)	(19)	(20)	(21)	(22)
	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure OLS	Expenditure IV	Expenditure IV	Expenditure IV	Expenditure IV
BBR category 1	0.392 (0.433)				0.271 (0.441)					-3.528 (5.824)	
BBR category 2		0.213 (0.311)				0.103 (0.317)					0.998 (0.992)
BBR category 3			0.305 (0.288)				0.166 (0.303)			0.898 (1.020)	
PTL index				-0.157 (0.263)							
LIV (1 = Yes)					-0.260 (0.275)						
Governor (1 = Democrat)	0.0626 (0.149)	0.0609 (0.149)	0.0619 (0.149)	0.0631 (0.148)	0.0738 (0.149)	0.0725 (0.148)	0.0727 (0.148)	0.0396 (0.150)	0.0630 (0.149)	0.0648 (0.149)	0.0751 (0.148)
House DW-	0.388	0.368	0.376	0.365	0.412	0.399	0.402	0.211	0.359	0.389	0.344
NOMINATE	(0.291)	(0.288)	(0.286)	(0.288)	(0.297)	(0.295)	(0.293)	(0.406)	(0.286)	(0.288)	(0.290)

Home rule state (1 = Yes)	0.568 (0.453)	0.550 (0.454)	0.545 (0.452)	0.666 (0.485)	0.623 (0.482)	0.620 (0.484)	0.615 (0.484)	0.563 (0.457)	0.484 (0.460)	0.503 (0.458)	1.103* (0.589)
% white	0.0925** (0.0380)	0.0878** (0.0362)	0.0889** (0.0361)	0.0876** (0.0360)	0.0863** (0.0371)	0.0832** (0.0353)	0.0839** (0.0352)	0.0510 (0.0718)	0.0859** (0.0368)	0.0900** (0.0366)	0.0844** (0.0362)
Slave state (1 = Yes)	-0.230 (0.320)	-0.293 (0.290)	-0.230 (0.294)	-0.316 (0.291)	-0.191 (0.316)	-0.236 (0.283)	-0.226 (0.286)	-0.849 (0.878)	-0.298 (0.289)	-0.235 (0.296)	-0.424 (0.303)
Southern democrat governor	0.128 (0.318)	0.147 (0.319)	0.151 (0.321)	0.184 (0.332)	0.160 (0.334)	0.174 (0.335)	0.176 (0.335)	0.206 (0.336)	0.189 (0.322)	0.180 (0.329)	0.396 (0.372)
Civil war (1 = Yes)	2.325** (0.974)	2.330** (0.974)	2.329** (0.974)	2.331** (0.974)	2.358** (0.975)	2.361** (0.976)	2.359** (0.977)	2.376** (0.962)	2.331** (0.974)	2.325** (0.973)	2.335** (0.976)
Southern reconstruction (1 = Yes)	-0.684* (0.357)	-0.756** (0.366)	-0.730** (0.356)	-0.799** (0.377)	-0.763** (0.381)	-0.812** (0.378)	-0.797** (0.373)	-1.240 (1.044)	-0.814** (0.378)	-0.710** (0.358)	-1.058** (0.448)
Population density (1 = Yes)	-0.00303 (0.00553)	-0.00313 (0.00552)	-0.00296 (0.00555)	-0.00302 (0.00555)	-0.00285 (0.00554)	-0.00293 (0.00553)	-0.00284 (0.00557)	-0.00474 (0.00575)	-0.00288 (0.00549)	-0.00249 (0.00548)	-0.00224 (0.00555)
Population growth	0.00127 (0.00276)	0.00128 (0.00276)	0.00127 (0.00276)	0.00131 (0.00276)	0.00276 (0.00127)	0.00128 (0.00276)	0.00127 (0.00276)	0.00156 (0.00277)	0.00121 (0.00276)	0.00119 (0.00276)	0.00134 (0.00275)
% urban population	0.0852*** (0.0157)	0.0852*** (0.0157)	0.0847*** (0.0158)	0.0851*** (0.0158)	0.0812*** (0.0156)	0.0813*** (0.0157)	0.0811*** (0.0157)	0.0896*** (0.0161)	0.0836*** (0.0155)	0.0828*** (0.0154)	0.0824*** (0.0158)
Land area (in 1000s)	0.0791*** (0.0282)	0.0796*** (0.0280)	0.0777*** (0.0283)	0.0831*** (0.0278)	0.0810*** (0.0282)	0.0819*** (0.0280)	0.0807*** (0.0284)	0.103** (0.0425)	0.0730** (0.0287)	0.0705** (0.0303)	0.0907*** (0.0286)
Per capita debt	0.0686*** (0.0162)	0.0692*** (0.0160)	0.0690*** (0.0160)	0.0690*** (0.0161)	0.0738*** (0.0168)	0.0742*** (0.0167)	0.0739*** (0.0168)	0.0750*** (0.0176)	0.0692*** (0.0159)	0.0685*** (0.0161)	0.0679*** (0.0161)
Public debt limit index	-0.524*** (0.165)	-0.536*** (0.167)	-0.551*** (0.170)	-0.504*** (0.166)	-0.507*** (0.168)	-0.510*** (0.169)	-0.520*** (0.172)	-0.441** (0.215)	-0.610*** (0.189)	-0.619*** (0.205)	-0.452** (0.203)
Observations	2039	2039	2039	2039	2039	2039	2039	2039	2039	2039	2039
R ²	0.239	0.238	0.239	0.239	0.241	0.241	0.241	14.530	193.145	150.370	96.351
Craig-Donald F-statistic	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
State fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y	Y

Newey-West standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$

characteristic of PTLs through this period was their restrictiveness. Specifically, all states placed a limit on the rate that could be levied, with a difference being that some states set a binding limit, while others allowed that limit to be increased by some procedural means (either legislative or popular vote). Therefore, to create this index I recode the PTL variable as a “0” if there was no constraint, a “1” if it was nonbinding, and a “2” if it was a binding limit.

Here columns 1 through 11 show the results for per capita revenue, while columns 13 through 22 of each table present the results for expenditures as the dependent variable, respectively. As can be seen, the presence of each BBR category increases both revenues and expenditures across every specification in Table 5 and all but 2 specifications in Table 6, with 14 of 18 of the results statistically significant in Table 5, but only one result for Category (3) significant in Table 6. Notably, the increase in per capita revenue that results from the existence of each of these BBRs is generally larger than the expenditures.

Further, the sign coefficients for the PTL index are negative for 17 of 18 specifications. Further, between Table 5 and 6 the PTL index is significant in 3 of 5 and 5 of 5 specifications for per capita revenues, respectively, though insignificant for expenditures. Thus, more stringent PTLs appear to significantly reduce revenues, while having a relatively less robust effect on expenditures. Finally, LIVs consistently increase both revenues and expenditures with all results in Table 5 significant though only 2 results are significant in Table 6 with the inclusion of all control variables. Again, to the extent that the OLS results provide any information, it would appear that the existence of a PTL greatly dampens the effect of all the other fiscal constraints that may be present when they are regressed together.

The above findings appear to indicate that each BBR category, at least once controls were included, did not have a particularly robust effect on revenues and expenditures. Given this, as an additional specification I create an index score based on the categories listed above for the stringency of each state’s BBR. Here, I loosely follow scoring methods employed by the National Association of State Budget Officers [NASBO 1992] and the United States Advisory Commission on Intergovernmental Relations [ACIR 1985], each of which has scored the stringency of more recent state BBRs.

To do so, I score the existence of Category (3) as a 4, since it is the most stringent BBR requirement, while Categories (1) and (2) receive a score of 2 and 1, respectively. Thus, possible overall index scores are 0, 1, 2, 4, 5, and 6 depending on which categories are present. Table 7 shows the results when this index score is employed.

Columns 1 through 6 show the results for per capita revenues, while columns 7 through 12 provide the results for per capita expenditures, respectively. The results suggest that as the stringency of a state’s BBR increases, both revenues and expenditures increase as well. Further, the 2SLS results indicate that all coefficients are positive, but are statistically insignificant in the final specifications with controls included. As before, the PTL index is negative across all specifications and statistically significant with per capita revenues, while the LIV is positive though insignificant once controls are included. Further, the inclusion of a PTL again greatly diminished the effect of both BBRs and LIVs in the OLS analysis.²¹

Discussion

These results suggest some interesting implications about each of these fiscal constraints, their development, and persistence. First, as mentioned most of these constitutional constraints came as a direct result of perceived legislative mismanagement resulting in

Table 7 Robustness checks: BBR index dependent variable = per capita revenue and expenditures

	(1)	(2)	(3)	(4)	(5)	(6)
	Revenue OLS	Revenue OLS	Revenue OLS	Revenue OLS	Revenue IV	Revenue IV
BBR index score	0.301*** (0.0455)	0.151*** (0.0555)	0.115* (0.0639)	0.0942 (0.0678)	0.657** (0.283)	0.314 (0.280)
PTL index		-0.492** (0.251)		-0.509** (0.228)		
LIV (1 = Yes)		0.980*** (0.224)		0.0494 (0.228)		
Governor (1 = Democrat)			-0.0181 (0.141)	-0.0102 (0.138)		-0.0173 (0.142)
House DW-NOMINATE			0.0982 (0.185)	0.0909 (0.187)		0.130 (0.190)
Home rule state (1 = Yes)			0.779** (0.391)	1.061** (0.424)		0.749* (0.395)
% white			0.0826** (0.0349)	0.0809** (0.0345)		0.0875** (0.0361)
Slave state (1 = Yes)			0.0609 (0.271)	-0.0395 (0.264)		0.166 (0.288)
Southern democrat governor (1 = Yes)			0.162 (0.306)	0.307 (0.322)		0.183 (0.315)
Civil war (1 = Yes)			0.927** (0.448)	0.931** (0.451)		0.925** (0.448)
Southern reconstruction (1 = Yes)			-0.698* (0.358)	-0.891** (0.388)		-0.652* (0.379)
Population density			0.000475 (0.00322)	0.000907 (0.00323)		0.00108 (0.00328)
Population growth			-0.000200 (0.00250)	-0.000174 (0.00249)		-0.000310 (0.00250)
% urban population			0.0690*** (0.0128)	0.0669*** (0.0132)		0.0663*** (0.0132)
Land Area (in 1000s)			0.0761*** (0.0273)	0.0827*** (0.0272)		0.0653** (0.0296)

Table 7 continued

	(1) Revenue OLS	(2) Revenue OLS	(3) Revenue OLS	(4) Revenue OLS	(5) Revenue IV	(6) Revenue IV
Per capita debt			0.0656*** (0.0151)	0.0649*** (0.0156)		0.0644*** (0.0152)
Public debt limit index			-0.364** (0.151)	-0.327** (0.150)		-0.449** (0.180)
Observations	2050	2050	2014	2014	2050	2014
R ²	0.010	0.027	0.227	0.232		
Craig-Donald F-statistic					159.798	111.830
State fixed effects	Y	Y	Y	Y	Y	Y
Year fixed effects	Y	Y	Y	Y	Y	Y
	(7) Expenditure OLS	(8) Expenditure OLS	(9) Expenditure OLS	(10) Expenditure OLS	(11) Expenditure IV	(12) Expenditure IV
BBR index score	0.268*** (0.0512)	0.123** (0.0531)	0.0755 (0.0676)	0.0430 (0.0710)	0.501** (0.243)	0.215 (0.253)
PTL index		-0.408 (0.314)		-0.257 (0.275)		
LIV (1 = Yes)		1.042*** (0.213)		0.399 (0.246)		
Governor (1 = Democrat)			0.0625 (0.149)	0.0731 (0.148)		0.0666 (0.149)
House DW-NOMINATE			0.381 (0.286)	0.405 (0.292)		0.400 (0.291)
Home rule state (1 = Yes)			0.545 (0.451)	0.613 (0.484)		0.503 (0.459)
% white			0.0902*** (0.0362)	0.0847*** (0.0353)		0.0936*** (0.0372)
Slave state (1 = Yes)			-0.254 (0.300)	-0.215 (0.293)		-0.184 (0.313)



Southern democrat governor (1 = Yes)	0.148 (0.321)	0.174 (0.335)	0.171 (0.329)
Civil war (1 = Yes)	2.327** (0.974)	2.358** (0.977)	2.321** (0.972)
Southern reconstruction (1 = Yes)	-0.717** (0.354)	-0.788** (0.372)	-0.673* (0.364)
Population density	-0.00293 (0.00556)	-0.00282 (0.00557)	-0.00243 (0.00548)
Population growth	0.00126 (0.00277)	0.00127 (0.00276)	0.00117 (0.00276)
% urban population	0.0846*** (0.0158)	0.0811*** (0.0157)	0.0827*** (0.0154)
Land Area (in 1000s)	0.0771*** (0.0285)	0.0802*** (0.0286)	0.0691** (0.0313)
Per capita debt	0.0688*** (0.0161)	0.0737*** (0.0168)	0.0680*** (0.0162)
Public debt limit index	-0.552*** (0.170)	-0.522*** (0.173)	-0.620*** (0.209)
Observations	2069	2039	2039
R ²	0.020	0.241	0.269
Craig-Donald F-statistic	Y	Y	Y
State fixed effects	Y	Y	Y
Year fixed effects	Y	Y	Y
	2069	210.416	133.715
	0.006	Y	Y
	Y	Y	Y
	Y	Y	Y

Newey-West standard errors in parentheses

*** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$



onerous tax and debt burdens. This was especially true through Southern states during Reconstruction when numerous constitutional conventions were called. Although large portions of the debate revolved around the franchise and other important social changes that had occurred as a result of the late war, just as much debate was given to issues of fiscal imprudence and how to avoid that in the future.

From this, states began passing fiscal constitutions meant to limit the size and scope of state governments. The empirical results obtained have shown PTLs most consistently lowered both state revenues and expenditures and, at least as found in the OLS results, significantly dampened the impact that both BBRs and LIVs had on state revenues and expenditures. Further, although less robust, state BBRs generally increased both revenues and expenditures, with revenues generally outpacing than expenditures.

Although this latter finding is somewhat counterintuitive, it does conform with the language found in most of these early BBR provisions, which required all expenditures to meet revenues, and that the state impose a tax sufficient to cover any deficiency in a given year. Given this, there is nothing to suggest that such a constraint would reduce government activity or growth per se. This may also help explain how and why it is that states developed much stricter BBRs through the twentieth century as well, culminating in the many variations that exist today. A better understanding of the nuances of these amendments through specific case studies or larger general overviews, although beyond the scope of this current paper, would be worthy of future research. Specifically, such a study might be able to better explain why it is that the BBRs that exist today are relatively stronger or weaker across the states.

Finally, the results from LIVs suggest that both per capita revenues and expenditures are higher when a LIV is present, though the 2SLS results indicate that the veto actually lowers both revenues and expenditures, which more closely conforms to current literature. It would also appear that with a LIV expenditures outpace revenue. Although beyond the scope of this current study, though worthy of future research, this may be indicative of partisan effects resulting from the individual in office. As some research has shown, the LIV may be employed for purely partisan reasons and to ensure that the governor ends up with a budget more closely aligned to his preferences [Dearden and Husted 1993]. These issues may provide important opportunities to look into the history of partisan politics throughout the states in order to observe to what extent this may have been a factor.

CONCLUSION

The effect that fiscal constraints have on public budgets has been an often studied issue. However, a few have taken a long-run historical view of these limitations in order to assess their impact, which is something this current study has attempted. This work has explored the historical and political context within which many PTLs, BBRs, and LIVs developed from and why and when they did. This should provide important insights and a better richness of the overall effect that these institutions have had and why they have developed into what they are today across those states.

Further, this study has also empirically investigated the impact that these three important fiscal institutions have had on state per capita revenues and expenditures. Though some of the results have been consistent with the literature, others have been somewhat surprising. Overall then, this may also help to provide information about how and why it is that these fiscal constraints transformed over time in the manner that they did. Further, contrary to what some have suggested, it would appear that these early fiscal constraints did have a significant effect on state finances through the nineteenth and early



twentieth century. These results would warrant greater study in the future and also provide opportunities to expand further into the twentieth century as well.

Acknowledgments

The author would like to thank two anonymous referees for extremely valuable comments on earlier versions of this paper. Any remaining errors or omissions are the sole responsibility of the author.

Notes

1. For important literature reviews see Besley and Case [2003], Kirchgassner [2002], and Poterba [1997].
2. See Wallis [2005] for an overview of state borrowing and constitutional change meant to modify state government behavior. Also see Grinath et al. [1997] for an explanation as to why some states defaulted and Wallis [2003] for a case study on antebellum state tax policy. See Dove [2012], Thies [2002], and English [1996] for analysis on how states regained access to capital markets after default and repudiation.
3. For an overview of the connection between the Panic of 1839 and state fiscal instability see: Kim and Wallis [2005] and Grinath et al. [1997].
4. The eight states were Michigan, Mississippi, Indiana, Illinois, Arkansas, Louisiana, Maryland, and Pennsylvania. The territory was Florida. The five states that later repudiated all or parts of their outstanding debts were Mississippi, Arkansas, Florida, Michigan, and Louisiana.
5. For additional studies and contemporary accounts of these developments see: McGrane [1935], Porter [1880], Ratchford [1941], and Scott [1893]. These accounts provide detailed analyses of each state and the paths of fiscal policy and reform taken through the nineteenth century. Also, Curtis [1844] provides a contemporary account of the debt crisis of the 1830s.
6. See Gillette [2003], Pinsky [1963], Hillhouse [1936], and Secrist [1914] for general histories of county and municipal economic policy. For an overview of the constitutional constraints placed on local governments and how they impacted local government's borrowing costs see Dove [2014].
7. For important historical accounts of this period and the impact that railroad investment had in state politics see: Summers [1984].
8. An additional possibility, which has not found much in the way of academic work, but might prove fruitful for future scholarship, is the possibility that these limits may have also been imposed to constrain potential wealth or income redistribution by newly enfranchised, former slaves.
9. For historical overviews of many of these conventions see [McMillan 1955]; Saye [1948]; Green [1930]; Foner [1988]; Summers [1984]; and Perman [1984].
10. Information and a searchable database is freely available at <http://www.stateconstitutions.umd.edu/index.aspx>.
11. Two important caveats which should be pointed out are that statutory constraints are not evaluated and neither is the potential for judicial review to influence the structure or evolution of these constraints. Briffault [1996] outlines the impact that both can have on state fiscal outcomes and provides a good overview of these developments regarding more recent constraints. Unfortunately, given data limitations it appears near impossible to systematically incorporate either judicial interpretation or statutory constraints into the current analysis. However, the impact of both would be worth of future research. Further, Primo [2007] provides a detailed analysis as to how many of the fiscal constraints that currently exist break down through the legislative process and fail to achieve their intended goals.
12. Data are freely available at <http://doi.org/10.3886/ICPSR09728.v1>. Several states had data included to 1920 for revenues and expenditures. Therefore, these data are also used and the analysis thus covers 1830–1920.
13. One additional issue arising from the empirical analysis is that accounting standards were not always consistent across states. Thus, revenues and expenditures may be over or underinflated. Unfortunately, it is not possible to fully control for these possible differences in standards that may arise. However, as one way to at least partially account for those differences state fixed effects are included. Though by no means a perfect solution, they should at least help to partially alleviate the problem.
14. For robustness, several additional measures of state BBRs and PTLs will be discussed and analyzed in later specifications.

15. Although a measure of state economic growth may also be beneficial, data limitations do not directly provide such a measure. However, urbanization and population growth rates should help to mitigate the omission of this variable (in that they do also indirectly measure economic growth), and thus help avoid omitted variable bias.
16. See Poterba and Reuben [1999] for a longer discussion of this issue.
17. Although this may be more representative of general “conservatism” in a given state, this variable should provide at least some insight into the fiscal preferences of the electorate, especially since congressmen were directly elected by the people through this period.
18. Unfortunately, due to the lack of a large number of viable instruments it was not possible to regress all of the main independent variables of interest together within the 2SLS specifications.
19. Through the sample categories, (2) and (4) were perfectly collinear with one another, as all states which allowed deficits to be covered by issuing debt also strictly limited the amount of debt that could accumulate. Thus, category (4) is dropped from the analysis.
20. Due to collinearity between each of these BBR measures, it was not possible to include them all in a single regression.
21. A number of additional specifications were also considered, but due to space constraints they are not reported in this version of the paper (though are available upon request). These include specifications that exclude former Confederate states and specifications that run separate subsamples from 1830 to 1875 and 1876 to 1920. In general, these results corroborate the initial findings previously discussed.

References

- Abney, Glenn, and Thomas Lauth. 1985. The Line-Item Veto in the States: An Instrument of Fiscal Control or an Instrument of Partisanship. *Public Administration Review*, 45(3): 372–377.
- Abrams, Burton A., and William R. Dougan. 1986. The Effects of Constitutional Restraints On Governmental Spending. *Public Choice*, 49(2): 101–116.
- Advisory Commission on Intergovernmental Relations. 1985. *Fiscal Discipline in the Federal System*. Washington, DC: ACIR.
- Alesina, Alberto and Tamim Bayoumi. 1996. The Costs and Benefits of Fiscal Rules: Evidence from US States. *National Bureau of Economic Research*. Paper No. w5614.
- Alm, James and Mark Evers. 1991. The Item Veto and State Government Expenditures. *Public Choice*, 68(1–3): 1–15.
- Amiel, Lindsay, Steven Deller, Judith Stallmann, and Craig Maher. 2014. Does the Restrictiveness of State Tax and Expenditure Limitations Affect State Revenues and Expenditures? *International Journal of Public Administration*, 37(4): 237–248.
- Bae, Suho and Thomas Gais. 2007. The Effects of State-Level Tax and Expenditure Limitations on Revenues and Expenditures. *Rockefeller Institute Policy Brief*.
- Bails, Dale. 1982. A Critique on the Effectiveness of Tax-Expenditure Limitations. *Public Choice*, 38(2): 129–138.
- Bails, Dale G. 1990. The Effectiveness of Tax-Expenditure Limitations: A Re-evaluation. *American Journal of Economics and Sociology*, 49(2): 223–238.
- Bails, Dale and Margie A. Tieslau. 2000. The Impact of Fiscal Constitutions on State and Local Expenditures. *Cato Journal*, 20(2): 255–277.
- Besley, Timothy and Anne Case. 2003. Political Institutions and Policy Choices: Evidence from the United States. *Journal of Economic Literature*, 41(1): 7–73.
- Bohn, Henning and Robert P. Inman. 1996. Balanced-Budget Rules and Public Deficits: Evidence from the U.S. States. *Carnegie-Rochester Conference Series on Public Policy*, 45: 13–76.
- Briffault, Richard. 1996. Balancing Acts: The Reality Behind State Balanced Budget Requirements. Twentieth Century Fund.
- Carter, John R. and David Schap. 1990. Line-Item Veto: Where is thy Sting? *The Journal of Economic Perspectives*, 4(2): 103–118.
- Crain, Mark W. and James C. Miller. 1990. Budget Process and Spending Growth. *William & Mary Law Review*, 31(4): 1021–1046.
- Curtis, B. A. 1844. Debts of the States. *The North American Review*, 58(122): 109–157
- Dearden, James A. and Thomas A. Husted. 1993. Do Governors get what they want?: An Alternative Examination of the Line-Item Veto. *Public Choice*, 77(4): 707–723.



- Dove, John A. 2012. Credible Commitments and Constitutional Constraints: State Debt Repudiation and Default in Nineteenth Century America. *Constitutional Political Economy*, 23(1): 66–93.
- Dove, John A. 2014. Financial Markets, Fiscal Constraints, and Municipal Debt: Lessons and Evidence from the Panic of 1873. *Journal of Institutional Economics*, 10(1): 71–106.
- Endersby, James W. and Michael J. Towle. 1997. Effects of Constitutional and Political Controls on State Expenditures. *Publius: The Journal of Federalism*, 27(1): 83–98.
- English, William B. 1996. Understanding the Costs of Sovereign Default: American State Debts in the 1840's. *The American Economic Review*, 86(1): 259–275.
- Foner, Eric. 1988. *Reconstruction: America's Unfinished Revolution*. New York: Harper Collins Publishers.
- Gillette, Clayton P. 2003. Direct Democracy and Debt. *Journal of Contemporary Legal Issues*, 13(2): 365–409.
- Goodrich, Carter. 1960. *Government Promotion of American Canals and Railroads*. New York: Columbia University Press.
- Gosling, James J. 1986. Wisconsin Item-Veto Lessons. *Public Administration Review*, 46(4): 292–300.
- Green, Fletcher Melvin. 1930. *Constitutional Development in the South Atlantic States, 1776–1860: A Study in the Evolution of Democracy*. Chapel Hill: The University of North Carolina Press.
- Grinath III, Arthur, John Joseph Wallis, and Richard Sylla. 1997. Debt, Default, and Revenue Structure: The American State Debt Crisis in the Early 1840s. *NBER Working Paper No. h0097*.
- Hillhouse, Albert M. 1936. *Municipal Bonds: A Century of Experience*. New York: Prentice Hall.
- Hou, Yilin and Daniel L. Smith. 2006. A Framework for Understanding State Balanced Budget Requirement Systems: Reexamining Distinctive Features and an Operational Definition. *Public Budgeting & Finance*, 26(3): 22–45.
- Joyce, Philip G. and Daniel R. Mullins. 1991. The Changing Fiscal Structure of the State and Local Public Sector: The Impact of Tax and Expenditure Limitations. *Public Administration Review*, 51(3): 240–253.
- Kim, Namsuk and John Joseph Wallis. 2005. The Market for American State Government Bonds in Britain and the United States, 1830–43. *The Economic History Review*, 58(4): 736–764.
- Kirchgassner, Gebhard. 2002. The Effects of Fiscal Institutions on Public Finance: A Survey of the Empirical Evidence, in *Political Economy and Public Finance*, edited by Stanley L. Winer, and Hirofumi Shibata. Cheltenham: Edward Elgar Publishing.
- Knight, Brian and Arik Levinson. 2000. Fiscal Institutions in U.S. States. Institutions, Politics, and Fiscal Policy. *ZEI Studies in European Economics and Law*, 2: 167–187.
- Kousser, Thad, Matthew D. McCubbins, Ellen Moule. 2008. For Whom The TEL Tolls: Can States Tax and Expenditure Limits Effectively Reduce Spending? *State Politics & Policy Quarterly*, 8(4): 331–361.
- Larson, John L. 2001. *Internal Improvements*. Chapel Hill: University of North Carolina Press.
- Lowery, David. 1983. Limitations on Taxing and Spending Powers: An Assessment of their Effectiveness. *Social Science Quarterly*, 64(2): 247–263.
- McGrane, Reginald C. 1935. *Foreign Bondholders and American State Debts*. Washington, DC: BearBooks.
- McMillan, Malcolm Cook. 1955. *Constitutional Development in Alabama 1798-1901: A Study in Politics, the Negro and Sectionalism*. The James Sprunt Studies in History and Political Science, 37.
- Mullins, Daniel R. and Philip G. Joyce. 1996. Tax and Expenditure Limitations and State and Local Fiscal Structure: An Empirical Assessment. *Public Budgeting & Finance*, 16(1): 75–101.
- National Association of State Budget Officers. 1992. *State Budget Requirements: Provisions and Practice*. Washington, DC: NASBO.
- New, Michael J. 2010. U.S. State Tax and Expenditure Limitations: A Comparative Political Analysis. *State Politics & Policy Quarterly*, 10(1): 25–50.
- Nice, David C. 1988. The Item Veto and Expenditure Restraint. *The Journal of Politics*, 50(2): 487–499.
- Perman, Michael. 1984. *The Road to Redemption: Southern Politics, 1869–1879*. Chapel Hill: The University of North Carolina Press.
- Pinsky, David E. 1963. State Constitutional Limitations on Public Industrial Financing: An Historical and Economic Approach. *University of Pennsylvania Law Review*, 111(3): 265–327.
- Poole, Keith.T. and Howard Rosenthal. 1985. A Spatial Model for Legislative Roll Call Analysis. *American Journal of Political Science*, 29(2): 357–384.
- Porter, Robert P. 1880. State Debts and Repudiation. *The International Review*, November: 556–592.
- Poterba, James M. 1994. State Responses to Fiscal Crises: The Effects of Budgetary Institutions and Politics. *Journal of Political Economy*, 102(4): 799–821.
- Poterba, James M. 1997. Do Budget Rules Work?, in *Fiscal Policy Lessons from Economic Research*, edited by Alan Auerbach. Cambridge, MA: MIT Press.
- Poterba, James M. and Kim Rueben. 1999. State Fiscal Institutions and the U.S. Municipal Bond Market, in *Fiscal Institutions and Fiscal Performance*, edited by James M. Poterba. Chicago: University of Chicago Press.



- Primo, David M. 2006. Stop Us Before We Spend Again: Institutional Constraints on Government Spending. *Economics & Politics*, 18(3): 269–312.
- Primo, David M. 2007. *Rules and Restraint: Government Spending and the Design of Institutions*. Chicago: University of Chicago Press.
- Ratchford, B.U. 1941. *American State Debts*. Durham, NC: Duke University Press.
- Rodriguez-Tejedo, Isabel and John Joseph Wallis. 2012. Fiscal Institutions and Fiscal Crises, in *When States Go Broke: The Origins, Context, and Solutions for the American States in Fiscal Crisis*, edited by Peter Conti-Brown. Cambridge: Cambridge University Press.
- Rueben, Kim S. 1997. Tax Limitations and Government Growth: The Effect of State Tax and Expenditure Limits on State and Local Government. Ph.D. Discussion, Massachusetts Institute of Technology.
- Saye, Albert B. 1948. *A Constitutional History of Georgia, 1732–1945*. Athens, GA: University of Georgia Press.
- Scott, William A. 1893. *The Repudiation of State Debts*. New York: Thomas Y. Crowell & Company.
- Secrist, Horace. 1914. An Economic Analysis of the Constitutional Restrictions Upon Public Indebtedness in the United States. Madison, WI: Bulletin of the University of Wisconsin.
- Seljan, Ellen C. 2014. The Limits of Tax and Expenditure Limits: TEL Implementation as a Principal-Agent Problem. *Public Choice*, 159(3): 485–501.
- Shadbegian, Ronald J. 1996. Do Tax and Expenditure Limitations Affect the Size and Growth of State Government? *Contemporary Economic Policy*, 14(1): 22–35.
- Shadbegian, Ronald J. 1998. Do Tax and Expenditure Limitations Affect Local Government Budgets? Evidence from Panel Data. *Public Finance Review*, 26(2): 118–136.
- Smith, Daniel L. and Yilin Hou. 2010. Do State Balanced Budget Requirements Matter? Testing Two Explanatory Frameworks. *Public Choice*, 145(1): 57–79.
- Summers, Mark W. 1984. *Railroads, Reconstruction, and the Gospel of Prosperity: Aid Under The Radical Republicans, 1865–1877*. Princeton: Princeton University Press.
- Sylla, Richard E., John B. Legler, and John Wallis. 1991. Sources and Uses of Funds in State and Local Governments, 1790–1915. New York: New York University, Athens, GA: University of Georgia, and College Park, MD: University of Maryland [producers]. Ann Arbor, MI: Inter-university Consortium for Political and Social Research [distributor].
- Thies, Clifford F. 2002. The American Railroad Network during the early 19th Century: Private Versus Public Enterprise. *Cato Journal*, 22(2): 229–261.
- Wallis, John Joseph. 2001. A History of the Property Tax in America, in *Property Taxation and Local Government Finance*, edited by Wallace Oates. Cambridge, MA: Lincoln Institute of Land Policy.
- Wallis, John Joseph. 2003. The Property Tax as a Coordinating Device: Financing Indiana’s Mammoth Internal Improvement System, 1835–1842. *Explorations in Economic History*, 40(3): 223–250.
- Wallis, John Joseph. 2005. Constitutions, Corporations, and Corruption: American States and Constitutional Change, 1842 to 1852. *Journal of Economic History*, 65(1): 211–256.
- Wallis, John Joseph. NBER/University of Maryland State Constitution Project.