The Political Economy of State Government Debt: An Analysis of Constitutional Limitations (1961-1990)

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Abstract

Over the past decade, scholarly interest concerning the use of limitations to constrain government spending and taxing has noticeably increased. The call for constitutional restrictions can be credited, in part, to Washington's apparent inability to legislate any significant reductions in government expenditures or in the size of the national debt. At the present time, the federal government is far from instituting any constitutional limitations on spending or borrowing; however, the states have incorporated many controls on revenues and expenditures, the oldest being strictures on full faith and credit borrowing. This dissertations examines the efficacy of these restrictions on borrowing across the states (excluding Alaska) for the period dating from 1961 to 1990 and also studies the limitations on taxing and spending synonymous with the Tax Revolt.

We include socio-economic information in our calculations to control for factors

other than the institutional variables that affect state borrowing levels. Our results show that certain constitutional restrictions (in particular, the referendum requirement and the dollar debt limit) are more effective than others. The apparent ineffectiveness of other limitations, such as the flexible debt limit, seem related to the bindingness of the limitations in at least half of the cases. Other variables, such as crime rates, number of schoolage children, and state personal income do affect the levels of full faith and credit debt, but not as strongly as the limitations. While some degree of circumvention can be detected (the amount of full faith and credit debt does inversely affect the levels of nonguaranteed debt), it is so small when compared to the effectiveness of the constitutional restrictions that it is almost negligible. The examination of the tax revolt era limitations yielded quite similar conclusions, with the additional fact that constitutional restrictions appear more binding than statutory ones. Our research demonstrates that constitutional limitations on borrowing can be applied effectively to constrain excessive borrowing, but caution must be used. The efficacy of these restrictions decrease dramatically as the number of loopholes increase.

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1 Introduction

1.0. The Rationale for Constitutional Limitations on Fiscal Policy Choices

Sparked by the Tax Revolt era, scholarly interest concerning the use of constitutional limitations to control government spending and taxing has increased over the past decade. In recent years this interest has focused upon the passage of a Balanced Budget Amendment that would require the federal government to balance its budget on a yearly basis. The call for such a constitutional restriction can be credited, in part, to Washington's apparent inability to legislate any significant reductions in spending or in the size of the

national debt. Since the early 1980s, Washington has been synonymous with gridlock--Republicans and Democrats have had great difficulties seeing eye to eye on spending cuts and/or tax increases. Indeed, both houses of Congress recently approved the Clinton administration's $496 billion deficit reduction plan by the narrowest of margins (by two votes in the House and by one vote in the Senate), reflecting the deep division over how the government should deal with the problem.

Taxes pay for a significant portion of government expenditures. Increasing taxes, however, is politically unpopular, though most people value spending programs that personally benefit them. How do government officials reconcile these obviously divergent interests? They borrow. Because legislators tend to support spending programs that help their reelection bids, but oppose higher taxes, there is, it would seem, a borrowing bias built into the representative system. Buchanan (1958) blames democratic government itself for creating the bias. He argues, in effect, that democracy can be equated with deficits (p.157):

...the individual when making his choice between the public debt-public expenditure and the no debt-no expenditure alternatives will always tend to favor the former over the latter. In such cases, the choice processes usually embodied in democratic institutions cannot be expected to provide correct decisions, upon any criterion of correctness. The individual chooser cannot

fairly compare benefits and costs...even if the decision making assumes the ideal or town-meeting form.

The ability to borrow makes it more difficult to weigh the benefits versus the costs of a project because the burden of repayment is placed on future generations. Buchanan (1967) argues further that "Borrowing makes individuals more reluctant to levy current taxes upon themselves and others, and less reluctant to expand public spending programs" (p.104). According to Buchanan, the only way to curb deficits created by democracy is to constrain the growth of spending and borrowing via **constitutional** tax and expenditure limitations.

But just how effective are such limitations? Presumably, such a restriction is not subject to legislative manipulation; therefore, it would produce better results than standard legislation (e.g., Gramm-Rudman-Hollings) which can be overturned as easily as it was enacted. This dissertation focuses specifically on answering the question because it will inform us if, and to what extent, we can prevent or correct undesirable political outcomes such as overspending, and if constitutional restrictions are as binding as they are argued to be.

Before considering the efficacy of constitutional limitations, however, let us examine in greater detail the overspending/borrowing syndrome. According to

Buchanan (1967) democracy coupled with human nature leads to deficits. In his model, the public is particularly concerned with its present well being, not the welfare of future generations. More government borrowing used for current expenditures increases the public's short-term wealth; therefore, it is rational for the public to desire a policy that benefits present consumption without regard for future generations. Buchanan's argument suggests democracy encourages legislator's to follows their constituencies preferences--that is, to borrow more. Barro (1989) disagrees with Buchanan's reasoning because it assumes parents do not care about their children's future. His research (and others) has shown that intergenerational transfers or bequests occur. As Barro reasons, "bequests arise if parents love their children enough--a condition made plausible by the fact that the parents decided to have the children in the first place" (p. 207). If parents care about their children's future, then Buchanan's conclusions do not hold absolutely (Barro 1989). To the extent the welfare of future generations is discounted, Buchanan's point obtains legitimacy.

Another explanation for the overspending/borrowing syndrome is grounded in the design of the legislature itself. By this argument, the dynamics of group interaction under the system created by the Federalists does not encourage legislators to make decisions that yield (net) beneficial results; it in fact promotes the opposite, generating undesirable outcomes. Why doesn't the

system prevent the adoption of such policies? There are three interrelated reasons (we detail them in greater detail in the Appendix).

First, because of institutional factors such as lobbying and incumbency advantage, elections do not ensure direct representation of constituency interests and act, at best, as a negative sanction. A representative may favor a policy promoted by a coalition of minorities because their contributions play an important role in his reelection campaign. The general public is often too disorganized to lobby against a well-focused coalition. In addition to interest groups, PACs actively support incumbents with a favorable disposition to their cause. Incumbents have a disproportionate advantage over challengers. Their name is already somewhat familiar to the general public, and with franking privileges such as free postal usage, they can build upon this fact. By bringing home programs to his district, the incumbent can assure his favorable position. As long as the benefits to a constituency outweigh the costs they must assume, members of a legislator's district will support him (most noticeably by voting for him on election day). This reward system encourages legislators to approve policy if his district receives a net benefit, which may lead to an overspending bias.

Second, the legislature is not a democracy, but a hierarchical organization that vests a tremendous amount of agenda control power in the hands of a few top

members (e.g., Speaker, chairman). Setting the order of the voting agenda is a powerful tool because it can ultimately affect the outcome of a vote. The power to set the agenda gives key members what Ferejohn (1974) terms "relative veto power." These individuals may threaten a reversion to the status quo if their position is not accepted. "High demand" bureaus and committees may use this strategy to give the legislature as a whole take-it-or-leave-it proposals. They may carry through with such a threat by promising to block comparable policy on the floor of the legislature. When faced with such a choice, non-committee members of the legislature often do not find it advantageous to fight such influential congressmen because of the high costs involved. A bargaining process ensues that often results in more programs being approved (and more spending/borrowing occurring to pay for new policy) than is optimal.

Lastly, because most legislation requires a majority vote for passage, members are inclined to collude with each other to ensure their projects are approved. Vote trading allows programs to be enacted that otherwise would fail. In theory, if a legislator is able to convince a simple majority of his fellow representatives to vote in favor of his program, then it will be approved. Empirical evidence (Ferejohn 1974, Weingast 1979), however, shows that such trading often reaches universal proportions. Through universalism, everyone receives some benefits; whereas, within a minimum winning coalition, only

those within the coalition receive the benefits. Given this fact, most legislators will prefer the certainty of universalism over the risks associated with a coalition. In either case, these trades can have outcomes that are particularly undesirable because of their inefficiency (e.g., pork barrel legislation), but legislators receive support in the form of votes from their constituency if the programs are passed because of the positive net benefits associated with the new policy. The individual costs are small because they are spread across all districts. Thus, vote trading, in particular via universalism, leads to an overspending/borrowing bias because of the suboptimal number of new policies being approved by the legislature.

The arguments presented above suggest several factors that promote an overspending/borrowing bias. First, a benefit-cost ratio system skewed in the direction of creating more projects may contribute to excessive spending. So can take-it-or-leave-it proposals issued by powerful members or coalitions in the legislature. Finally, omnibus legislation, especially via universalism, and logrolling may create more projects that would not exist under a non-dealmaking system. In the case of spending programs, it can lead to suboptimal, pork barrel legislation. Using a simple example to explore this argument, if we have the following preferences and a majority rule power structure, we see that an outcome other than the status quo (that is, no program) occurs only if each legislator agrees to vote for the other legislator's

programs:

	Leg. 1	Leg. 2	Leg. 3
Project A	$1.6M	-$1.3M	-$1.3M
Project B	-$1.3M	$1.6M	-$1.3M
Project C	-$1.3M	-$1.3M	$1.6M

Given majority rule voting, if each legislator votes for the project he prefers, as well as the other projects, then all three are approved. This result is Pareto inferior to the status quo, however, because the social costs are greater than the social benefits (-$7.8M compared to $4.8M). As discussed earlier, a powerful agenda setter can manipulate majority rule outcomes by pairing certain choices together or by aiding the formation of certain coalitions, leading to undesirable outcomes as demonstrated by this example.

Ferejohn (1974) concurs with these findings:

The principal institutional features leading to overspending in public works are those that constitute the very basis of representative government as it exists in the United States: geographic representation, majority rule, and the committee system (p. 252).

These features of representative government, in short, create a situation ripe for pork barrel politics, usually through omnibus legislation and logrolling. All of the projects that are authorized (inefficient or not), particularly the ones that require building infrastructure, come with a price tag, and the social costs may not exceed the social benefits.

1.1 The Use of Limitations

What can be done to encourage legislators to avoid promoting undesirable policies? In the Federalist Paper #51, Madison advocates constitutional limitations to constrain the choices of democratically elected officials (much like a system of checks and balances), though, he never discusses using such limits to specifically control government overspending or excessive borrowing. In more recent years, however, politicians and citizens alike have supported enacting a constitutional amendment requiring the federal government to balance its budget on a fiscal year basis. This is not a new phenomena, though, for the state and local levels of government have enacted various forms of borrowing and spending limitations, some of which are over a hundred years old and still actively enforced. But how effective are these constraints at limiting the choices of elected officials?

One area of the literature, advanced by Riker (1980) among others, argues that rules which govern legislators are chosen through a voting mechanism that can be manipulated; hence, they exist only so long as those who are opposed to them are unable to overturn them. Riker's argument suggests that rules are more of a short-term institution than a long-term enforcement mechanism. What does he imply when he links rules with political disequilibria? Riker concentrates his analysis on the consequences of simple majority rule voting. As many theorists's have shown (see, for example, Riker and Ordeshook 1973, Ordeshook 1986, Schwartz 1986), this voting structure often leads to cycling and disequilibria.

Many times cycling results from the majority rule voting scheme; that is, there does not exist a stable equilibrium. Riker takes this argument one step further by linking rules directly with the design of the institution. "In the end," Riker states, "institutions are no more than rules and rules are themselves the product of social decisions...In that sense rules or institutions are just more alternatives in the policy space and the status quo of one set of rules can be supplanted with another set of rules" (p. 445). In the long run, no rule is entirely stable because the possibility always exists that a majority will overturn the status quo.

In contrast, Shepsle (1979) and Krehbiel (1987) as well as many other

researchers support a quite different belief. They argue that an institution run by a set of rules coupled with individual preferences produces a stable, long run structure known as a "structurally induced equilibrium." Thus, the rules themselves work to preserve the system, fostering stability in the institution, such as a legislature. Shepsle shows how legislators use rules to protect bills that are presented to the full House for a vote, demonstrating that rules effectively limit the possible choices of various groups. Krehbiel extends Shepsle's model by making it more intricate (including committee decisions that are sophisticated rather than sincere). Through certain procedural rules, he shows many policy committee decisions are protected from facing defeat on the House floor.

How do we reconcile these seemingly opposing claims? Perhaps the major link between the two literatures is the time variable. Shepsle and Krehbiel find rules to be effective in the short run whereas Riker finds them ineffective on a longer event horizon because of the changing interests of those who govern. The institution prevails, however, because the decisions are made in the short run within the context of a set of rules that evolve over a longer time span. These rules will change over time to reflect the composition of members in power. This process, however, is slow, occurring most often with changes in the governing body, such as the election of a large group of new congressmen. In the meantime, status quo policy decisions remain stable. Rules appear to

constrain in the short term, but their long term effectiveness is uncertain.

Rules may also be ineffective if they can be circumvented. If provisions exist that allow official to easily bypass restrictions, then it is unlikely that they will limit choices. The Gramm-Rudman-Hollings deficit reduction plan failed, in part, because legislators exempted many costly programs from the automatic spending cuts, but even more so, because they amended the date these cuts would take effect numerous times. Another prominent example of circumvention occurs each time the state government of Texas wishes to approve a bond issue. Because they are constitutionally bound by a low borrowing limit ($1.5 million), legislators must amend the constitution each time they need to borrow via a referendum. While this process may sound difficult, it occurs frequently. Most bond elections are not held during primary or general elections, but as special elections. As one source informed us, these elections are usually held on a rainy Tuesday in February in hope of a low turnout of only supportive voters. In the long term, circumvention may undermine even the most strict appearing limitations.

1.2. The Current Research Agenda

Given these theoretical findings, the current research explores (1) the efficacy

of limitations on controlling legislative borrowing and (2) the effects of restrictions on taxing and spending upon borrowing behavior. Our analysis does not focus on the federal government because, as of yet, there is no explicit constitutional limit that restricts the type or size of debt.[1]

Instead, we concentrate our analyses on state level constitutional limitations. The key feature behind constitution limitations is that they are presumably not changeable by the legislators themselves. At this level of government, there are a wide variety of restrictions, and they have a quite rich history. Some of these limits have existed for over a hundred years (e.g., limitations on long term indebtedness), while others are relatively new (e.g., tax revolt era restrictions). These constraints vary from limiting the type and amount of bonds issued by the state to restricting certain expenditures. Each state differs in the type of constraints it has incorporated, giving us enough variation to allow statistical comparisons of the effectiveness of the limits.

Moreover, in the last fifteen years, the amount of financial aid from the federal government has declined significantly. State governments have had to provide more and more support for various services to their citizens. One interesting point to examine is if these restrictions have been affected by their state's economic well-being and in what capacity.

Finally, the borrowing and spending capacity of state governments is by no means trivial. Over the past thirty years, the average amount of total state debt outstanding amounts to approximately 14% of gross national product. Often overlooked by researchers in favor of the federal government, state governments control a great deal of power and influence in the world of public policy.

This research will examine if the constraints employed upon state legislators are merely symbolic gestures with little enforceability or if they effectively restrict the choices of officials and thus, using Madison's words, "oblige it [the government] to control itself." If the limitations are found to be effective, then these results hopefully can be generalized and applied to other areas and levels of government where the legislative system produces undesirable policy outcomes.

The remaining chapters of this research are divided as follows:

Chapter two considers the origin of the constitutional limitations of interest. The chapter develops the financial history leading up to the Great Depression, including three periods of financial chaos. It focuses on the cyclical nature of the crises: the great expansion in indebtedness, the default and the repudiations, and the state and local government response to correct the

problem--instituting constitutional restrictions on debt issuance.

Chapter three takes the historical information from the previous chapter and applies it to more recent events; namely, state patterns of borrowing, taxing, and spending from 1961-1990. Using fiscal, socio-economic, and partisan legislative data, we address questions concerning the efficacy of the limitations and efforts to circumvent them using various statistical techniques.

Chapter four concentrates on limitations that came about as a result of the tax revolt. Focusing on the period from 1978-1990, we calculate how binding the restrictions are and if certain limitations appear to be more effective than others (e.g., whether constitutional limitations constrain officials more effectively than statutory limitations).

Chapter five summarizes the major findings of the work and suggests other areas for future research.

1.3. Endnotes

1.We will not go into specific details as to the reason there are more limits at the state and local level than at the federal level. In general, the lack of constitutional restrictions at the federal level can be attributed to the inability to reach an agreement on what type of limit should be implemented because of strong party differences and divergent preferences due to the diversity of state needs.

2.A legislator does not need to benefit all members of his constituency to ensure reelection, just a few well organized groups that have the potential for contributing in some respect to his campaign. Thus, these projects become a rather inexpensive means to ensure reelection.

3.The middle demand members are either slightly in favor or indifferent to the services provided by the bureau, but are needed to pass the legislation onto the floor. See Kiewiet (1991) for a thorough discussion and application of Niskanen's theory.

1.4. Appendix

We now will discuss in greater detail how the design of the legislature often encourages democratically elected officials to make Pareto Inferior policy decisions.

1.4.1. Incumbents and Elections

In theory, popular elections allow constituencies to elect legislators who will represent their interests; hence, elections serve as a tool to ensure elected officials are accountable to their constituencies. Simply put, if legislators do not represent their constituencies in a desirable manner, then they will not be reelected. If we believe this last statement is true, then why do we continually observe legislative outcomes that the general public find undesirable (e.g., high budget deficits), yet the representatives who vote for these policies are almost always reelected? One reason legislators are not punished for approving certain programs is that the benefits these projects bring are concentrated in the legislator's district, and they politically outweigh the costs that are diffused over all districts (Fiorina 1978, Arnold 1979, Tufte 1978).[2] As Fiorina (1989) suggests, "Political incentives are to pursue local interests and discount adverse national effects" (p. 108).

In certain instances, a representative may favor a policy promoted by a

coalition of minorities. Special interest groups influence public policy by lobbying Congress and promoting their opinions on legislative issues. Their contributions to a representative's reelection campaign, most noticeably in the form of financial support, also play an important role. Special interest groups target and contribute resources to representatives that they share policy beliefs, which give these coalitions the highest probability that their preferences will be turned into policy. Fiorina (1989) notes "A large well-endowed, national organization can persuade a majority of Congress to act counter to their normal tendencies" (p. 109). The most effective groups keep their list of issues to support short. They generate significant resources for their cause because they have well-defined goals that enable them to reach the appropriate constituency (Aldrich et al. 1986). These coalitions often succeed even though their interests are in the minority because the general public finds it difficult to organize any effective opposition group.

In addition to support from interest groups, financial donations from political action committees (PACs) tip the scale in favor of the incumbent. A change in campaign election rules in the early 1970s gave rise to political action committees. Prior to the legislation, a great deal of concern was expressed regarding the power of special interest groups and their electioneering practices. Congress passed the Federal Election Campaign Act of 1971 to require candidates to disclose all donations over $100 and to limit campaign

contributions. This Act, however, also allowed business firms and labor unions to pay the operating costs of political actions committees that sought contributions from members of these organizations. Since their establishment, PACs have donated disproportionate sums to incumbents to aid their reelection campaign. In 1978, the average congressman running for reelection received 27% of his treasury from PACs; by contrast, the average challenger received less than 13% (Sabato 1981, 270). This factor, among the others already discussed, give the incumbent a significant advantage over not only his opponent, but over constituency members that wish to use the election process as a negative sanction.

Using elections to discipline representative behavior **ex-post** may prove difficult because of incumbency advantage (Sabato 1981, Aldrich et al. 1986, Fiorina 1989). One powerful advantage an incumbent has over his opponent is name recognition. An incumbent representative's name will generate votes among uninformed voters who simply look for a familiar name on the ballot. Much of the name recognition is cultivated through mailings. Franking privileges such as free postal usage for political purposes allow incumbents to reach those constituents that they may not through television or the newspaper. It is very important for incumbents to cultivate what Fenno (1978) calls "home style"; that is, interaction with their constituents to keep their supporters informed of their actions in Washington and to develop trust, thus

insuring their reelection bid. It is this individual relationship with their constituents that allows congressmen to be loved while Congress itself (a complex, non-human institution) can be hated (Fenno 1974). Representatives, according to Fiorina (1980), have shied away from collective responsibility because their party's abilities to protect them against adversity has declined in recent years. When problems arise, most individual Congressmen place the blame on Congress or the White House. Many Americans appear to accept their reasoning: a recent Gallup poll (July 1993) showed that 60% of Americans blame Congress for economic problems but a majority of the same people would reelect their Congressmen.

Thus, elections do not prevent undesirable policies from being chosen because this connection can be "short-circuited." That is, elected officials calculate the economic **and** political benefit-cost ratio for a project prior to supporting it (Ferejohn 1974). So long as the political benefits to them outweigh the costs, they approve it. In most cases the political benefits provided are great because they are concentrated in a small area, and the costs are low because they are diffused across all districts. In many cases, however, lobbying influences the choice of policy not in the direction of benefitting a majority of constituents, but towards the interests of a small, "high demand" minority. Sanctioning the legislator does not always work because it is difficult to organize the general public and because of the political advantage that the incumbent has over his

opponent.

1.4.2. The Legislative Hierarchy

While representative government promotes direct democracy through the popular election of legislators (even though the process may be biased), one can argue that the legislature itself cannot be characterized as a democratic organization. Power is not spread equally across all members. Dahl and Lindblom (1953) find that "many strategically placed leaders who represent minorities are in a position to insist on their demands through bargaining" (p. 337). The hierarchical system places certain officials, in particular, committee chairmen, ranking committee members, and party leaders, in positions of great control. A committee chairman's power, for example, comes from his ability to set the agenda for voting on bills. This tool is quite powerful because it gives the chairman considerable control over the outcome of the vote.

McKelvey (1976) demonstrates, given a Euclidean metric space, that a majority rule social choice ordering in an intransitive environment results in cycling over the entire space. This finding suggests that any outcome on an agenda may be achieved; thus, an agenda setter (e.g., chairman of a committee) can arrange the voting schedule to arrive at any outcome he desires, such as his ideal point. McKelvey specifies several necessary conditions, though, that must hold for this outcome to occur. First, the chairman must have perfect

information of other committee members' preferences. Second, committee members must be able to rank their alternatives without being indifferent to any choices. Lastly, members must vote sincerely and not collude. As McKelvey suggests, even though these are rather strong assumptions, setting the agenda should be viewed as a powerful tool for controlling policy outcomes.

Schwartz (1986) gives the following example of the agenda setting process (p. 194). Under majority rule, a three member committee votes on a bill, an amendment, and a substitute bill. Their agenda preferences are as follows (where "q" represents the status quo):

Mr. 1	Mr. 2	Mr. 3
b	a	s
a	q	q
q	s	b
s	b	a

If the agenda is set according to standard parliamentary procedures so that the bill and the amendment are paired first, then the winner is paired against the substitute bill, and finally, the last winner is paired against the status quo, the overall victor will be the status quo. If the substitute bill and the amendment, however, could trade places in the voting process, for example, by rewording them so that the amendment is now a substitute bill, then the outcome will favor the new substitute bill (formerly the amendment) over the status quo. Thus, the outcome depends critically on how the agenda is set. A great deal

of power rests in the hands of the person in charge of setting it--namely, the committee chairperson.

The power to set the agenda gives the committee chair what Ferejohn (1974) terms "relative veto power." But other government bureaucrats also have power over legislators. Niskanen (1971) presents a model of bureaucratic control that assumes bureaucrats to have take-it-or-leave-it proposal power. Niskanen argues that a government bureau has monopoly power over its legislative sponsor because of asymmetric information. That is, the bureau chief knows how much the sponsor is willing to pay for services but the sponsor has little knowledge of the bureau's cost schedule. The bureau, therefore, is in the position to make take-it-or-leave-it proposals that are just within the sponsors acceptance set. This acceptance set, according to Niskanen, consists of members who have either a high or middle-level demand for services provided by a bureau.[3] Once the committee approves the legislation, it is put on the floor for a vote. Often it passes readily because it is not advantageous for non-committee members to either change the legislation or kill it. Niskanen's example demonstrates the power that other government organizations may exert over legislative choices.

Romer and Rosenthal (1979) use Niskanen's model in their own examination of the theoretical and empirical implications of bureaucratic monopoly control

over resource allocation in a direct democracy framework. In their model (as in Niskanen's), the bureau has agenda setting power because asymmetric information allows them to know the pivotal voter's minimum level of satisfaction. The bureau can then strategically order proposals to achieve the desired outcome. The results, however, depend also on the "reversion point"; that is, the policy that will be followed if the proposal is defeated. When uncertainty is added to the model (e.g., the size of the election turnout is unknown), the probability that the bureau's proposal is defeated increases dramatically, diminishing the agenda setter's monopoly power, though, never completely to the competitive level. The agenda setter still retains enough power to get some, if not all, of his policies approved.

Why are undesirable programs approved by the legislature as a whole? One can argue that in many cases, "high demand" bureaus and committees give the legislature take-it-or-leave-it proposals. This event may occur when a committee presents a piece of legislation to the floor for a vote under closed rule so that the legislation must be accepted "as is." Similarly, if certain influential members of the legislature (e.g., the Speaker, committee chairs, party leaders) promise to block other programs unless the legislation that they are promoting is accepted in its **entirety**. (Barry 1965) When faced with such a choice, non-committee members of the legislature often do not find it advantageous to fight such influential congressmen because of the high costs

involved. Instead of fighting, most legislators decide to bargain for their own beneficial programs, creating a "Let's Make a Deal" pathology (Weingast 1979, Shepsle and Weingast 1981).

1.4.3. Vote Trading and Universalism

In order for a district to receive the net benefits from a project, it must first be introduced in committee, be approved, and then voted upon by the legislature as a whole. By himself, a representative of the Congress, for example, accounts for only 1/268 of the necessary 51% needed to approve a project. Given that most of these projects benefit a very concentrated area, there is little incentive for congressmen other than those whose constituency receives the benefits to approve the program--that is, of course, unless they receive some compensation in return. All legislators know that by themselves, they account for a very small percentage of the votes necessary to approve a bill. However, in theory, if a legislator is able to convince a simple majority of his fellow representatives to vote in favor of his program, then it will be approved.

Vote trading can produce inefficient outcomes that are undesirable. Many researchers (Ferejohn 1974, Fiorina 1978, Shepsle and Weingast 1981) and non-academics use the term "pork barrel legislation" to describe those projects characterized by total social (economic) costs exceeding total benefits. Others are less critical in their description of pork barrel politics, defining it in quite

benign terms as "authorizing subsidies that boost business opportunities or employment within a congressional district" (e.g., dams, military bases, housing subsidies) (Aldrich et al., 1986, p. 564). Whatever the terminology used, pork barrel legislation is the direct result of a system of geographic representation that leads to a "Let's Make a Deal" pathology.

Representatives do not have the power individually to approve legislation, yet they try to bring beneficial projects back to their districts to ensure their reelection. This latter point is especially true in our representative system of single member districts. Because each geographic district votes for only one candidate as a representative, it is an all or nothing situation. A legislator may have a significant percentage of the voting population opposed to his appointment, so he must maintain the support he has by bringing benefits to his supporters and any marginal voters. Trading votes with other representatives ensures that these benefits will be received and helps the legislator's campaign at election time (perhaps biasing the election, as discussed above).

There are two ways to make a deal in the legislature: (1) benefits can be packaged together in omnibus legislation so that enough districts receive compensation to approve the package or (2) votes can be "traded" among legislators so that each promises to approve another's package as long as the

favor is reciprocated. In theory, if a simple majority of districts receive benefits while costs are dispersed among all, and if the benefits in those districts outweigh the costs, then the possibility is much greater that the legislation will be approved via omnibus legislation than by a single legislator's own abilities.

Most early theoretical work supports the general idea that the legislators who support an omnibus bill (i.e., those who receive benefits from it) will form a minimum winning coalition to pass it (Riker 1962, Buchanan and Tullock 1962, Riker and Ordeshook 1973). However, empirical observations suggest otherwise (Ferejohn 1974, Weingast 1979); that is, most of these studies find legislatures voting nearly unanimously for each package. Weingast (1979) and Shepsle and Weingast (1981) attribute "universalism" (the term used to describe this behavior) to each legislator's need to preserve his career.

Shepsle and Weingast assume that a legislator wants to maximize his chance of reelection. He hopes that the net benefits he provides to his constituency will translate into votes at the next election; therefore, he tries to maximize his chance of receiving benefits for his district. A legislator can achieve this result via universalism. Through universalism, **everyone** receives benefits within the omnibus legislation; thus, it guarantees each district a net benefit of b-c, where b are the concentrated benefits and c are the costs dispersed across all

districts. A minimum winning coalition, while perhaps providing greater concentrated benefits to those districts included in the legislation, guarantees only an expected payoff to legislators, based on the possibility that he will be included in the coalition. If a legislator's future reelection is uncertain or perhaps in jeopardy, then he will prefer the certainty of universalism over the risks associated with a minimum winning coalition.

Universalism, Shepsle and Weingast argue, has maintenance mechanisms to ensure its stability. First, a legislator will not support a minimum winning coalition over universalism if it means he has to vote against another legislator's program. As Senator Buckley of New York found out, voting against another legislator's program may lead to retaliation in the form of one's own program being removed from the legislation (Weingast 1979 p. 253). Second, the repetitive nature of the legislature may inhibit minimum winning coalitions from forming, especially if not receiving benefits jeopardizes a reelection bid. The security of universalism may outweigh the short term perks of a minimum winning coalition's larger benefits. Finally, as pointed out earlier, universalism provides "political insurance" against defeat because all legislators receive benefits for their districts that may translate into votes at the next election (Shepsle and Weingast 1981 p. 96).

In contrast to omnibus legislation (via a minimum winning coalition or

universalism), logrolling provides legislators with a less obvious method of approving programs. Instead of bundling, for example, 30 major projects together in one omnibus legislation, logrolling allows one project to be approved at a time. According to Dahl and Lindblom (1953), "Logrolling is a means of getting the acquiescence of every leader who has enough control to block or weaken your policy proposal, by trading your consent to the proposal of another leader for his consent to your proposal" (p. 339). Logrolling works particularly well if the legislator leading it has power to influence other members and coordinate vote trading across bills. The reciprocity inherent in logrolling works because a legislator will be "blacklisted" if he reneges on a vote pledge after he has received a similar favor. Logrolling allows for the possibility that at least two times as many programs may be approved than if no vote trading occurred. As with omnibus legislation, logrolling creates a Catch-22 situation: more programs are approved than are optimal (in a Pareto sense) but district members enjoy such programs and will probably reward their representatives by reelecting them. The underlying fact lies in this: legislator's resort to vote trading to succeed, and such vote trading leads to undesirable outcomes.

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2 Historical Background

2.0. Introduction

Long term bonds issued by state and local governments (also known as municipal bonds) are one of the oldest forms of debt in this country, predating the American Revolution by several decades (Homer and Sylla 1991). The heyday of municipal bonds began after the War of 1812, as America entered a phase of rapid industrialization. The country was expanding and more infrastructure was needed to accommodate the growth of the nation in both population and geographic size.

The westward expansion, in particular, fueled the need for transportation to

connect the eastern half of the country with the western half. Railroads, canals, and turnpikes had to be constructed. The federal government, however, assumed little responsibility. This lack of action was not due to a lack of interest, but to the great demand for internal improvements, far more than the federal government was able (or willing) to support. The federal government selectively chose to support projects with far reaching benefits. For example, it jointly financed the building of the Chesapeake and Ohio Canal that would bring goods from the west to the areas surrounding the capital (e.g., Virginia, Maryland, and the District of Columbia).

The states, therefore, were left to subsidize those projects not supported by government grants--and there were many. For example, in 1817, the state of New York issued bonds to finance the building of the Erie Canal. The project was so successful that before it was complete, the tolls collected on portions of it exceeded the interest payments to bondholders. In addition, land values along the canal increased dramatically (McGrane, 1935, pp. 4-5). New York's success in financing the Erie Canal and the prosperity that the project brought to nearby landholders greatly influenced the expansion plans of other state and local governments.

Of course, investors were needed to purchase the bonds. During the 1830s, this position was filled by Europeans, primarily English and Dutch.[1] U.S.

municipal bonds attracted foreigners for several reasons. They were backed by a pledge of faith that the government issuing the debt would repay the lender both interest and principal in full and on time. According to McGrane (1935), "...it was the guaranty of the state which alone made these stocks palatable to European capitalists" (p. 11).[2] It made the stock particularly appealing to British investors because most of them purchased the bonds for investment, not speculation, purposes. Moreover, foreigners appreciated the high standing of U.S. national credit, the apparent prosperity of the nation, and the high interest rates promised on many of the bonds.

Within a short time span indebtedness rapidly increased. In 1820, outstanding debt among U.S. states and localities summed to about $12.7M. By the end of the 1830s, it reached $170M. British subjects held between $110-165M of the $170M (McGrane 1935, pp. 7,9). The large amount of British investment in the U.S. allowed American financial operations to expand overseas.

Anglo-American financial houses handled credit transactions between American importers and British exporters. As business boomed, an "open credit policy" allowed wealthy American houses to issue stocks without collateral insuring the safety of the investments. During the same period, the federal government did not recharter the U.S. Bank. Individual legislatures voted to establish their own state banks to insure adequate currency

circulation. The creation of state banks induced a great expansion in the supply of money. Thus, "The stage was set for the Panic of 1837 which would inaugurate the misfortunes of the American states" (McGrane 1935, p. 13).

The first blow to British-American financial relations came rather suddenly. In 1837 runs on banks in Ireland and Manchester depleted the Bank of England's gold reserves. At the same time, due to several investment opportunities gone sour, the American houses found themselves unable to meet their short term obligations and requested that the Bank of England temporarily support them. The Bank of England agreed, as long as the houses would repay their debt in full. Unfortunately, the transfer of funds from the States to the American houses was delayed, and the houses were in danger of missing payments on their next group of obligations. When they requested another temporary loan from the Bank of England, the Bank, under pressure not to further deplete its gold reserves, refused. Not only were the houses forced to suspend payment, "but every bank south of Philadelphia stopped payment," creating a financial breakdown between the U.S. and England (Raymond 1932, p. 56).

Resumption of specie payment (using gold), however, soon followed in 1838. Though short-lived, this incident should have indicated to foreign bondholders that their U.S. investments might not be as safe as originally assumed.

However, the quick resumption of payment and the assurances of "high pressure salesmen" that their loans were secure eased investors fears (McGrane, 1935, pp. 18-19). The second suspension of payments in 1839 by the Bank of England and many U.S. banks, and the defaults of the 1840s soon changed this view.

At this point, we should pause to clarify the difference between a "default" and a "repudiation." Hillhouse (1936) defines a default as

...a failure, because of financial difficulties, to pay an obligation (interest payment, instalment of principal or total principal) when due, the municipality evidencing, nevertheless, a will to make good all accrued obligations when ability to repay returns (p. 14).

On the other hand, a repudiation occurs when, "the municipality shows a disposition to evade payment, in whole or in part" (Hillhouse 1936, p. 14). Thus, the former appears less serious than the latter because the debtor still honors his obligations and will attempt, in good faith, to resume payment. In the eyes of the creditor, however, the distinction may become blurred because in the short run, in either case, he does not receive payment on interest or principal.

In February, 1840, the first severe shock to European investors came when the Commonwealth of Pennsylvania defaulted on her semi-annual dividends. At the time of default, Pennsylvania was one of the most prosperous states in the Union; thus, creditors considered it a safe choice for their investments. Of the $34M in debt outstanding, British investors held $20M (McGrane 1935, p. 41). In addition to Pennsylvania, between July, 1840 and August, 1842, seven more states defaulted: Maryland, Indiana, Illinois, Michigan, Florida, Mississippi, and Arkansas (Raymond 1932, p. 56).

The federal government did consider assuming the debt of the states as it had in the past. During the Revolutionary War, for example, the states amassed a great deal of debt. In 1790, a senate committee proposed that out of "fairness and expediency," the federal government should assume the debt incurred by the individual state governments for fighting the War of Independence (Raymond 1932, p. 51). Because the War was fought for the freedom of the nation as a whole, the committee argued that the burden should be shared equally, even though several states contributed far more than others.

On August 4, 1790, the proposal was approved, and a national loan of $21.5M was authorized for the assumption of the states debts. The federal government agreed to exchange the debt certificates with their own, issuing each creditor three certificates that entitled the bearer to "interest immediately at 6% for

four ninths the sum,...6%, after 1800, for two-ninths of the subscribed sum, and...3% for the remaining three-ninths" (Raymond 1932, p. 52). The final amount assumed by the federal government is listed in Table 2.5.1.

Table 2.5.1 about here

Given this past experience, some members of Congress felt the federal government should assume the new state debts because the debts were incurred for the general improvement of the country. With new railroads, canals, and turnpikes, interstate commerce would grow, strengthening the bonds between the states (Raymond 1932, pp. 56-57). In addition, they argued, the new infrastructure would enable faster and more efficient trade between the U.S. and foreign nations, increasing the country's economic prosperity. Without financial aid from the federal government, the states would have to either raise revenues by increasing property and excise taxes and/or default on their debt obligations until sufficient revenues became available. Either of these actions would hurt state economies, erasing any economic benefits reaped from building new infrastructure.

The Congress developed a plan that included the federal government assuming the debts of the states; but, it was never implemented (Raymond 1932, p. 57). The states were left to solve their own problems, which they did by defaulting on their debt obligations. We can speculate that, perhaps, if the federal government had not paid for the Revolutionary War debts of the states, the states would have been more financially responsible and less reliant on external factors, such as debt assumption by the federal government, to solve their financial problems. Of course, this is purely conjecture.

While it is ironic that citizens of a government that was the first and greatest defaulter of public debt now found themselves once again on the receiving end of such infidelity, British investors were not amused.[3] Foreign bondholders were enraged that the U.S. federal government would not assume responsibility for its member states and that states in good credit standing would not pressure those states in default to become more responsible. This anger was channeled at both the state and federal governments, for not only did foreigners refuse to invest in state and local bonds, but they refused to grant the federal government credit abroad (McGrane 1935, p. 269).

The punishment was short term, however, and by the late 1840s, foreigners began once again investing in U.S. state and local debt. While some historians credit the Revolution of 1848 and the rumors of war in Europe for the

migration of foreign capital to the U.S., perhaps the single most persuasive reason for investing in U.S. state and local debt was higher interest rates (McGrane 1935, p. 271).

Anglo-American financial houses protected foreigners by not pursuing an open credit policy and avoiding risky investments (in particular, railroad aid bonds, which had been the source of many earlier defaults). Foreigners, however, were attracted to the higher interest rates that U.S. railroad bonds carried over their own railroad bonds and were willing to assume the risk involved.[4] The financial houses took extra care to secure only the safest railroad bonds (e.g., those bonds whose railroads were in a profitable location and owned by a single company with little competition).

By March, 1854, the Secretary of the Treasury stated that foreigners owned (a minimum of) $184M of $1.17B in federal, state, local, railroad, and canal bonds. The percentage debt owned by foreigners, while not trivial, fell far short of the amounts invested earlier in the century, before the advent of defaults and repudiations. The decline in foreign investment, as well as the refusal to grant credit after the earlier defaults, forced states to adopt new procedures for issuing debt.

2.1. Constitutional Limitations: The Iowa Experience

Constitutional debt limitations grew out of each states resolve to renew its credibility, thus, avoiding the highly unpopular expedient of instituting excise and property taxes to raise the necessary revenue for repaying interest and principal on debt in default. In 1857 Iowa became the first state to enact legislation to restrict indebtedness at both the state and the local level.[5] It should not be perceived that everyone welcomed these restrictions or that they were easily amended to the constitution. Some legislators did not want any form of debt limitation. The history behind Iowa's passage of this legislation exemplifies the struggle.

Iowa's first attempt at enacting debt limits came at the 1844 Constitutional Convention. One of the committees set up at the convention was assigned the task of designing rules for borrowing and spending. Prior to the Convention, Iowa's first independent territorial government (established by the Organic Act of 1838) was not subject to borrowing or spending limitations. During the period, according to Erbe (1924), "Money was lavishly expended and a number of unnecessary officials employed, contrary to the wishes of Governor Robert Lucas" (pp. 364-365). In addition, several obligations contracted for repayment in 1838 were not settled within the year; thus, the territory found itself four to five thousand dollars in default the following year. Many of the elected

officials realized that as a state, Iowa would have to project an image of being fiscally responsible in order to attract the large amounts of capital needed to develop the territory. Thus, some form of limitations were needed to avoid the excesses of the past.

Not everyone felt that the future state needed debt restrictions. The battle lines in the debate for and against limitations were drawn mainly along party lines, the Democrats advancing the idea of limitations and the Whigs trying to block the passage of such restrictions. The committee on State Debt consisted of five Democrats and two Whigs. Given each party's disposition towards the issue, it is not surprising that a rather restrictive amendment came out of the committee. The amendment specified the following restrictions on state authorized debt:

(1) Referendum of the citizens is required

(2) Debt may only be incurred for extraordinary purposes only

(3) Debt may not exceed the limit of $100K

(4) Term length of debt may not exceed 20 years

Democrats stated that this amendment would protect the citizens of Iowa from debt fraud such as was occurring in other states. The Whig party saw the restrictions as a handicap to the growth and prosperity of the newly formed

state (Erbe 1924, p. 371). The issue was left unresolved for several years, however, because the Constitution itself was not ratified.

In 1846, the Constitutional Convention again addressed the issue of debt limitations. Only half of the original Convention members were present, and all of the members of the State Debt committee were from the Democratic Party. Needless to say, the committee reintroduced the 1844 debt limitation amendment to the Convention with few revisions. The Whig party still opposed the original doctrine on the same grounds, that it "...deprives us of the use of foreign capital...(and) it throws the whole burden of the construction of such works upon the citizens of the State" (Erbe 1924, p. 377). The Whigs lost the battle, though, for on August 3, 1846, the people of Iowa approved the constitution, and by December 28, 1846, both the Congress and the President ratified it (Erbe 1924, p. 378). The war over debt limitations, however, had yet to be won.

Once the constitution was ratified, dissatisfied parties began a movement to amend parts of it. The opportunity to accomplish this objective came at the next Constitutional Convention in 1857. The opposition realized that their hopes of amending the entire list of restrictions was slim; hence, their goal was to weaken the current debt limitations. Even the proponents of the original amendment were not entirely satisfied with the rules as they existed. Over

the course of nine years they realized that the term "debt" was not well defined; thus, many loopholes existed for issuing debt. The state, for example, could still issue warrants (a form of short-term debt) exceeding the debt limit because warrants were not defined as debt.

Members of the State Debt committee proposed several amendments. These included increasing the dollar debt limit, nullifying all debt above this limit (i.e., the state would not be held responsible to repay any debt contracted above the limit), and making the state responsible for debt like the average citizen. Out of these proposed amendments, Convention members only approved the increase in the dollar debt limit; however, this time the amendment clearly defined "debt" as meaning bonded debt, not warrants of the state.

While much of the debate focused on state level debt limitations, the committee also sought to address borrowing at the local level. No debt limits existed at the county, city, or township level of governance. According to some members of the Convention, "One of the great and pressing political evils of the time was the reckless and extravagant use of the funding power by minor civil corporations for the promotion of banks, industrial organizations, and internal improvements" (Erbe 1924, p. 397). Many thought that state officials were circumventing the restrictions by allowing the counties and municipalities to

issue their own debt to develop land within their borders.

Because local governments were not restricted in borrowing or spending, they could make necessary improvements without worrying about limitations. Indeed, these governments issued a great deal of railroad aid bonds (amounting to a total of $7M by 1857) because they believed the railroads were the key to a municipality's prosperity. While many localities went ahead and borrowed large sums of money to finance the building of railroads, it soon became obvious that they had overextended themselves, so far that even state bonded debt resources could not cover them. Competition between various cities and counties to attract railroad investors helped create high debt levels. Railroad officials were in the position to make take-it-or-leave it offers because they could easily divert steel rails around uncooperative localities.[6] Many officials feared their city or county would suffer without the new advances in transportation and infrastructure; thus, they issued bonds--more than they could guarantee--to create capital needed to attract railroad officials. Even though the state government did not issue these bonds, officials feared that local level defaults would not reflect favorably on the credit standing of the state, much like the state and local government defaults of the 1840s hurt the federal government's credit rating. They also feared that the competition between cities and counties would continue to create credit problems. To prevent such crises from occurring in the future, the committee on State Debt

took up the issue of limiting the level of municipal debt issuance.

The first amendment proposed and passed exempted the state from any responsibility for debt incurred at the local level. Officials felt that this restriction resolved the problem discussed above.[7] The next proposal on the agenda limited the amount of debt counties and municipalities could issue, based on a percentage of assessed property value. This proposal was debated in two parts. First, whether or not local governments should be limited, partially or fully, on the amount of debt they could issue, and second, what measurement should be used to restrict their debt issuance.

Many local officials did not feel the state had a right to limit their power to issue debt. This position was particularly strong in newer counties and cities because they had not accumulated much debt. Older, established municipalities had used debt to develop their territories, making necessary improvements that would raise land values and attract more people to live there. Newer counties and cities wanted the opportunity to do the same. Placing restrictions on debt issuance would severely limit their ability to raise the capital to make necessary improvements.

What might be termed a compromise was reached--local governments would have debt limitations, but they would only be partial ones, linked to a

percentage of the total assessed land value. While this decision obviously favored older municipalities that had already used capital from debt issued to improve infrastructure and, thus, increased their land values, newer counties felt they were still better off than the alternative--a total restriction of local debt issuance.

Another debate shortly ensued over how large a percentage of total assessed land value should be used. This debate also questioned the right to take a percentage of **all** assessed land values, including land owned by citizens opposed to debt issuance. Jonathan Hall of Des Moines County questioned, "...is it right to allow them to take a portion of my property and put it into that speculation without my consent?" (Erbe 1924, p. 408) The issue was eventually laid to rest, however, when the majority of members agreed that the goal of preventing further embarrassment (i.e., through defaults) by allowing all municipalities to issue debt up to the same percentage of land values outweighed the rights of the individual.

The debate ended on March 5, 1857, when convention members approved the amendments to the constitution. In addition to the state level bond amendments, members agreed upon a municipal debt limitation of 5% of total assessed land values. This restriction became the first of its kind in the U.S., and remains virtually unaltered to this day.[8] In the following years, other

states enacted debt limitations at the state level. Older states adopted their own restrictions, while newly admitted states copied the restrictions of older states. Most states, however, did not initially follow Iowa's example of enacting limitations at the municipal level.

2.2. The Reconstruction Period

Rapid increases in municipal debt and, in several states, a second wave of defaults characterized the period following Iowa's enactment of constitutional limitations. Municipal indebtedness increased sharply after 1857, peaking between 1922-1932 (Hillhouse 1936, p. 35). The constitutional debt restrictions in most states were enacted too late to prevent the defaults that occurred after the Civil War. A series of defaults in nine states followed the large increase in municipal indebtedness that occurred between 1857-1870 (due primarily to investment in railroad bonds issued by carpetbagger governments).[9] Eight of the nine states were southern and under carpetbagger regimes prior to the defaults. The temporary governments of these eight states, promoted by northerners, mismanaged state revenues and participated in issuing "junk" bonds for their own gain.

Foreign investors held most of the bonds issued by carpetbagger governments.

Once these regimes ended, southerners, due to impoverished conditions and "...deep resentment about paying for what they considered were illegal and fraudulent bonds" (McGrane 1935, p. 282), repudiated post-Civil War, carpetbagger bonds, much to the outrage of foreign investors. Many foreigners reached compromises with some of the debtor states, but in no circumstances did they regain the entire principal invested.[10] In most cases, compromises were reached only in states where population and resources permitted increased taxation. In less wealthy states, where speculation was abundant or unsound financial practices commonplace, repudiation usually resulted.

The defaults in the reconstructed Southern states were in principle different than those of the earlier default period. First, the bonds were not issued by a government that was representative of the electorate. Second, Southern newspapers warned foreigners not to purchase bonds from carpetbagger governments because they were issued by financially unsound sources. Finally, the forced repudiation of Civil War debt by carpetbagger governments fueled the fire for southerners to follow suit and repudiate carpetbagger debt, especially when it became apparent that most states were financially unable to repay their debts (McGrane 1935, p. 383).

2.3. The Great Depression Era: Real Estate Speculation and Special District Defaults

A sharp rise in indebtedness marked the years following the second wave of defaults (from the post-Civil War default era to the Depression era). Table 2.5.2 shows that per capita state and local debt doubled between 1922-1932 (in nominal terms):

Table 2.5.2 here

The growth in population of counties and cities led naturally to an increased demand for improved waterworks, paved roads, and public schools. Legislatures approved municipal bonds, issued for specific purposes, and sold them primarily to American investors. In many states, constitutional restrictions still did not affect the issuance of municipal bonds; thus, at the local level, industrialization continued at a rapid pace. In several instances, the demands for local expansion grew faster than municipalities could provide revenue, and the states responded by overlooking or weakening constitutional restrictions so that they could issue bonds to provide capital for county and city improvements (Hillhouse 1936, p. 35).[11]

Debt accumulation, however, was not uniform among states, as Table 2.5.3 displays:

Table 2.5.3 here

Those states with a high degree of land speculation and local development (e.g., transportation, school, and general improvements) topped the list of states with the fastest per capita municipal debt growth rates. These growth rates also reflected the debt policies of each state. The more liberal policy states saw debt issuance as a means to an end, a way of attaining prosperity quickly.

A real estate boom prior to the Great Depression led to a great deal of land speculation. Land values in many areas were inflated because of local railroad development; thus, municipalities with limitations that were based on a percentage of assessed values experienced a sharp rise in the amount of debt they could issue. Those governments with more liberal debt policies took advantage of higher debt limits and issued a great deal of debt (in the form of real estate aid bonds) during the period.

Moreover, special assessment district bonds gave state and local governments additional borrowing power. They were (and still are) a form of municipal debt; thus, in many states, they were not subject to constitutional restrictions. Special assessment district bonds provided funds for improving roads, constructing buildings, etc. Because the bonds were issued for specific purposes, they attracted investors who preferred seeing some tangible result of their investment.

The onset of the Great Depression surprised many state and local governments and created havoc in the financial markets. The nominal supply of money contracted as banks shut down. Land values plummeted because the demand for real estate dried up as quickly as the supply of money. Banks inherited land from people who could not meet mortgage payments. Moreover, state revenue funds dried up because income from tax collection declined. As Hillhouse (1936) quotes, there was "Wealth in vacant properties and poverty in revenue collections" (p. 13). The state and local governments were further limited because their ability to borrow decreased. Total assessed value in the U.S. declined 18% from a peak of $176B prior to the Depression to $144B in 1933-34 (Hillhouse 1936, p. 242); thus, the amount of debt available to issue was less. All of these conditions contributed to the third wave of state and local defaults.

The greatest percentage of defaults came from general improvement bonds (e.g., special assessment district bonds). The overall number of defaults of this type of bond was greater than the total number of railroad bond defaults in the previous century (though in any one decade the number of railroad bonds in default might outnumber the number of general improvement bonds in default).[12] As one might expect, bonds claiming the highest interest rates were defaulted on first.

Irrigation districts in the West contributed to a large number of special assessment district defaults. These bonds provided funds for building canals and irrigation systems that made arid, western states, such as California, habitable and profitable agricultural territories. Without the improvements made possible by these bonds, a great deal of the westward expansion would not have occurred (or at least would not have occurred so quickly). The defaults on this type of bond, however, were so numerous, that many investors and financial houses refused to carry such issues.

In addition to general improvement bonds, state and local governments also defaulted in large numbers on real estate aid bonds. In most cases the defaults were due to over zealous land speculation, not real estate fraud. One outstanding exception to this statement occurred in Florida (Hillhouse 1936, pp. 85-86). The Coral Gables development corporation purchased land around

Miami to create a community complete with streets, railways, golf courses, and swimming pools. The city commissioners (four out of five of which were associates of the development corporation) issued real estate development bonds up to the legal limit, which at this time was 25% of total assessed land values. As land values declined, the corporation sold parts of the development to the city at inflated prices; however, neither this action nor local revenues kept the corporation afloat or the city from defaulting on the bonds. This experience, as well as several others, made Florida the leader in municipal real estate bond defaults for this era.

The Federal Government assisted state and local governments through the default period, but did not make any attempt to assume their debts. In 1934, the Congress passed the Federal Bankruptcy Act that allowed municipalities to adjust their debt obligations under court supervision to avoid repudiation. Also, the Federal government helped states increase revenues through improving tax collections. The Home Owners Loan Corporation provided funds for citizens to make mortgage payments and, ultimately, pay their property taxes to the state and local governments.

While the defaults of the Depression era resulted from a combination of forces--forces that likewise contributed to two previous series of defaults--they were unique. First, American, not foreign, investors owned most of the debt issued.

Second, the defaults occurred in an environment with "safeguards" in place, i.e., constitutional limitations were enacted to prevent state and local governments from issuing debt in excess of revenues collected to meet interest and principal payments. Moreover, real estate speculation contributed to many defaults, and municipal governments issued most of the bonds in default (e.g., real estate aid bonds and special assessment district bonds). Finally, while the size of the Depression era defaults greatly surpassed those of the 1840s and 1870s, they were more concentrated. The defaults of 1870s occurred in approximately 20% of all municipal governments whereas the defaults of the Depression era affected only 10% (Hillhouse 1936, p. 17).

2.4. Conclusion

Rising indebtedness and subsequent defaults characterize much of the early financial history of U.S. state and local governments. At first glance, this pattern may seem cyclical in nature. Superficially, the three eras of indebtedness and default shared similar causal factors: all experienced periods of sustained economic prosperity during which state and local governments issued a great deal of debt. After an economic crisis, the issuing governments found themselves in a revenue shortfall and many could not meet short term financial obligations; thus, they defaulted on or repudiated their debt.

The details specific to each period, however, tell a different story. The debt issued during times of economic prosperity served several purposes: improving transportation by constructing railroads and canals, rebuilding areas devastated by civil war, and speculating on real estate development during the suburban boom. The main type of debt issued transformed from state debt issued on a pledge of good faith to financially guaranteed bonds to municipal special purpose debt. In addition, the foreign citizens that invested so heavily in the early debt era played much smaller roles in the pre-Depression boom era. The federal government actions also changed during each phase of default and repudiation, from a laissez-faire attitude during the 1840s to a more active, though, indirect role during the Depression. Finally, state constitutions became more restrictive after each phase of default so that by the early 20th century, most states and many municipalities conformed to some form of debt limitation.

From examining the details closely, we note that the constitutional restrictions, from a historical view, did not prevent defaults from occurring. Even after the restrictions were in place, states and municipalities continued to default on debt. While we can easily observe this fact, several questions concerning the restrictions remain pertinent enough to consider asking them in a present-day context: Are the restrictions effective in constraining debt? If so, do states (as several authors allege) circumvent restrictions by encouraging municipalities

to issue debt?

In addition to the constitutional questions, economic and political influences on indebtedness need to be addressed. Do demands for schools, prisons, and other social needs contribute to higher state and local debts? What role does federal assistance play in sub-national economics? How do political parties affect the amount of debt issued by a government? Finally (addressing all of the questions above) which of these factors plays the greatest role in affecting indebtedness?

The qualitative history of state and local finances cites each of these factors as playing principle roles in indebtedness/default outcomes; however, only a quantitative analysis can specifically address the question "by how much?". The remaining chapters of this dissertation will focus on quantitatively testing these influences on a more recent period in U.S. history, 1961-1990, to observe if present trends truly mirror past events.

2.5. Tables

Table 2.5.1 Dollar Value of state Revolutionary War Debt Assumed by Federal Government

State	Amount of Debt Assumed by Federal Government
New Hampshire	$ 282,595
Massachusetts	3,981,733
Rhode Island	200,000
Connecticut	1,600,000
New York	1,183,716
New Jersey	695,202
Pennsylvania	777,983
Delaware	59,161
Maryland	517,491
Virginia and Kentucky	2,934,416
North Carolina	1,793,803
South Carolina	3,999,651
Georgia	246,030
Total	$ 18,271,786

Source: Raymond, 1932, p. 51

Table 2.5.2 Growth of State and Local Per Capita Debt

Year	State	Local
1840	$ 10.25	$ 1.17
1850	8.19	...
1860	8.17	6.36
1870	9.15	13.38
1880	5.48	16.37
1890	3.37	14.79
1900	3.03	20.74
1910	3.57	35.81
1920	8.64	71.32
1930	19.17	123.06

Source: Hillhouse, 1936, p. 36

Table 2.5.3 State Real Per Capita Municipal Debt, 1922 and 1932 (in 1935 dollars)

State	1922	1932	% Increase
Alabama	$ 20.74	$ 49.03	130.7
Arizona	97.76	156.34	59.9
Arkansas	41.36	50.25	21.5
California	99.75	165.45	65.9
Colorado	75.11	120.25	60.1
Connecticut	55.21	100.94	82.8
Delaware	60.50	115.34	90.6
Florida	79.46	345.78	335.2
Georgia	16.49	33.27	101.8
Idaho	99.78	164.23	64.6
Illinois	43.93	141.40	221.9
Indiana	42.13	60.88	44.5
Iowa	51.40	93.24	81.4
Kansas	57.74	72.73	26.0
Kentucky	14.63	37.79	158.3
Louisiana	51.04	132.83	160.2
Maine	31.92	47.79	49.7
Maryland	55.58	142.72	156.8
Massachusetts	53.18	89.22	67.8
Michigan	67.54	149.03	120.7
Minnesota	84.96	97.20	14.4
Mississippi	45.09	72.06	59.8
Missouri	21.37	64.75	203.0
Montana	81.37	118.07	45.1
Nebraska	61.10	81.00	32.6
Nevada	56.70	95.50	68.4
New Hampshire	25.46	55.17	116.7
New Jersey	93.08	270.04	190.1
New Mexico	45.46	60.84	33.8
New York	117.49	241.04	105.2
North Carolina	46.71	116.73	149.9
North Dakota	43.40	46.74	7.7
Ohio	89.56	131.91	47.3
Oklahoma	49.69	76.88	54.7
Oregon	101.31	174.38	72.1
Pennsylvania	46.55	119.89	157.6
Rhode Island	53.73	137.70	156.3
South Carolina	27.23	55.03	102.1
South Dakota	45.32	52.15	15.1
Tennessee	40.27	88.88	120.7
Texas	60.52	127.23	110.2
Utah	71.75	80.64	12.4
Vermont	23.43	50.19	114.2
Virginia	34.37	65.38	90.2
Washington	92.59	135.30	46.1
West Virginia	25.28	38.04	50.5
Wisconsin	31.75	70.04	121.7
Wyoming	61.42	167.41	172.6

Source: Hillhouse, 1936, Appendix A and Ornstein, et al., 1985, pp. 80-1.

2.6. Endnotes

1.This chapter focuses on British investment in America; however, the importance of other foreign investment should not be discounted.

2.This pledge, however, was not financially backed; that is, no system of taxation existed as a backup when the flow of revenue from various projects required to finance the debt failed to materialize.

3.For a brief history of British debt practices between 1693-1800, see Szakaly (1992).

4.It is not known whether or not this choice was a well-planned, conscious decision; that is, whether foreign investors understood that the higher interest rate reflected both inflationary expectations and risk of default.

5.Restrictions on indebtedness were first included in Iowa's constitution in 1846, but these limitations applied only to state debt, not municipal debt (Erbe 1924, p. 370-371).

6.This problem persists even today. Cities and counties compete to attract profitable businesses and attractions (e.g., promising a professional sports franchise a new stadium or facility to induce them to reside in a certain city,

county, or state). The competition in the private/public bond market became so fierce it induced the government in 1990 to place a volume cap on the use of public debt.

7.We know today that even though a state may enact an amendment absolving itself of responsibility for debt incurred by nongovernment entities, it is not necessarily immune to retribution (e.g., lower credit ratings) from spurned parties (see Hackbart et. al 1990, p. 4).

8.This fact allows us to conclude that either the amendments were well received by most citizens and legislatures or that the restrictions were not particularly binding (either because not much debt was issued or a means of circumventing the restrictions was available); thus, legislatures since the late 19th century saw no need to amend them.

9.The nine states were Alabama, Arkansas, Florida, Louisiana, Minnesota, North Carolina, South Carolina, Tennessee, and Virginia. Minnesota's default problems differed from the other states because it was not controlled by a carpetbagger government and Americans, not Europeans, held all of the debt in default (McGrane 1935, p. 282).

10.A brief example of the compromise foreign investors reached with the state of Alabama shows the size of their financial loss. The total amount of old debt issued (not including overdue interest) should have amounted to $25.5M. In

an agreement with foreign bondholders, the state of Alabama agreed to acknowledge $12.6M, which would be repaid through issuing new debt. Part of the compromise included the following exchange:

For the 7 percent gold bonds issued by the state in 1873 for 25 percent of the state's indorsement of railroad bonds, aggregating $1,192,000, it was proposed to issue new 30-year 5 percent currency bonds to the amount of $596,000. These bonds were called "Class B" bonds (McGrane 1935, p. 291).

11.At this time, governments were not heavily supervised to ensure they were complying with all constitutional restrictions. Iowa's 1857 attempt at passing an amendment voiding all debt issued by the government above the constitutional limit provides evidence that such debt practices took place often enough to require an amendment preventing bondholders from seeking compensation.

12.School district bonds remained in good credit standing throughout the Depression era defaults. They turned out to be one of the safest type of bonds with very few defaults on record (Hillhouse 1936, p. 21).

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3 The Efficacy of State Constitutional Limitations on Borrowing

3.0. Introduction

Dismayed by the large deficits that the federal government has incurred over the past several years, many people in this country, including former president Ronald Reagan, advocate the adoption of an amendment to the Constitution requiring Congress to annually enact a balanced budget. At this time the so-called Balanced Budget Amendment has many hurdles to clear before it is ratified. At the state and local levels of government, on the other hand, voters and those who seek their votes have often been persuaded that it is desirable to constrain the range of budgetary outcomes from which democratically

elected representatives may choose. The longest running budgetary restrictions that confront state and local governments are limitations upon the amount and type of borrowing in which these governments may engage. Curiously enough, inquiries with state budget officials revealed these limitations have changed little since they were initially instituted, begging the question, how effective are these restrictions?

As is well known, strictures against operating budget deficits are virtually universal at the state and local level.[1] But this hardly implies that these entities do no borrowing. Each year in the United States, thousands of state and local governments and public agencies acquire capital through the sale of long-term municipal bonds. The welfare economic justification for this sort of borrowing is straightforward: because the benefits derived from such undertakings stretch far into the future, there is a prima facie rationale for financing them with long-term debt (serviced either through future taxation or the revenue stream generated by the project) rather than out of current taxation (Moak 1982).

State and local governments typically issue long-term debt as a series in which a certain percentage of bonds mature in successive years, with interest rates on each varying with the yield curve.[2] Most corporate and all federal government bonds, in contrast, are term issues; instead of being paid off at

maturity, such debt is simply rolled over by issuing new bonds (Moak 1982). For investors, the key characteristics of state and local municipal bonds is that the interest they yield is tax-exempt and they are, for the most part, extremely safe.[3]

Consequently, as shown in Figure 3.6.1, these bonds pay rates of interest that are lower than taxable corporate bonds of comparable quality and maturity. Their attractiveness varies, of course, with all major features of the tax code, including the structure of federal income tax rates, the tax treatment afforded to alternative investments, and whether or not the exemption also applies to state income taxes (see Poterba 1989). Thus we see in Figure 3.6.1 that the interest rate spread rose from less than 1.5 percent in the early 1960s to over 4 percent in 1980, as inflation-induced bracket creep increased marginal income tax rates for large numbers of taxpayers. Several innovations in the tax code enacted during the first Reagan Administration, including dramatic reductions in federal income tax rates, the establishment of competing tax-sheltered investments such as IRA, Keough, and 401-k plans, and provisions permitting the leasing of tax shelters, subsequently narrowed the spread. The large volume of tax-exempt bonds that were issued in the early 1980s might also have contributed to the decline in the interest rate differential. Many of the aforementioned tax provisions were eliminated in the 1986 Tax Reform Act, and the interest differential has stabilized at around 2.5

percent.

Figure 3.6.1 about here

Largely in reaction to the defaults on state bonds in the nineteenth century (discussed in the previous chapter), and the highly undesirable consequences they engendered, many states in the previous century incorporated restrictions on the issuance of "full faith and credit" debt into their constitutions.[4] What precisely is meant by "full faith and credit" is an unconditional pledge by the issuing government to levy whatever taxes are necessary to pay all interest and principal payments on a bond. Such debt may initially be backed up by specifically designated fees, taxes, or lease revenue, but in such cases the state acknowledges that it will step in to fund the debt if pledged sources are insufficient. These restrictions, taken from the information provided in Hackbart et al. (1990), included the following: (1) the limitation of full faith and credit debt to financing small casual deficits or for extraordinary purposes only; (2) a ceiling on the total amount of such debt; (3) a "flexible" ceiling that forbids debt to rise faster than some fraction of total revenue raised, property values, or some other revenue base; (4) the requirement that all debt issues be approved by a supermajority (either three-fifths or three-fourths) in the state

legislature; and (5) the requirement that the issuance of debt, or, alternatively, any debt in excess of the legal limit, be approved by the voters of the state in a referendum.

Table 3.5.1 about here

Table 3.5.1 reports the presence of each of these various restrictions in each of the 50 states. As shown here, a large majority of states have at least one type of constitutional limitation on full faith and credit debt (hereafter referred to as guaranteed debt), and some have as many as three. Most common is the requirement of voter approval for bond issues, stipulated in the constitutions of 25 states. Least common is the legislative supermajority requirement, and none of the six states that have adopted it have any other limitations in place. Twelve states make maximum guaranteed credit debt a function of available revenue, while fifteen others impose a dollar limit, typically less than a million dollars. This is obviously a trifling sum, but in the Nineteenth Century, when most of these constitutions were adopted, a million dollars was a more significant sum of money. There are only four states (Maryland, New Hampshire, Tennessee, and Vermont) in which bond issues can be authorized in the manner of regular legislation, i.e., with the approval of the governor and

state legislature.

3.1. Institutional Constraints on Policy Outcomes

To the extent there is a conventional wisdom concerning how efficacious such strictures are, it is probably that they are not. The requirement that bond issues be approved by the voters of the state in a referendum seems imposing enough; as Moak (1982) puts it, "The history of public debt in the United States at all levels tends to show that the electorate is financially more conservative than are its representatives in government" (p. 114). Perhaps, but most of the time bond issues appear to be relatively popular. Between June of 1982 and June of 1990, for example, voters in California approved 42 of the 43 bond measures submitted to them. Similarly, the requirement that bond issues be approved by supermajorities in the state legislature may not be much of a hurdle, given the tendency for expenditure logrolls (and presumably borrowing logrolls as well) to approach universalistic proportions. It is also important to consider just what the absence of constitutional debt limitations imply. States may not have them because there historically has never been much demand, either on the part of the people or their elected representatives, to take on a great deal of debt.

The actual historical record, also, suggests that in this particular policy area majority rule is not easily thwarted, and that state governments can issue debt in the face of even the most stringent of constitutional limitations. As Hackbart et al. (1990) report, in order to issue debt, "...states may simply change their constitutions periodically. For example, Texas is restricted to casual deficit borrowing, a $200,000 ceiling with no constitutionally detailed avenues for authorizing additional debt. In that situation, each state bond issue is authorized via constitutional amendment" (p. 3).

Even if various constraints on issuing guaranteed debt are binding, it may well be that public officials can routinely circumvent them. Specifically, they can always adopt the simple expedient of issuing revenue bonds that are <u>not</u> guaranteed by the taxing power of the state. In general, state governments do not issue revenue bonds directly, but rather establish authorities, boards, agencies, districts, or commissions---what Bennett and DiLorenzo (1982) refer to generically as "off-budget enterprises"---to do so. The traditional form of an off-budget enterprise is that of a "general operating authority," which issues bonds to construct public facilities such as power generation plants, roads, and airports. Revenues derived from the project or facility so funded, e.g., utility bills, tolls, or landing fees, are obligated to servicing the debt. In many instances, the bonds are also backed by a mortgage on the property or equipment involved (Moak 1982).

A second form of off-budget enterprise that issues nonguaranteed debt is known as the "lease-back" authority. These entities issue revenue bonds to invest in a wide variety of facilities such as schools, hospitals, and office buildings, which are then leased back to state and local governments that use tax revenues to pay the lease. Thirdly, nonguaranteed state debt also includes what the Census Bureau refers to as "public debt for private purposes," or what Moak (1982) calls "on behalf of" debt. The original manifestation of this sort of debt was the industrial revenue bond, but private purpose debt is now issued for housing developments, mortgage loans, shopping malls, student loans, sports facilities, pollution controls on privately owned facilities, and a wide gamut of other purposes.[5] Used more at the local level than at the state, this type of debt was drastically limited by the 1986 Tax Reform Act.[6]

Because taxpayers are not ultimately liable in the case of default, authorities issuing nonguaranteed revenue bonds are subject neither to constitutional or statutory debt ceilings nor to approval by the voters. They are, as Hackbart, et al. (1990) put it, "relatively free from oversight other than that exercised by their boards of directors" (p. 1). Not surprisingly, it is widely asserted that public officials resort to revenue bonds in general and lease-back arrangements in particular to circumvent constitutional and statutory limitations on full faith and credit debt. Describing the 1935 Pennsylvania Municipal Authorities Act that permitted the formation of off-budget enterprises with borrowing

authority, DiLorenzo and Bennett (1982) write that "local governments had found a way of insulating themselves from the immediate wishes of the voters and the intent of the state constitution's restrictions on local borrowing" (p. 15).

The downside of issuing nonguaranteed revenue bonds is that investors generally perceive them as riskier investments and thus demand a higher rate of interest (Moak 1982). Figure 3.6.2. reports annual yields for three different types of debt: guaranteed AAA-rated bonds, guaranteed Baa-rated bonds, and corporate debt (a proxy for nonguaranteed debt). The yield spread between the highest rated government bond and the lowest rated debt instrument varies from .2% to nearly 1.0%. Both forms of government debt, however, carry lower yields than corporate, nongovernment bonds.

Figure 3.6.2 here

The authority who issues bonds can, in principle, set lease payments or user fees at whatever level is required to service the debt, just as the state government itself may raise taxes to meet full faith and credit debt obligations. Such pricing flexibility is probably available where demand is fairly inelastic

and service provision is monopolistic, as in the case of water and electrical utilities. In other projects funded by revenue bonds, however, it may not be possible to garner more revenue by simply raising the rent or increasing user fees. Whatever the case, we would expect that public officials would generally prefer to issue guaranteed debt when they can in order to obtain funds at lower rates of interest.

In the following sections of this chapter we assess the effectiveness of the various restrictions on borrowing, taxing, and spending that we have identified. Specifically, the analyses we undertake are intended to answer the following questions:

1. Do constitutional restrictions on state full faith and credit debt actually constrain the amount of such debt that is issued?

2. If so, to what extent are these restrictions circumvented by the issuance of nonguaranteed debt?

3. If not, is it because the limitations are not binding (i.e., the amount of debt issued is well below the limit)?

3.2. Constitutional Debt Limitations and State Bonded Indebtedness

A good way to begin this empirical analysis is with a broad overview of the data on state bonded indebtedness. As shown in Table 3.5.2, which lists the amount of guaranteed and nonguaranteed debt outstanding for all 50 states in fiscal years 1962, 1971, 1981, and 1990, there is considerable variation in the amount and nature of the debt carried across states as well as across time (states are listed in order of the total amount of long-term debt they have outstanding). Many states eschewed full faith and credit debt. Four of them---South Dakota, Arizona, Nebraska, and Indiana---had no guaranteed debt at all throughout this period, a large number of others like Wyoming and Idaho never had more than trifling levels, and Iowa paid off the sole issue of guaranteed debt it ever took on.

Table 3.5.2 about here

In contrast, only Oregon and Alaska had no nonguaranteed debt outstanding at the beginning of our time period, and they and every other state eventually accumulated a good deal of it. By fiscal year 1990 only Kansas had less than

a hundred dollars of nonguaranteed debt per capita, and fifteen states had over a thousand. The most striking figures in this table are probably those pertaining to Alaska, whose state financial structure, for not dissimilar reasons, bears much more resemblance to that of Saudi Arabia than to that of any other state in the Union. By 1980 real per capita state debt in Alaska was nearly three times greater than that of the next most debt-ridden state. In recent years state per capita debt in Alaska has fallen somewhat---not because much debt has been paid off, but rather because the population has been increasing so rapidly. In any event, we think that Alaska's debt structure is so unusual that it is best to exclude it from all subsequent analyses.

Although Table 3.5.2 represents only an exploratory cut at these data, there is no obvious indication here that states systematically circumvent limitations on guaranteed debt by issuing nonguaranteed debt. There is no relationship between the two figures in fiscal year 1962, but by fiscal year 1981 the states with the most guaranteed debt seem to have relatively large amounts of nonguaranteed debt as well. To investigate this relationship a bit more deeply, we calculated the correlation (Pearson r) between the total level of real per capita guaranteed and nonguaranteed debt for every year in our series. The results, reported in Figure 3.6.3, display an interesting pattern. Although the two are virtually uncorrelated at the beginning of our series, the correlation rises dramatically during the 1970s and 1980s to a peak of .73 in 1985. After

that the correlation drops off again considerably. Why did this occur? Our best conjecture is that the correlation between the two types of debt is particularly high during periods of strong demand for debt; during times when state governments are taking on large amounts of guaranteed debt, they and the off-budget entities they have created are also taking on large amounts of nonguaranteed debt. When demand is slack, in contrast, the amount of each type of debt outstanding is more reflective of institutional and other differences between states. If we detrend the series, looking only at the yearly change in debt issued (that is, debt level in year t minus debt level in year t-1), no definite relationship appears between guaranteed debt and nonguaranteed debt. Figure 3.6.4 shows that the relationship between the two types of debt is quite random, fluctuating greatly from one year to the next. We never observe the strong negative correlation predicted by the circumvention hypothesis.

Figures 3.6.3 and 3.6.4 about here

The data in Table 3.5.2 do suggest, though, that levels of guaranteed debt outstanding are associated with some of the constitutional limitations discussed previously. Of the thirteen states with negligible amounts (less than

$20 per capita) of guaranteed debt in fiscal year 1990, 9 required a referendum to approve such bonds, eight had a dollar limit (six had both of these features), and five restricted guaranteed debt to financing casual deficits or extraordinary expenses only. In contrast, of the twelve states that had accumulated $500 or more of guaranteed debt per capita at one time or another during this time period, only four required a referendum, only one had a dollar limit, and two of them had no limitations whatsoever.

These relationships are borne out further in Table 3.5.3, which reports the average amount of real per capita guaranteed and nonguaranteed state debt outstanding during this time period in the states that have each of the various types of constitutional debt limitation. States which require a referendum and those which have specific dollar debt limits both carry lower than average amounts of full faith and credit debt, but the most effective limitation appears to be the blanket restriction on such debt save for financing casual deficits or extraordinary expenses only. The states with no constitutional limitations at all had much higher levels of guaranteed debt than average, but the highest totals of all are in the states which require the approval of a super-majority in their state legislature to issue such debt. As in Table 3.5.2, there is a positive association between levels of guaranteed debt and nonguaranteed debt, which is directly contrary to the circumvention hypothesis.

Table 3.5.3 about here

Moreover, there is no evidence in Table 3.5.3 to suggest that effective limits on guaranteed debt lead to higher state general expenditures, or that these restrictions cause state governments to slough off either debt or expenditures to local governments. At both the state and local levels there is a relatively strong positive correlation (over .6 in most years) between amounts of outstanding debt and amounts of current expenditures. And, although the relationship is usually a modest one, local long-term debt and expenditure levels tend to be positively correlated with state debt and expenditure levels. Nowhere is there the negative correlation that would signify circumvention of limitations on full faith and credit debt by borrowing more or spending more somewhere else.

The inferences we have made on the basis of the data in Tables 3.5.2 and 3.5.3 remain tentative, of course, until we have taken into account other factors that have an important influence upon real per capita levels of state debt. A more rigorous examination of constitutional debt limitations thus requires a regression analysis in which other potential explanatory variables are specified.

Our regression analysis gets much of its foundation from the following reduced form equation (similar to that found in Matsusaka (1993)). It is not our intent to solve for a structural formula; we believe the reduced form equation for the stock of debt simply formalizes the relationships we wish to test.

For each period t and each state i, the government sets the level of taxes, T_{it}, spending, E_{it}, and borrowing, D_{it}, so that

$$E_{it} = T_{it} + D_{it} + F_{it} \quad (1)$$

F_{it} is the level of federal revenues that state i receives in time period t.

Government decision makers must weigh the benefits versus the costs of pursuing different goals; therefore, they maximize an objective function, $U=U(E_{it}, T_{it}, D_{it}, X_{it}, K_{it}, F_{it})$, composed of the three endogenous policy variables mentioned above as well as three exogenous vectors, F_{it}, X_{it} and K_{it}. X_{it} contains socio-economic supply and demand variables that may shift the objective function. K_{it} is composed of dummy variables representing the constitutional limitations in each state over the time period.

Solving the above maximization problem yields reduced form equations for T_{it}, E_{it}, and D_{it}.[7] We are concerned primarily with borrowing decisions; therefore, we approximate the reduced form D_{it}, denoted $D^*(K_{it},X_{it},F_{it})$, as the following linear equation:

$$D_{it} = \alpha + \beta X_{it} + \gamma F_{it} + \delta K_{it} + \varepsilon_{it} \quad (2)$$

The coefficients for each variable are determined from the regression analysis, and the error term for each panel is assumed to be normally distributed.

Applying the model towards our empirical analysis, we use i=1..49 (excluding Alaska) and t=1..30. We omit Alaska because, as stated earlier, it is an extreme outlier and may skew our results in one direction. We start our analysis in 1961 for several reasons. Initially, we wanted to include all fifty states in our analysis. Information on Hawaii and Alaska, however, was not recorded until the late 1950s. Moreover, we wanted to keep the definition of all the variables that we used the same across the entire period. Prior to 1960, many of the variables used in our analysis were specified differently; for example, before 1960, debt was defined by term length only, not type of debt and crime rate was not composed of the same felony crimes. For the sake of continuity, we began our analysis in 1961.

Previous research on municipal bonds suggests what variables to include in X_{it}. Past work has indicated that an important influence upon how much debt a state can issue is the income of its residents (Holtz-Eakin 1991). Just as higher income households can qualify for larger mortgage loans, higher income

states can presumably carry higher levels of bonded indebtedness. We also reasoned that states with higher crime rates, which implies a greater need for police stations, courthouses, jails, and prisons, and states with greater numbers of children between the ages of five and seventeen, which signal increased educational and welfare demands, might need to issue more debt. In California, for example, as prisons have become more overcrowded and crime has increased, bond issues to build new facilities and repair existing ones have appeared frequently as propositions on election ballots. Thus, the initial control variables found in the vector, X_{it}, capture important supply and demand factors that may influence state bonded indebtedness--revenue supply (personal income), infrastructure demands (crime rate), and education needs (school age children).

Upon further consideration, we included three additional supply variables in our vector X_{it} to test the influence of certain non socio-economic factors on the level of debt. State governments can slough off projects to local governments; therefore, this factor may influence the level of debt carried by state governments. We included local government expenditures and total debt in our analysis to see if higher levels of local spending or borrowing influences the level of state indebtedness. Moreover, to directly test for circumvention, we included full faith and credit debt as a right hand side variable to be included in tests of nonguaranteed debt. If circumvention plays any significant role in

state government borrowing practices, then we should observe the level of full faith and credit debt inversely affecting the level of nonguaranteed debt.

In addition, as indicated previously in this paper, researchers have linked the volume of state and local bond issues to the amount of financial assistance state and local governments receive from the federal government. During the halcyon days of revenue sharing, states were able to fund much of their capital budget with state revenues while using federal dollars for general expenditure needs. Conversely, when the federal funds disappeared in the 1980s they could no longer build without borrowing because state revenues had to be used for general budgetary expenses (Government Finance Research Center 1983a). Hence, we included federal revenues, F_{it}, as an exogenous factor in our model.

As political scientists we probably could not in good conscience fail to investigate the possibility that debt levels are sensitive to partisan politics; however, it is difficult to believe partisan politics behaves the same way at the state level of government as it does at the national level. First, it is not easy to relate party affiliation to borrowing practices. At the national level, it is often suggested that Democrats may be inclined to spend and borrow more than their Republican counterparts. The level of spending is not so easily attibuted to one party at the state level because evidence shows that Democrats spend more on welfare programs while Republicans spend more on

business projects (Kiewiet and McCubbins 1991). Moreover, there is a great deal of variance between states on what it exactly means to be a Democrat or a Republican. Southern Democrats, for example, have long been classified separately in social science research because their conservative policy preferences place them closer to the national Republican party platform than their own. In many states there tends to be less distinction on policy issues based on partisanship than at the national level. Because the only realistic way to treat these distinctions would be on a state by state basis, we felt it would be better to leave such individual analysis for future research and concentrate our present efforts on aggregate effects.

Though many states have more than one type of limitation, for this analysis we redefined the constitutional variables into mutually exclusive categories. After examining the policies followed by several states with multiple limitations, we noted that those states with a referendum restriction are not bound by other limitations because this amendment procedure nullifies all previous agreements. As noted earlier, if a state, such as Texas, has a dollar debt limit of $200,000, it can supersede this limit by passing a waiver amendment (via referendum) at the same time the bond issue is approved. Thus, we classified all states with a referendum restriction into this category only. Then, states with a dollar or a flexible debt limit, but not a referendum requirement, were placed in their own separate categories. The efficacy of the

dollar debt limit, in particular, needed to be tested because it was set so low (ranging from $0 to $2M). The variable controlling for the supermajority of the legislature requirement did not need further adjustment because it was already mutually exclusive. The new mutually exclusive categorization appears in Table 3.5.4. The constitutional limitation variables were also included in the institution vector, K_{it}.

Regressing the level of debt on the limitation variables could prove problematic from a statistical point of view because the restrictions may be endogenous. By this we mean that the level of debt within a state may not be the result of restrictions imposed if the limitations are changed to reflect political or socio-economic conditions in the state. Constitutional restrictions on borrowing may lower debt levels, but states with lower debt levels may impose limitations that reflect their conservative borrowing nature. Using the model specified above would be inappropriate because it assumes that the restrictions control debt levels, not that debt levels affect borrowing limits. The calculation would yield biased, inefficient results.

We tested our data to see if using the limitation variables in the model specified above would lead to an endogeneity problem and thus require a correction such as the two-stage least squares approach. We contacted budget officers from different states, enquiring if the limitations on borrowing had

changed substantially within the last thirty years. Overall, the restrictions remained intact, with only a few minor changes to flexible debt limit percentages. Surprisingly, those states with low dollar debt limits (ranging from $0 to $2 million) had not changed these levels since they were incorporated, in most cases over a hundred years ago. Next, we tested if socio-economic characteristics of the states affected the limitation. We used a latent variables approach, specifying a separate equation for each constitutional limitation variable, and regressing this value upon income, school age children, crime rate, and federal revenues. The logit analysis did not reveal any strong relationship between the debt restrictions and the socio-economic status of the states. We concluded that endogenous dummy variables did not pose a serious problem and that our model specification was appropriate. Other scholars conducting similar research have had similar results (Poterba 1993).

In the following regression analyses, then, our dependent variables are annual figures of real per capita state guaranteed debt and real per capita state nonguaranteed debt. In addition to the dummy variables for each of the four mutually exclusive constitutional debt limitation provisions, the two debt variables are regressed upon:

(1) Real Per Capita Personal Income.

(2) Crime rate. The well-known index, reported by the Justice Bureau, is the number of major felonies reported to the police per hundred thousand residents.

(3) Percent Population Between Ages 5 through 17. The population figure is expressed as a percentage of the total residential population in a state.

(4) Federal Assistance. It is expressed as the percentage of total state population as accounted for by aid from the federal government, including revenue sharing funds provided under the State and Local Fiscal Assistance Act of 1972.

(5) (Exclusively used in the nonguaranteed equations) Real Per Capita Full Faith and Credit Debt.

(6) (Exclusively used in the full faith and credit equations) Real Per Capita Local General Expenditures.

(7) (Exclusively used in the full faith and credit equations) Real Per Capita Local Total Debt.

Given the manner in which we have specified the variables in this regression

analysis, we would expect coefficients of the personal income, population, and crime rate variables to be positive, and the federal assistance term to be negative. To the extent any or all of the debt limitation provisions are effective in constraining full faith and credit debt, the signs of these terms in the first equation should be negative. To the extent these provisions are circumvented by the issuance of nonguaranteed debt, their signs in the second equation should be positive.

Before reporting the methodology used to estimate the effect of the above variables on debt, we need to address the question of whether it is appropriate to focus on the stock or flow (i.e., year-to-year changes) of debt. Arguments have been made in favor of both as the most appropriate policy measure (Bahl and Duncombe 1993). Our analysis focuses on the stock of debt for several reasons. First, the socioeconomic variables we have chosen are also "stock" variables--they are all specified as a percent of the population for a specific year. The year to year changes in these variables are small; however, the long run (stock) changes are more significant. Moreover, the flow of debt, which concentrates on the net change in debt, is difficult to explain. We experimented with various policy lags but could not explain any significant variance in the flow of debt. The lack of results indicates that the policy lag structure in far more complicated than we specified. Year to year changes in debt levels depend crucially on economic and political conditions within each

state; thus, aggregating the data produces noisy results because of the various policy lag structures of each state. The stock method depends less on year to year changes because it is focusing more on long run trends. Because we wish to focus on such trends across states over a thirty year timespan, it is more appropriate in this analysis to estimate the stock of debt than the flow.

We pooled the times series data together and ran an ordinary least squares regression, making the assumption that the intercept and slope remain constant. Because our data contain observations over a thirty year time period, serial correlation may affect our evaluation of the OLS regression results. Theory states that serial correlation produces inefficient standard errors and yields significance test results that are overly confident. This occurs when the errors are correlated overtime; for example,

$$\varepsilon_t = \rho\varepsilon_{t-1} + \upsilon_t \qquad (3)$$

Known as an AR(1) process, the error terms are composed of a random term, υ_t, and some percentage of the previous year's error term. The degree of correlation, ρ, ranges from zero to 1; zero implies that the standard errors are not correlated and one suggests the opposite. An AR(2) process is set up similarly except that the error term is correlated with the standard error of two periods ago, and likewise for higher AR(i) processes.

We examined the residuals after running a simple ordinary least squares regression. Graphing them over time for each state revealed that, indeed, serial correlation was present, but the degree varied greatly from state to state. Some states had fairly flat values while others showed typical evidence of a autocorrelation (e.g., Figure 3.6.5. shows the declining error terms over time for the state of New Hampshire). The residuals across states did not appear to share a common mean value; therefore, it was not necessary to correct for this factor along with the serial correlation. Following Pindyck and Rubinfeld (1981), we calculated the correlation coefficient, ρ, for each state using the following formula:[8]

$$\rho_i = \frac{\sum_t (\varepsilon_{it}\varepsilon_{it-1})^2}{\sum_t \varepsilon^2_{it-1}} \qquad (4)$$

for i= 1..49 and t= 1..30

While these values were close to 1 (ranging from .7 to .99), the difference between using a straight first differencing approach (i.e., ρ=1) and applying the ρ calculated above to a similar procedure proved significant enough to warrant

using the exact values. After completing the calculation for each state, a generalized differencing procedure was used. This statistical method removes the correlation from the equation according to the estimated degree of severity (which depends on the size of the coefficient calculated). We assumed that the errors were correlated according to an AR(1) process because we found no strong evidence to support the use of a higher process model. Thus, we estimated the following equation:

$$(D_{it} - \rho_i D_{it-1}) = (\alpha_{it} - \rho_i \alpha_{it-1}) + \beta(X_{it} - \rho_i X_{it-1}) + \gamma(F_{it} - \rho_i F_{it-1}) + \delta(K_{it} - \rho_i K_{it-1}) + (\varepsilon_{it} - \rho_i \varepsilon_{it-1}) \quad (5)$$

for i=1..49 and t=1..30

Results are reported in Table 3.5.5. We estimated five different regressions, beginning with the basic model specified above (using the initial X_{it} vector variables) in equation 1 and 2, and then we varied the exogenous variables for equations 3, 4, and 5. In equation 3, we include guaranteed debt as an independent variable. Local total debt and local total expenditures appear as right hand side variables in equations 4 and 5, respectively. Three equations (1, 4, and 5) used full faith and credit debt levels as the dependent variable

and two equations (2 and 3) regressed nonguaranteed debt upon the specified variables. The top entry is the regression coefficient, the bottom entry is the standard error.

First of all, we see that the coefficients of the income term in all of the equations are statistically significant. It implies that a dollar increase in per capita income leads to a one cent increase in guaranteed debt and a three cent increase in per capita nonguaranteed debt. Guaranteed and nonguaranteed debt levels, however, are apparently not affected by federal assistance in any of the regressions. In addition, the coefficients on the crime rate are large and positive in all of the guaranteed debt equations, indicating that a rise in the rate of felony crimes lead to higher levels of guaranteed debt. The coefficients on the crime rate variable in the nonguaranteed debt equation, however, are large and negative, which is contrary to expectations. The population of schoolage children does not appear to have a strong affect on the level of debt a state holds.

Table 3.5.5 about here

As for the effects of constitutional debt limitations, we see that two of the terms---the limitation to funding debt under a specified dollar limit and the requirement of a referendum---are both very large and in the predicted

negative direction across all of the equations. Of course these results are what we anticipated on the basis of findings reported previously in Tables 3.5.2 and 3.5.3. Also as before, neither the flexible debt ceiling provision nor the requirement of legislative supermajorities appeared to hold down debt levels. In fact, in all of the guaranteed and nonguaranteed equations, states with the supermajority limitation appear to issue **higher** levels of debt. Neither of the signs of the referendum or dollar debt limit limitation dummies are significantly positive in the nonguaranteed debt equation, as would be predicted by the circumvention hypothesis; quite the opposite, they are both strongly negative.

Equations 4 and 5 also support earlier findings. The local government variables included in both of these equations do not significantly influence the levels of full faith and credit debt. This result gives more support to our initial conclusion that states do not pursue a strong policy of circumvention by sloughing off programs to the local governments for funding. That does not mean that state governments do not attempt to circumvent the borrowing limitations. Evidence from equation 3 shows that there is some substitution between full faith and credit and nonguaranteed debt, but the effect is almost negligible. State governments do not appear to actively pursue in any serious manner a policy of circumvention though the issuance of nonguaranteed debt. We conclude that certain constitutional provisions, namely the dollar debt

limitation and the requirement of a referendum, do lead to lower levels of real per capita full faith and credit debt. However, we are unable to find any strong evidence to support the contention that nonguaranteed debt is issued in order to circumvent restrictions on issuing guaranteed debt.

Admittedly, the data contains features that may make the differencing model inappropriate. Specifically, there is a censoring problem; that is, the debt data are always greater than or equal to zero. Thus, the series is truncated at zero. We therefore estimated the relationship with both a covariance model and a tobit model (these models are better able to deal with the censoring problem). The covariance model allows time series data to be pooled together without restricting the intercept term to remain constant across states. Following Pindyck and Rubinfeld (1981), we specified the model using dummy variables for each state:

$$D_{it} = \alpha_{it} + \beta X_{it} + \gamma F_{it} + \delta K_{it} + \varepsilon_{1t} S_{1t} + \varepsilon_{2t} S_{2t} + \ldots + \eta_{it} \qquad (6)$$

where $S_{it} = 1$ for the ith state i= 2..49

0 otherwise

Excluding one state for each type of limitation prevents perfect collinearity among the variables. The dummy variables measure the change in the

intercept term across states, explaining much of the error variation; however, they do not shed light on the source of variance. In addition, the model uses a significant number of degrees of freedom which may decrease its statistical power. We interpret these coefficients to be the average amount of real debt per capita held by a state over time. The states were grouped according to the mutually exclusive debt limit classification found in Table 3.5.4. While each limitation category has what might be termed "outlier" states (i.e., states with values that deviate significantly from other states), a definite trend emerges. The limitations do not appear to affect the levels of nonguaranteed debt held by the state, but states with a referendum requirement or dollar debt limit do hold lower levels of guaranteed debt (confirming our earlier results). This observation becomes apparant if we average the coefficient levels of real per capita debt across states within each debt limitation category (Table 3.5.6).

Table 3.5.6 about here

For guaranteed debt, the averages for referendum and dollar limit states, $200 and $5, respectively, were noticeably lower than those states with a flexible debt limit ($387) or a supermajority of the legislature requirement ($468). The latter were both quite a bit higher than the average across all states ($265).

This distinction becomes less when we consider the nonguaranteed category. Three of the four types of limitations have higher values than the average of all the states, but the difference is not significant. We cannot make strong claims regarding the efficacy of the restrictions on the level on nonguaranteed debt.

The tobit model, or Tobin's logit as it is sometimes referred to, is used when the data are truncated; that is, when the observations stop at a certain value. In our case, we have values for the amount of real debt a state holds that never become negative. Thus, we observe a dependent variable that is always greater than or equal to zero, but never less than zero. If we run OLS using the above data, any test statistic used may be inaccurate because the expected value of our residuals do not equal zero (a necessary assumption when using OLS). To solve this problem, the tobit model uses a maximum likehood technique that combines a discrete and continuous nonlinear procedure to estimate the regression equation. We estimated the tobit model using the variables specified above for guaranteed debt only and compared the coefficients to those from the OLS Model. The results are reported in Table 3.5.7.

Table 3.5.7 about here

The coefficients across both types of estimation procedures are similar in magnitude and sign. The constitutional debt limitations in the tobit model are stronger than those from the OLS model, while the socioeconomic variables are greater in size and significance in the latter than the former. Thus, this additional analysis confirms our earlier conclusions. The tobit and covariance models both demonstrate that levels of full faith and credit debt are affected by the referendum requirement and the dollar debt limit, but not by the flexible debt or the supermajority of the legislature restriction. The socioeconomic variables raise the level of indebtedness in a state, while Federal Revenues, in these models, ease the borrowing pressures of the state. In both of these models, however, we found no evidence of circumvention.

It would appear to us, then, that decisions about what **type** of debt to issue are driven primarily by factors other than the constitutional limitations we have investigated. According to Moak (1982), there are several compelling reasons for choosing to issue revenue bonds rather than full faith and credit debt, and why it is a good idea to segregate "self-supporting" debt from tax-supported debt. First, there are some important political advantages in issuing nonguaranteed revenue bonds. Debt financed by revenue means that it is the users who pay for a project rather than the taxpayers, and a large share of users are often nonresidents.

Secondly it is often easier to raise fees than to raise taxes: "When the enterprise is separately funded and this is fully demonstrated by the accounting system, the governing body may find it more appropriate to maintain charges at an appropriate level---even in the face of opposition---because it is necessary to meet contractual obligations relating to the enterprise debt"(p. 112). Perhaps most importantly, however, issuing guaranteed debt for a project that could readily be funded with revenue bonds "dilutes the pledge;" a state or municipality that becomes overly reliant on guaranteed debt can raise enough concern among the ratings agencies that the sought-after interest rate advantage disappears.

Also, the federal government may affect debt issuance by the policies it enacts. The 1986 Tax Reform Act forced states to limit the amount of tax-exempt debt issued to the greater of $150 million or $50 per capita. In addition, in 1990, the federal government placed a cap that limits the volume of bonds that may be issued when the public benefits significantly. State officials responded by establishing commissions to deal with the distribution of tax-exempt rights to state and local issuers. While this response has helped states organize under the new rules, it has not loosened the existing tight grip on state borrowing abilities.

Finally, there is some evidence that "neighborhood effects" may have

influenced some states to hold less guaranteed debt. Beginning in the late 1970s, guaranteed debt declined, most rapidly from fiscal year 1976 through 1980. It should be noted that in 1975, New York City suffered a severe fiscal crisis that nearly caused a collapse in the financial structure of the government. The near catastrophe was brought on by poor financial practices. To finance much of its municipal activities, New York City officials issued a great deal of guaranteed debt, and they floated even more bonds to cover this debt when the notes came due. As Shefter (1985) notes, "Once these unorthodox financial practices became general knowledge, the capital markets closed to the city." (p. xxi) New York City officials, no longer able to rely on full faith and credit debt, turned to nonguaranteed debt as a new source for financing municipal activities. It is quite possible that the near collapse of New York's government from poor financial practices and its subsequent restructuring through nonguaranteed sources affected the financial communities of surrounding states. If we examine the changes from 1977-80 in the level of guaranteed debt held by states, eight of the nine states with the greatest decline in full faith and credit debt (i.e., over $100 per capita) were New England (Connecticut, Delaware, Maine, Massachusetts, Rhode Island, and Vermont) and Mid-Atlantic (Pennsylvania and Maryland) states. It is unlikely that these events are entirely coincidental, and several financial officials from the above state governments and inventment houses agree that the New York Crisis did influence financial practices in many states, perhaps

simply by demonstrating the vulnerability of financing bonds by state revenues alone. Neighborhood effects, thus, may account for some of the dramatic decline in the level of full faith and credit debt held by states in the late 1970s.

3.3. Some Debt Limitations Revisited

In the above analysis, the dollar debt limit appears to have constrained the level of debt but the flexible debt limit significantly did not. Is the dollar debt limitation much more effective than the flexible debt restriction? Are the restrictions set so high so as not to be binding? Or do states exceed them directly via referendum, legislative majority vote, etcetera? We consider each of these questions in turn, first for the dollar debt limit and then for the flexible debt limit.

3.3.1. The Dollar Debt Limit

Sixteen states have a debt limit tied to a dollar amount (though, in the regression analysis, we only had 4 because the remaining 12 also have other constitution restrictions). By today's standards, the amount is very low, varying from $50K in Oregon and Rhode Island to $2 million in Maine and Idaho. Adopted into most constitutions over one hundred years ago, these limits were meant to be binding **at the time** they were adopted (i.e., the dollar value of these constraints was deliberately set low). Many state legislators (in

particular, those from the Democratic party) hoped this action would restore their state's credit worthiness which was severely damaged by a great number of large state and local defaults in the 1840s. They hoped that the legislation would prevent such defaults from occurring again.

While provisions were not included in the original legislation to accommodate future variations in the dollar's value, many state constitutions allow the limit to be temporarily exceeded. Of the fifteen states that have a dollar debt limit, twelve require a referendum to exceed the constraint and two require a declaration of emergency by the governor followed by a two-thirds vote of the house. Alabama does not allow debt over the limit for any reason.

To analyze the "bindingness" of this constraint, the total amount of full faith and credit debt was subtracted from the dollar debt limit for each year between 1961-1990.[9] Each state was then evaluated by the following criteria: (1) did the total level of full faith and credit debt exceed the dollar debt in any of the years, and if so, by what percentage, and (2) if the debt level did not exceed the limit, was the limit constraining or was no debt issued? Table 3.5.8 lists each state, the size of the dollar debt limit, and the results of our evaluation.

Table 3.5.8 about here

In only one case was the constraint tested and it actually restricted the debt level. From 1961-1986, the state of Idaho maintained levels of guaranteed debt that ranged from a low of 100K to a high of two million, but it never exceeded the two million dollar ceiling.

Table 3.5.8 shows that the remaining states fall into two categories. Eight states repeatedly exceed the constraint by margins greater than 30% of the debt limit. Out of this group, three have the additional requirement of allowing only casual deficits or extraordinary expenses only while the other five require a referendum to issue debt or exceed the limit. The other seven states have at some point accumulated levels of debt in excess of their limit, but no longer actively issue full faith and credit debt; thus, by the mid-1980s, most of these states retired all of their guaranteed debt. Out of these states, five are restricted to issuing debt for casual deficits or extraordinary expenses only, the remaining two require a referendum to issue debt.

What does this tell us about the efficacy of a dollar debt limit constraint? Perhaps a dollar debt limit is not as effective as we first believed. True, in our regression analysis, the dollar limit appeared to constrain the level of debt, but if we include states that have other limitations (like the referendum restriction), eight out of the sixteen states exceed the limit specified. On the other hand, half no longer even issue full faith and credit debt (among them

are most of the states that have a dollar debt limit only), perhaps a sign that the state was constrained by the limitation and no longer found it feasible to issue guaranteed debt.

One possible reason why the dollar debt limit is less effective in some states than in others is the power of other constraints. As mentioned above, in the states where guaranteed debt is no longer issued, five out of seven also are restricted to casual deficits and extraordinary expenses only. Those states that exceed the dollar debt limit consistently also have a referendum requirement. Perhaps the answer to "Is the dollar limit as effective as first thought" relies upon whether a device exists to readily override it (as the referendum requirement appears to do).

3.3.2. The Flexible Debt Limit

Twelve states have a constitutional limit that forbids the total level of guaranteed debt to rise faster than a percentage of state revenues, appropriations, or assessed property values. Out of these states, eight have no other restrictions, three have a referendum requirement and one limits debt to casual deficits or extraordinary expenses only.

Our empirical analysis focused on the six states that limit debt levels to a percentage of general revenue or appropriations. We have not been able to

obtain information from the other six states that have restrictions base on assessed property values; therefore, we cannot judge the effectiveness of flexible limits in these states. To test the bindingness of the restriction using the data already gathered, we calculated the difference between the limit and the actual level of guaranteed debt. We evaluated the results using the same guidelines reported in the previous subsection. The results are reported below in Table 3.5.9.

Table 3.5.9 about here

Once again, the results fall into two categories. Connecticut and Mississippi have generous limits, so much so that their levels of guaranteed debt have never come within one billion dollars of the constraint. For example, in 1980 the "gap"--the difference between the flexible debt limit and the level of full faith and credit debt--for Connecticut was $5.5 billion and for Mississippi $3.0 billion. By 1990, these numbers grew to $17.3 billion and $6.2 billion, respectively.

In contrast, Georgia, South Carolina, and New Jersey surpassed their flexible debt limits. Georgia (from 1961-1987) and South Carolina (from 1980-1990) exceeded their constraints by approximately 10% of total revenues; New Jersey's limit was overrun by margins significantly larger that 10%.[10] Hawaii

falls somewhere between these states and Connecticut and Mississippi. Its flexible debt limit appears to be binding from 1961-1985. During this period the gap is 1% or less of total revenues (e.g., in 1985, the gap was approximately $71 million, compared to 2.2 billion in state total revenues).

These results expand our previous conclusions. While we knew that the flexible debt limit did not significantly constrain the levels of full faith and credit debt, the reason why this is true is not entirely clear. Evidence shows that some states avoid binding limitations by setting high ceilings. Moreover, as in the case of the dollar debt limits, several states exceed the constraint by significant amounts (over 10% of general revenues in New Jersey's case). Some states have clauses in their constitution that allows them to exceed their limit for emergency purposes or, for example, one fiscal year provided that they balance their budget in the subsequent year.

3.4. Conclusions

State and local governments have long had constitutional limits on the issuance of full faith and credit debt. Our analyses find that levels of such debt depend upon the type of restriction in place. States that require voter approval for new guaranteed debt or a fixed dollar debt had lower average debt

totals than those that required a supermajority of the legislature to issue debt. Limitations tied to income or revenue growth appeared at first to be largely ineffectual, but after further analysis, it was noted that half of the states with this restriction either issued no debt or debt levels well below their limits. The remaining states exceeded their limits through legislative channels (e.g., approved amendments to the constitution). We speculate that certain combinations of limitations (e.g., referendum and dollar debt limit) allow states to achieve one of these outcomes more easily than the other.

Moreover, states do not systematically circumvent these limitations, either by issuing non-guaranteed debt, increasing general expenditures, or sloughing off programs and responsibilities to local governments. For most of the series the correlation between guaranteed debt and nonguaranteed debt was slight, and when it did became fairly strong in the mid-1980s, the correlation remained positive--the more non-guaranteed debt issued, the more guaranteed debt issued. Outstanding debt and general expenditures were also positively correlated.

While most previous research on the circumvention hypothesis has focused on the surge in nonguaranteed debt that began in the late 1970s, we believe the more interesting fact to note is the decline in guaranteed debt. If the level of guaranteed debt continued at the rate of growth in the mid-1970s, the gap

between the two types of debt would not have been so large; however, it did not. Moak (1982) and investment specialists at Moody's believe that the decline in the levels of full faith and credit debt that began in the late 1970s was caused by a shrinkage in the interest rate gap between the guaranteed and nonguaranteed debt. Many believe the question of circumvention could be answered by measuring this gap. At this point in time, this measurement is not only impossible but undesirable. A general bond yield for nonguaranteed debt is not available simply because it varies so much in its payment structure and riskiness from state to state. To compile such a series would be quite daunting, as evidenced by the fact that no one has yet compiled such a series.[11] Such a comparison, though, suffers from statistical problems. The interest rate on both types of bonds is a factor not only of the demand and risk involved but also the supply of debt. Because the yield on bonds is endogenous to the amount outstanding, it makes it difficult to draw any conclusions about cause and effect. Any conclusions drawn by measuring a differential would be flawed.

Our findings provide some answers but also raise new questions. The most important of these new questions is why certain constitutional debt limitations are effective in restricting the issuance of full faith and credit debt. There is, after all, no shortage of reasons why these provisions or any other institutional arrangements should not place any real constraints on policy choices. In

particular, if states which are constitutionally proscribed from issuing debt can simply bundle a bond issue referendum measure with a waiver for the offending provision, why should it be more difficult for them to issue debt than other states similarly burdened by their constitutions? One possible future avenue worth exploring involves determining whether states with certain constitutional limitations also put additional obstacles in the way of officials seeking authorization of bond issues from either the legislature or the electorate.

3.5. Tables

Table 3.5.1. State Constitutional Limits on Full Faith and Credit Borrowing

State	Referendum Required	Super-majority Required	Extra-ordinary Only	Dollar Debt Limit	Flexible Debt Limit
Alabama				X	
Alaska	X				
Arizona			X	X	
Arkansas	X				
California	X				
Colorado	X			X	
Connecticut					X
Delaware		X			
Florida	X				
Georgia					X
Hawaii					X
Idaho	X			X	
Illinois		X			
Indiana			X		
Iowa	X		X	X	
Kansas	X			X	
Kentucky	X		X	X	
Louisiana		X			
Maine	X			X	
Maryland					
Massachusetts		X			
Michigan	X				
Minnesota		X			
Mississippi			X		X
Missouri	X		X	X	
Montana		X			
Nebraska			X	X	
Nevada					X
New Hampshire					
New Jersey	X				X
New Mexico	X				
New York	X				
North Carolina	X				X
North Dakota	X			X	
Ohio	X		X	X	
Oklahoma	X				
Oregon	X			X	
Pennsylvania	X				
Rhode Island	X			X	
South Carolina					X
South Dakota					X
Tennessee					
Texas	X		X	X	
Utah					X
Vermont					
Virginia	X				
Washington	X				
West Virginia			X		
Wisconsin					X
Wyoming	X				X

Source: Hackbart, et al., Debt and Duty

Table 3.5.2. State Long Term Real Debt Per Capita (in dollars)

State	1961 FFC	NG	State	1971 FFC	NG
Idaho	9	27	Missouri	17	59
S. Dakota	0	48	Iowa	7	87
Arizona	0	51	Nebraska	0	118
Nevada	27	24	Arizona	0	122
Nebraska	0	52	Idaho	7	123
Iowa	44	22	S. Dakota	0	132
Missouri	53	24	Colorado	0	132
Utah	0	80	Arkansas	7	135
N. Dakota	34	57	N. Dakota	0	159
Wisconsin	0	110	Virginia	40	144
Colorado	0	134	Nevada	121	91
Tennessee	133	10	Utah	104	133
Wyonming	0	152	Kansas	0	240
Texas	92	74	Indiana	0	249
Virginia	7	189	N. Carolina	201	49
Arkansas	125	78	Texas	123	139
N. Carolina	198	13	Michigan	57	228
Minnesota	199	29	Tennessee	197	95
New Mexico	76	170	New Mexico	57	270
Alaska	271	0	Ohio	112	226
Montana	25	269	Wyoming	0	343
Florida	0	301	Montana	1	349
Alabama	61	266	Illinois	75	279
Illinois	120	214	Florida	0	368
Ohio	58	287	S. Carolina	240	130
Indiana	0	354	Wisconsin	156	222
Kansas	33	323	Minnesota	332	49
Mississippi	190	186	Georgia	0	499
S. Carolina	310	98	New Hampshire	517	10
Georgia	0	414	Mississippi	355	190
Louisiana	328	120	Alabama	76	475
Michigan	60	395	Maine	473	148
Rhode Island	443	30	Washington	83	542
Pennsylvania	98	396	Louisiana	346	291
Oklahoma	111	406	New Jersey	333	328
Vermont	506	22	California	621	85
Maine	206	326	Oklahoma	182	546
New Jersey	297	263	Pennsylvania	284	506
New Hampshire	558	9	Maryland	454	340
W. Virginia	240	360	Massachusetts	539	270
Washington	74	565	Rhode Island	650	203
California	608	43	W. Virginia	406	481
Kentucky	142	542	New York	345	547
New York	350	349	Oregon	977	0
Oregon	799	0	Kentucky	316	821
Maryland	318	547	Connecticut	1197	256
Massachusetts	682	409	Vermont	1131	464
Hawaii	681	505	Delaware	1502	429
Connecticut	763	511	Hawaii	1384	715
Delaware	1599	125	Alaska	1578	851

Table 3.5.2. State Long Term Real Debt Per Capita (in dollars)

1981			1990		
State	FFC	NG	State	FFC	NG
Arizona	0	57	Kansas	0	88
Iowa	0	168	Texas	135	176
Nebraska	0	175	N. Carolina	63	275
Indiana	0	189	Georgia	228	123
Kansas	13	185	Tennessee	92	276
Texas	69	139	Mississippi	162	209
Arkansas	0	230	Iowa	0	404
N. Carolina	145	107	Arizona	0	446
Colorado	0	271	Arkansas	9	517
Georgia	108	173	Colorado	11	518
Missouri	18	284	Indiana	0	534
Florida	136	186	Florida	100	468
Tennessee	163	183	Nebraska	361	240
Mississippi	326	23	Minnesota	250	376
N. Dakota	17	333	Pennsylvania	275	360
Alabama	34	325	Idaho	0	697
Virginia	48	353	Alabama	193	506
Michigan	81	335	Michigan	56	660
California	291	126	California	135	583
Montana	9	420	Virginia	53	669
Utah	67	373	Missouri	112	618
Idaho	1	446	Ohio	180	559
Ohio	244	237	Utah	110	644
Washington	380	103	S. Carolina	166	636
Pennsylvania	366	209	Oklahoma	8	826
Wisconsin	407	181	New Mexico	57	807
Oklahoma	62	574	Washington	540	325
New Mexico	20	627	Wisconsin	343	567
Minnesota	251	397	Illinois	255	693
Illinois	280	378	N. Dakota	0	952
Nevada	145	627	W. Virginia	183	780
Maine	258	567	Nevada	445	578
S. Carolina	180	650	Maryland	308	716
Kentucky	80	840	Kentucky	14	1014
Louisiana	639	285	Montana	70	1174
Maryland	585	427	Maine	181	1077
W. Virginia	529	521	Wyoming	1	1428
Wyoming	0	1067	Vermont	343	1264
S. Dakota	0	1116	Oregon	1447	210
Massachusetts	643	477	New Jersey	277	1492
New Jersey	288	857	S. Dakota	0	1809
New Hampshire	399	813	New York	207	1657
Vermont	593	857	Louisiana	612	1470
New York	256	1298	Hawaii	1318	862
Connecticut	829	742	New Hampshire	377	1806
Delaware	764	1192	Massachusetts	955	1278
Rhode Island	266	1736	Connecticut	978	1451
Hawaii	1536	565	Rhode Island	329	2240
Oregon	2326	169	Delaware	507	2682
Alaska	1941	4706	Alaska	904	6692

Sources: Governmental Finances and The Statistical Abstract of the US

Table 3.5.3. State Constitutional Debt Limitations and Average Levels of Per Capita Debt and Expenditures (in 1982 dollars)

Type of Limitation	FFC	NG	General Exp.	Local LT Debt	Local Exp.
Extraordinary Expenses Only	115	294	675	1183	922
Supermajority of Legislature	468	540	888	1186	1081
Referendum Requirement	193	408	774	1135	1055
Flexible Debt Limit	328	427	877	1008	1012
Dollar Debt Limit	201	327	753	1151	1000
No Debt Limit	436	447	838	929	904
Average of All States*	271	411	805	1126	1010

*Except for Alaska

Sources: Hackbart, et al., Debt and Duty, Government Finances in the U.S., State Government Finances

Table 3.5.4. State Constitutional Limits on Full Faith and Credit Borrowing (Mutually Exclusive Categorization)

State	Referendum Required	Supermajority of Legislature	Dollar Debt Limit	Flexible Debt Limit
Alabama	X			
Alaska	X			
Arizona			X	
Arkansas	X			
California	X			
Colorado	X			
Connecticut				X
Delaware		X		
Florida	X			
Georgia				X
Hawaii				X
Idaho	X			
Illinois		X		
Indiana			X	
Iowa	X			
Kansas	X			
Kentucky	X			
Louisiana		X		
Maine	X			
Maryland				
Massachusetts		X		
Michigan	X			
Minnesota		X		
Mississippi				X
Missouri	X			
Montana		X		
Nebraska			X	
Nevada				X
New Hampshire				
New Jersey	X			
New Mexico	X			
New York	X			
North Carolina	X			
North Dakota			X	
Ohio	X			
Oklahoma	X			
Oregon	X			
Pennsylvania	X			
Rhode Island	X			
South Carolina				X
South Dakota				X
Tennessee				
Texas	X			
Utah				X
Vermont				
Virginia	X			
Washington	X			
West Virginia	X			
Wisconsin				X
Wyoming	X			

Source: Hackbart, et al. "Debt and Duty"

Table 3.5.5. The Effects of State Constitutional Debt Limitations

Dependent Variable (Real Per Capita Debt)	(1) FFC 1	(2) NG 1	(3) NG 2
Constant	-14.9	1338.1*	1369.4*
	(101.1)	(162.0)	(161.5)
Full Faith & Credit Debt	*****	*****	-.14*
			(.04)
Real Per Capita Personal Income	.01*	.03*	.03*
	(.004)	(.007)	(.007)
Federal Assistance	60.2	213.7	209.0
	(77.3)	(118.0)	(117.2)
Percent of Population Between Ages 5-17	259.8	-4450.2*	-4377.5*
	(260.3)	(429.4)	(427.9)
Crime Rate	.04*	-.06*	-.06*
	(.009)	(.01)	(.01)
Referendum Required	-153.3*	-76.5	-119.5
	(45.9)	(76.1)	(76.7)
Legislative Supermajority	164.7*	200.6*	194.5*
	(46.0)	(85.0)	(84.6)
Dollar Debt Limit	-228.0*	-222.2*	-281.8*
	(52.2)	(98.7)	(99.6)
Flexible Debt Limit	-47.2	-15.2	-22.6
	(53.4)	(84.1)	(22.6)
R^2	.28	.25	.25
n	1372	1351	1351

* = p < .01

Table 3.5.5. The Effects of State Constitutional Debt Limitations (continued)

Dependent Variable (Real Per Capita Debt)	(4) FFC 2	(5) FFC 3
Constant	11.6	-25.1
	(102.4)	(102.1)
Real Per Capita Local Total Debt	-.01	*****
	(.007)	
Real Per Capita Local Total Expenditures	*****	.02
		(.03)
Real Per Capita Personal Income	.01*	.01*
	(.004)	(.005)
Federal Assistance	56.3	56.2
	(77.3)	(77.6)
Percent of Population Between Ages 5-17	163.0	272.0
	(267.2)	(260.9)
Crime Rate	.04*	.04*
	(.009)	(.009)
Referendum Required	-153.2*	-154.9*
	(45.9)	(46.0)
Legislative Supermajority	165.7*	160.3*
	(45.9)	(46.4)
Dollar Debt Limit	-223.6*	-230.4*
	(52.2)	(52.3)
Flexible Debt Limit	-43.8	-50.9
	(53.4)	(53.6)
R^2	.28	.28
n	1372	1372

* = p < .01

Table 3.5.6 Covariance Model Average Real Per Capita Dollars by Type of Debt and Limitation

	Guaranteed Debt	Nonguaranteed Debt
Referendum Required	200	402
Dollar Debt Limit	5	256
Flexible Debt Limit	387	403
Supermajority of Legislature Required	468	539
Average of All States	265	400

Table 3.5.7. The Effects of State Constitutional Debt Limitations: Tobit vs. OLS

Dependent Variable	Tobit Model FFC	OLS Model FFC
Constant	-113.2 (197.2)	-235.8 (167.3)
Real Per Capita Personal Income	.04* (.009)	.05* (.008)
Federal Assistance	-112.3* (233.9)	-624.5* (193.9)
Percent of Population Between Ages 5-17	1681.0* (453.1)	1457.7* (385.1)
Crime Rate	.05* (.02)	.04* (.01)
Referendum Required	-315.3* (38.7)	-261.5* (33.9)
Legislative Supermajority	-62.2 (46.7)	-39.6 (41.1)
Dollar Debt Limit	-822.2* (60.5)	-460.6* (45.1)
Flexible Debt Limit	-135.3* (43.5)	-73.7* (37.9)
$Sigma^2$	144648* (610.5)	****
R^2	****	.20
n	1421	1421

* = p < .01

Table 3.5.8. The "Bindingness" of the Dollar Debt Limit

State	Dollar Limit	Binding?	Reason
Alabama	$300,000	N	over limit
Arizona	$350,000	N	no debt issued
California	$300,000	N	over limit
Colorado	$150,000	N	no debt until 1987
Idaho	$2,000,000	Y	binding until 1987 (no debt after)
Iowa	$250,000	N	over limit, no debt 1977-90
Kansas	$1,000,000	N	no debt 1970-79, 1985-90
Kentucky	$500,000	N	no debt 1971-90
Maine	$2,000,000	N	over limit
Missouri	$1,000,000	N	over limit
Nebraska	$100,000	N	no debt issued
North Dakota	$2,000,000	N	no debt 1974-90
Ohio	$750,000	N	over limit
Oregon	$50,000	N	over limit
Rhode Island	$50,000	N	over limit
Texas	$200,000	N	over limit

Source: ACIR, 1979

Table 3.5.9. The "Bindingness" of the Flexible Debt Limit

State	Flexible Limit	Binding?	Reason
Connecticut	4.5x total tax receipt of prev. year	N	limit 2x higher than ffc debt
Georgia	not to exceed 10% of total rev. less refunds of prev. year	N	over limit by approx. 10% of rev.
Hawaii	principal+int. pymts. not to exceed 18.5% of 3 year prior avg. of rev.	Y	gap<1% of rev.
Mississippi	Less than 1.5x rev. in any four preceding years	N	limit 10% higher than ffc debt
Nevada	Less than 1% of assessed value of all property by preceding assessment	-	
New Jersey	1% of total annual appropriations	N	over by 10% of rev.
North Carolina	2/3 by which states outstanding debt is retired in previous biennium	-	
South Carolina	Less than 5% prior years general fund rev.	N	over by 10% of rev.
South Dakota	Less than 1% of assessed value of all property by preceding assessment	-	
Utah	Less than 1% of assessed value of all property by preceding assessment	-	
Wisconsin	Less than 1% of assessed value of all property by preceding assessment	-	
Wyoming	Less than 1% of assessed value of all property by preceding assessment	-	

Source: ACIR, 1979

3.6. Figures

Figure 3.6.1

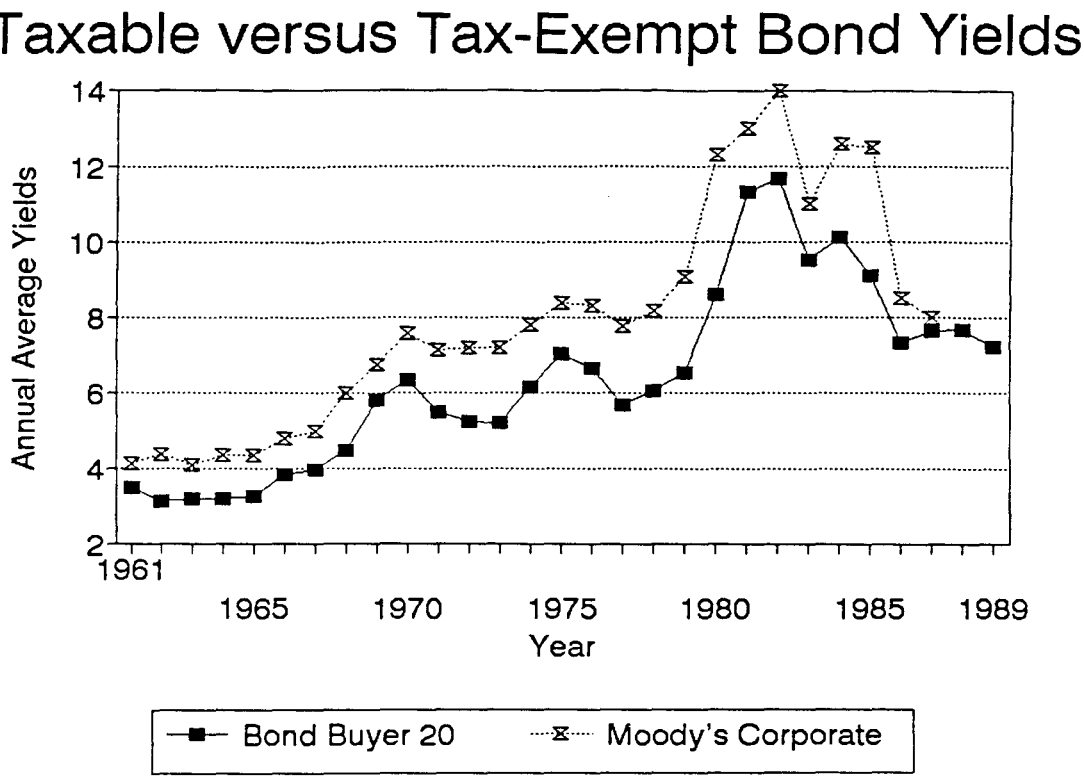


Figure 3.6.2

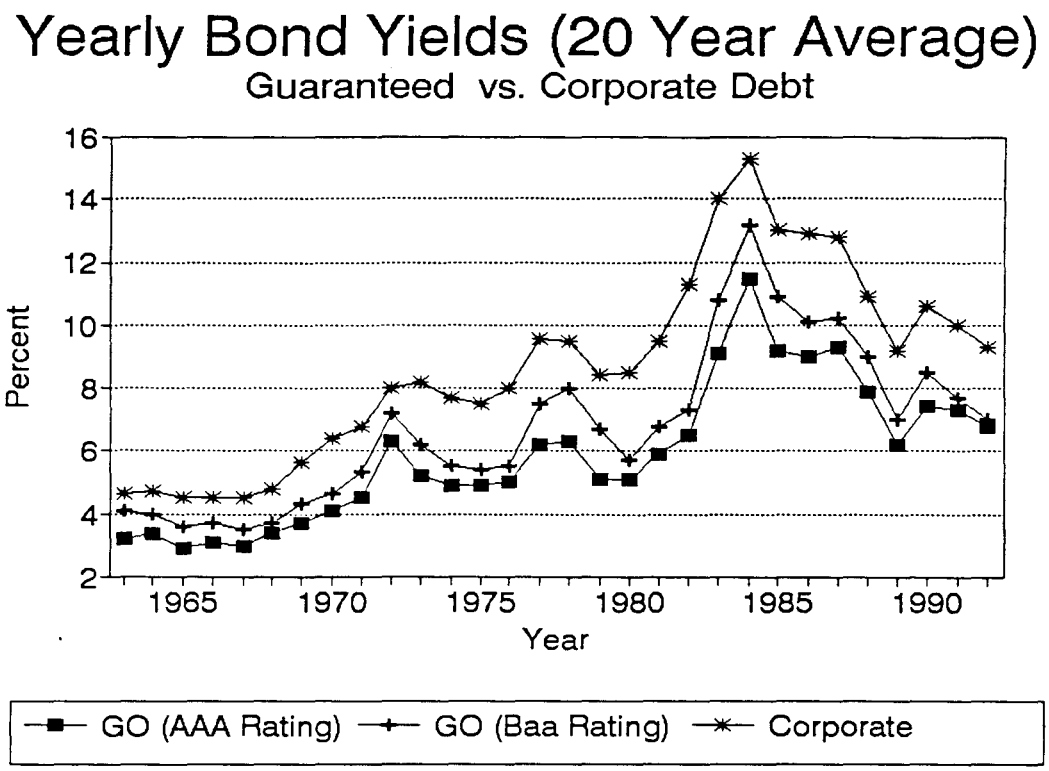

Yearly Bond Yields (20 Year Average)
Guaranteed vs. Corporate Debt
Percent
16
14
12
10
8
6
4
2
1965
1970
1975
1980
1985
1990
Year
GO (AAA Rating)
GO (Baa Rating)
Corporate

Figure 3.6.3

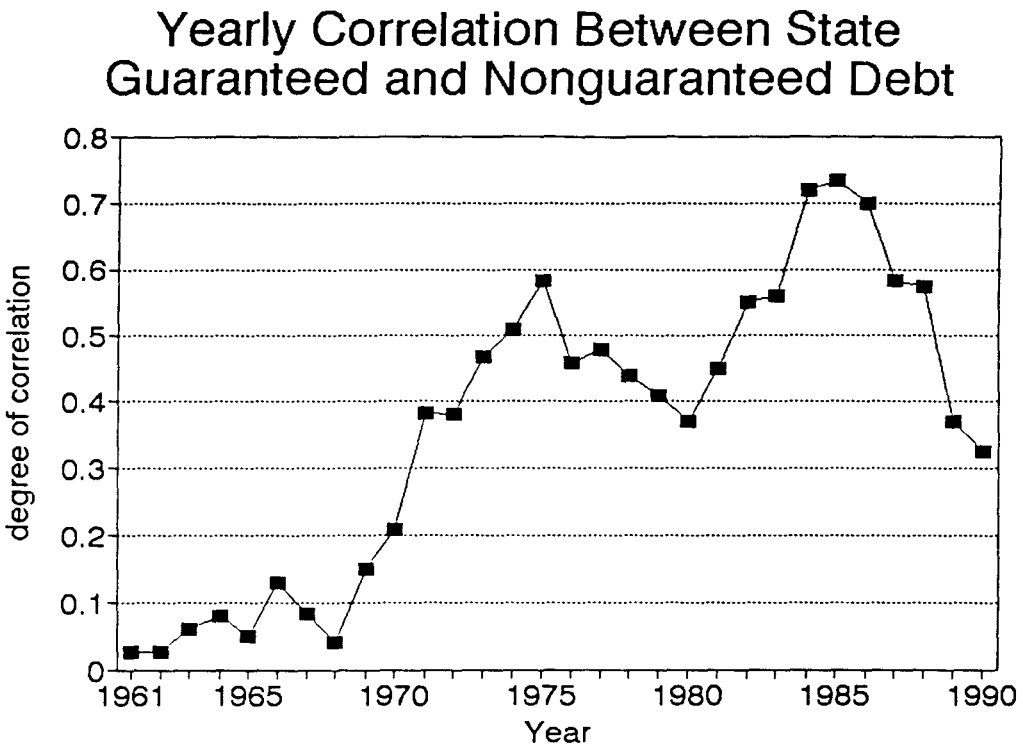

Yearly Correlation Between State Guaranteed and Nonguaranteed Debt
degree of correlation
0.8
0.7
0.6
0.5
0.4
0.3
0.2
0.1
0
1961
1965
1970
1975
1980
1985
1990
Year

Figure 3.6.4

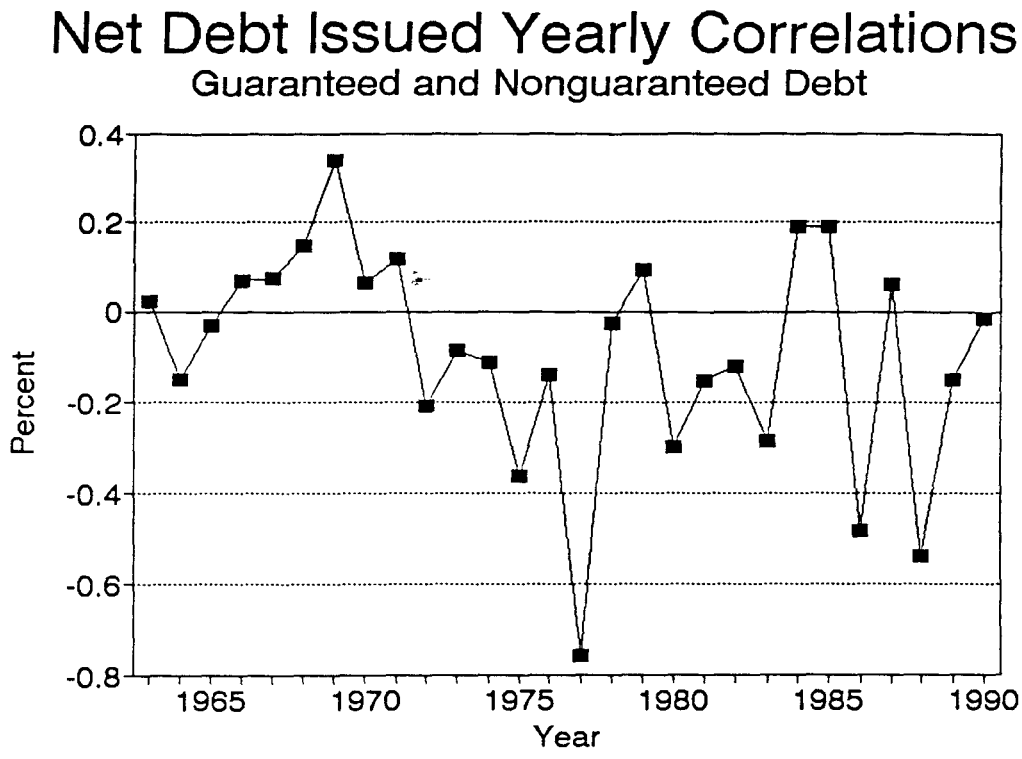
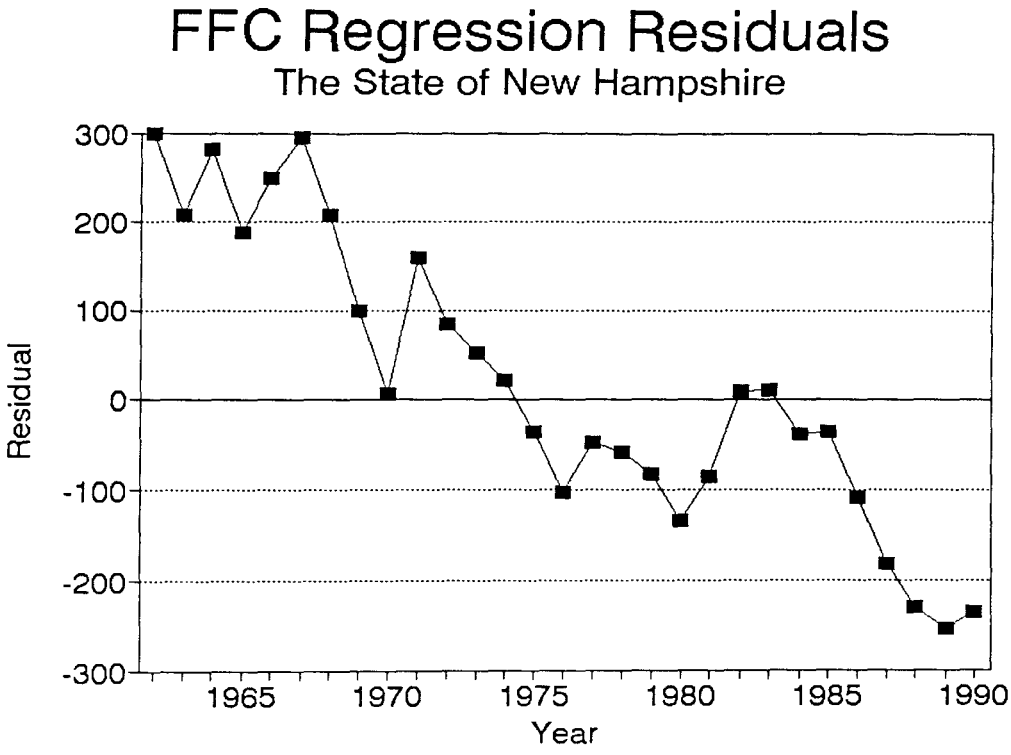

Net Debt Issued Yearly Correlations
Guaranteed and Nonguaranteed Debt
0.4
0.2
0
-0.2
-0.4
-0.6
-0.8
Percent
1965
1970
1975
1980
1985
1990
Year

Figure 3.6.5


FFC Regression Residuals
The State of New Hampshire
300
200
100
0
-100
-200
-300
Residual
1965
1970
1975
1980
1985
1990
Year

3.7. Endnotes

1. There is enough variation in state balanced budget requirements, however, to warrant systematic analysis (Alt and Lowry 1992). In particular, states vary in the extent to which budget deficits and surpluses can be carried over from one fiscal year to another.

2. With so many different entities selling so many different bonds, it is simply not feasible to have a central market or clearinghouse for municipal bonds, as there is for common stocks. Bond issues are thus typically underwritten by a syndicate of major investment banks.

3. Municipal bonds have traditionally been the cornerstone of a conservative, low-return but low-risk investment portfolio. Moak (1982) describes their appeal in the following way: "Money is generally timid; old money is more timid; and old money being invested by fiduciaries is excessively timid" (p. 77). Interestingly, financial analyses often find that yields on tax-exempt municipal bonds (in particular, those with long maturities) are anomalously high compared to comparable taxable bonds (Kochin and Parks 1988; Green 1992).

4. See the section 2 for a detailed description of the defaults and resulting restrictions.

5. Riker's (1980) actual words are as follows: "In the end, therefore, institutions are no more than rules and rules are themselves the product of social decisions...One can expect that losers on a series of decisions under a particular set of rules will attempt (often successfully) to change institutions and hence the kind of decisions produced under them. In that sense rules or institutions are just more alternatives in the policy space and the status quo of one set of rules can be supplanted with another set of rules" (p. 445.)

6. A major type of "on behalf of" debt instrument issued by municipalities in California during the past decade is the celebrated Mello-Roos bond authorized by 1982 legislation of the same name. Under this program a municipality allows real estate developers to issue bonds under its name, with the proceeds used for roads, sewers, utility hookups, schools, and other infrastructure in a housing development. The bonds are then financed out of the taxes paid by the incoming residents. In the meantime, the developer, not the city, is responsible for debt service on the bonds. Over $20 billion of Mello-Roos bonds were issued, but less than $4 billion are currently outstanding (Petruno 1992).

7. Our model differs somewhat from Matsusaka's. We include the level of borrowing as one of the choices made by the government. Matsusaka's model has net borrowing "completely determined once spending and taxes are chosen"

(p. 5). We disagree with this aspect of his model. Borrowing is as much a choice variable as spending and taxing, influenced by similar socio-economic and institutional factors. It is not automatically determined once the level of the latter two have been chosen.

8. We did not observe any severe heteroscedasticity problem; therefore, we corrected only for serial correlation in the panels.

9. We want to measure how much of a constraining affect the limitations have on the total amount of revenues or expenditures. Of course, this method is a fairly simplistic way of analyzing a complicated problem, and we acknowledge that the results are rough estimates.

10. From 1983-1990, the total amount of guaranteed debt outstanding in New Jersey exceeded the flexible debt limit approximately ten times over. We were not able calculate the gap for earlier years because New Jersey's Office of Management and Budget was not able to provide figures on total appropriations.

11. Moody's as well as other investment services have listings of individual revenue bonds from state to state, but do not have an aggregate series across states simply because of the complications involved in generating such a series.

3.8. Data Sources

[1] Debt, Revenue, and Expenditure: Governmental Finances and State Finances. Department of Commerce, Bureau of the Census, various years.

[2] Crime rates, interest rates, and per capita personal income: Statistical Abstract of the United States, various years.

[3] State Governors and Legislatures: The Book of States. The Council of State Governments, 1960-1990.

[4] Constitutional Limitations on Borrowing: Hackbart et. al., "Debt and Duty." The Council of State Governments, 1990.

[5] Revenue and Expenditure Limitations: Significant Features of Fiscal Federalism, 1992. American Council on Intergovernmental Relations.

3.9. References

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4 The Tax Revolt Era Limitations on Borrowing and Spending

4.0. Introduction

Throughout the 1950s and 1960s, the expansion of the welfare state in the U.S. was smoothed by sustained economic growth. Many of the programs established were funded by state tax revenues. The costs associated with such public policy increased dramatically in the 1970s because the private economy's growth slowed (Sears and Citrin, p. 225). Between 1970 and 1977, the total level of public spending increased while real disposable income declined.[1] This factor, combined with the rapid growth in the size of state and local governments, an increased property tax burden, the development of budget surpluses in many states, and the spread of general mistrust about officials

and institutions, spawned the grass roots movement that became known as the Tax Revolt.

There are no distinct patterns that explain why taxing and spending limitations were approved in some states but not in others. Tax Revolt legislation succeeded in states where government spending and taxation was high, but it also was defeated in such states. Moreover, citizens in low tax states such as Texas and Idaho passed quite restrictive measures. Several researchers, in particular Wilensky (1976) and Sears and Citrin (1985), have argued that the Tax Revolt was caused not so much by the total level of taxes assessed but by a rapid rise in the tax burden. This reasoning would explain the almost militant revolt in California and Massachusetts, resulting in the passage of Proposition 13 and Proposition 2 1/2, respectively.

While the reasons for adopting certain limitations may remain somewhat unclear, the effects of these constraints, according to several researchers, are quite apparent (Petruno 1992). In addition to the direct constraints on revenues and expenditures, the tax revolt limitations (summarized in Table 4.5.1 below) also affected the levels of long term indebtedness in those states with constraints. Petruno attributes the dramatic rise in state nonguaranteed debt levels in the late 1970s to attempts by legislators to circumvent the tax revolt limitations on taxing and spending.

Table 4.5.1 about here

Figures 4.6.1 and 4.6.2 demonstrate the significant increase in debt. Figure 4.6.1 illustrates the total amount of outstanding long-term debt of state governments from fiscal year 1961 through fiscal year 1990. Figure 4.6.2 displays the same data expressed in per capita, constant (1982) dollar terms. A comparison of the two shows that although the nominal level of guaranteed debt rose steadily during the period from 1961-1990, it actually started falling in real per capita terms in fiscal year 1977, and is no higher today than at the beginning of our series. There was also little growth in real per capita nonguaranteed debt in the first part of the series, and these trends were mirrored at the local level. Indeed, by the end of the 1970s there were a series of alarming reports concerning the lack of investment in infrastructure and its resultant deterioration (see Government Finance Research Center 1983b, and especially Choate and Walter 1981).[2] In the 1980s, however, nonguaranteed debt outstanding followed a very different trajectory. Prior to the mid-1970s there was actually more guaranteed state debt outstanding than nonguaranteed debt, but after 1975, the amount of nonguaranteed debt grew dramatically. By the end of the decade state nonguaranteed debt totaled over $700 per capita (in 1982 dollars), compared to only a little over $200 in

guaranteed debt.[3]

Figures 4.6.1 and 4.6.2 about here

It should be noted, however, that the amount of long-term debt outstanding is not an entirely accurate picture of state credit liabilities. On the plus side, governments and other public authorities typically have large amounts of offsetting balances on hand (Moak 1982). On the negative side, there are several ways to hide long-term debt. It can, for example, be disguised as short-term debt, typically in the form of tax, revenue, and bond anticipation notes with maturities of one year or less. Such vehicles are often used to expedite construction on approved projects or to avoid selling long-term debt when interest rates are unfavorable. If such debt is routinely rolled over from year to year, however, it obviously provides a long-term source of capital (Moak 1982). This practice is very problematic, of course, when "anticipated" revenues fail to materialize, as in the case of New York City in 1975. These figures also do not include Certificates of Participation, which Petruno (1992) describes as a popular "debt end-run." In a bond issue, the borrower pledges

new tax money to fund interest payments. With certificates of participation, no new taxes are earmarked and the payments come directly out of the annual budget. Both Moak and Petruno assert that these schemes are used routinely to sidestep voter approval and other restrictions on long-term debt.

Nonetheless, there is no mistaking the dramatic increase in state nonguaranteed debt that has occurred over the past fifteen years or so. Petruno (1992) asserts explicitly that much of the borrowing by public authorities in California over the past decade "has been designed to circumvent the tax limitations imposed by Proposition 13 in 1978" (p. D5). Analysts at the Government Finance Research Center (1983a) present a somewhat more complicated scenario. Their figures indicate that during the 1970s, state and local government became increasingly reliant upon federal monies for funding their capital needs. When federal assistance subsequently dried up, however, they ran into revenue and expenditure limitations that had been enacted and had no where else to go but to the credit markets (p. 45). The presence of constitutional restrictions on issuing guaranteed debt, furthermore, meant that public officials wishing to fund capital projects would have to turn to nonguaranteed revenue bonds.

Thus, following the research methods of the previous chapter, we evaluate the efficacy of the tax revolt era limitations by focusing on three questions:

(1) Do officials circumvent the limitations through the issuance of nonguaranteed debt?

(2) If no evidence of circumvention is found, is it because the limits are not binding?

(3) Are certain types of limitations (e.g., constitutional) more effective that others at constraining the amount of taxing and spending?

4.1. The Question of Circumvention

The first question we consider is whether the revenue and expenditure limitations enacted during the so-called Tax Revolt era induced states to issue more debt, in particular, more nonguaranteed debt. In order to examine this possibility, we calculated per capita full faith and credit debt and per capita nonguaranteed debt (in 1982 dollars) for those states that enacted revenue and expenditure limitations in the late 1970s and early 1980s, as well as for those that did not. The results are displayed in the Figure 4.6.3 for each year between 1961 and 1990. If we look only at the figure for nonguaranteed debt, it appears that circumvention may be occurring. Those states with limitations incur lower levels of nonguaranteed debt until the late 1970s, at which point

they surpass those states that did not adopt any limitations. This result by itself, though, is misleading, because we have not examined whether the constraints on revenues and expenditures are binding (a necessary condition for circumvention).

One (rough) procedure for determining the degree of constraint is to graph the average level of revenues and expenditures for those states with and without limits. If the gap between those states with and without limits shrinks because the rate of growth of revenues or expenditures declines in those states with limitations, then this may be an indication that the constraints are binding. That is, if the limitations cause states to restrict their levels of taxing and spending, we would expect to observe them hitting a "ceiling" after which the rate of growth of taxing and spending would stabilize or perhaps decline.

Figure 4.6.3 about here

The last two graphs in Figure 4.6.3 indicate per capita general revenues and expenditures rose just as fast in the 1980s in the Tax Revolt states as in the

other states. These findings are consistent with those of previous studies. According to Sears and Citrin (1985) and Herbers (1990), tax limitations have not had much impact primarily because restrictions on some taxes (income or property) were readily made up for by increases in user fees, and various taxes that do not fall within the bounds of the limitations (e.g., sin taxes and sales taxes). Gold (1988) reports that although the Tax Revolt has led to somewhat lower revenues and expenditures at the local level, there has been little effect at the state level. It is also the case that many of the provisions that were enacted were in the form of a limit on revenue as a percentage of personal income. During the long period of economic growth that followed the 1981-82 recession, personal income in most states grew fairly rapidly. Thus, the most important reason why we do not support any circumvention hypotheses is that the tax revolt limitations do not appear to have been very effective in holding down either taxes or expenditures! The results of our analyses fail to support the contention that states circumvented Tax Revolt era limitations on revenue and expenditures through increased borrowing.

4.2. The Bindingness of the Limitations

The above results are only preliminary and need to be explored in greater detail and with more precision. Thus, we examined whether or not the

limitations were indeed binding and, if so, the possibility that a form of budget manipulation was occurring that went undetected in the other analysis. We calculated the bindingness of the limitations (listed in Table 4.5.2) for fourteen states: Arizona, Colorado, Hawaii, Idaho, Louisiana, Michigan, Missouri, Montana, New Jersey, Oklahoma, Oregon, Rhode Island, South Carolina, and Washington.[4] Figure 4.6.4 displays the leeway in the constraint for each state. If the graph shows a positive dollar amount or percentage, then the state is under the limit and has additional revenue available. If the graph shows negative values, then the state has exceeded the specified limit and is "in the red."[5]

Figure 4.6.4 about here

By grouping the states by type of limit (statutory or constitutional), a pattern emerges. Of the five states under statutory limitations, four exceed their constraint more times than they stay within it. Only Louisiana remains within its limit. It appears, however, that this result may be true simply because the limit has been set very high. If we look at the leeway before and after the limitation was implemented, we see an enormous growth in this gap in the five years following the limitation's approval. At no time since it was

instituted has the tax revolt limitation **ever** constrained state officials in Louisiana.

On the other hand, of the five states that have constitutional limitations, four have remained within their constraint since the limits were implemented. Hawaii is the only state that fluctuates above and below the calculated limit. We inquired with state officials regarding this result, and they stated that Hawaii **has** remained within the constraint since it was enacted. They calculate the limit using an estimate of the total population, not the Bureau of the Census figure that we used in our calculation. This reason may explain why we observe the fluctuations above the limitation ceiling. Michigan appears to be the only state that may set limits so high as not to be binding (the other states all have leeways less than $1 billion). Interestingly enough, Michigan calculates its limit using the same formula as Louisiana, the only other state that has high ceiling.

4.3. Constitutional Versus Statutory Limitations

The above result should not give the impression that constitutional limitations always tightly bind the hands of state officials. Officials do retain power to include (and exclude) certain items in the calculation of the limit. California

represents an extreme version of this practice. During a telephone interview, we asked a state budget officer what general items are subject to the limit (Proposition 4). This individual could not respond precisely because, in her words, "the list changes so much from year to year." The greatest number of changes occur on the schedule of "Transfers from Excluded Funds to Included Funds." In fiscal year 1989-90, for example, five transfers were made compared to fiscal year 1991-92 during which over thirty exchanges were conducted (see California Governor's Budget, Schedule 13). Thus, what is on-budget versus what is off-budget varies greatly from year to year, allowing for a great deal of slippage in the system. The gray area of exemptions from the limitations appears to give budget offers a fair amount of flexibility.

On the other hand, some state officials and citizens appear to believe that constitutional restrictions constrain more effectively than statutory restrictions. In Colorado, for example, a statutory limitation was approved in 1977, constraining the yearly growth in state fund appropriations to 6%. In 1992, the voters amended this restriction by approving Constitutional Amendment #1 on the November ballot. This amendment also limits the amount of general fund appropriations, but ties increases to population growth in the state rather than a flat figure. The new amendment is more restrictive and allows the state less leeway for expenditures than under the statutory rule. The belief that constitutional amendments are more enforceable than statutory

amendments may stem from having more procedures to follow to amend them. Most constitutional limitations require at least a supermajority of the legislature or a referendum to amend, whereas statutory restrictions only require the enactment of another statutory amendment.[6] The extra steps required give constitutional amendments at least the appearance of constraining more effectively (though, this does not mean that there are not ways of skirting them as we saw earlier).

To test further the questions of circumvention and bindingness and to examine the effectiveness of each type of limitation, we controlled for variables that may affect the level of debt issued in a state using a theoretical and empirical model similar to that used in Chapter 3. In addition to the institutional variables used in the previous analysis, we create a variable for the type of limitation to test if, and to what degree, a constitutional restriction constrains taxing and spending more effectively than a statutory limitation. If a state has a constitutional limitation, then the constitutional dummy variable was assigned a "1"; otherwise, it received the value "0". Similarly, if the state has a statutory limit, the statutory variable was coded "1"; otherwise, it was given the value "0". Also, because of the sharp rise in debt over the past decade and a half, it is believed that credit rating agencies are playing a larger role in the politics of debt issuance. Moak (1982) asserts that,

"Exclusive reliance upon full faith and credit debt can result in an unwise overburdening of the pledge. Thus, when large investments in governmental enterprises are required, the aggregate debt can dilute the full faith and credit pledge to the point that the credit position of the community is endangered" (p. 112).

In particular, credit agencies become "nervous" when interest payments claim a significant percentage of general revenues and may lower a state's bond rating to reflect the "diluted" pledge. We test to see if such a threat directly affects the level of guaranteed versus nonguaranteed debt that a state issues. We arbitrarily chose 5% as a cutoff point, and created a dummy variable for those states that fall within this category. If a state's interest payments as a percent of general revenues exceeds 5%, the dummy variable is assigned a value of "1"; otherwise, its value is "0". We use this variable in a preliminary analysis to see its affects in conjunction with the type of revenue and expenditure limitation on the level of borrowing.

We calculated the average change from 1979-1990 in real per capita guaranteed and nonguaranteed debt for states with constitutional limitations, states with statutory limitations, states with no limitations, and all states regardless of constraints. Then, we controlled for the credit rating phenomena discussed above, looking at the change in the same debt variables for the group

of states that were either above or below the prescribed cutoff point in 1979. The results are shown in Table 4.5.2 below:

Table 4.5.2 about here

The top portion of the table shows that those states with constitutional tax revolt limitations issued on average $146.20 less per person in full faith and credit debt in 1990 than in 1979. The change over time in states with statutory limitations or no limitations was far less dramatic ($12.80 and -$77.80 per person, respectively). The difference between states with either constitution or statutory limitations was not as large ($437.30 and $529.40, respectively). States with limitations, however, did issue more nonguaranteed debt than the average of all states combined, indicating that perhaps the tax revolt limitations do exert a slight, though by no means significant, pressure on borrowing tendencies.

When we divide the states according to those with and without interest payments over 5% of general revenues, it does appear that the credit rating

threat is real. States with "high interest" payments (over the 5% cutoff) that may be considered a credit risk were issuing a good deal less guaranteed debt per person than states with low interest payments--$249.10 per person compared to -$53.3 per person. Moreover, these "higher credit risk" states increased their issuance of nonguaranteed debt by $553.30 per person as opposed to the latter group of states that increased nonguaranteed debt by only $407.10 per person. States with high interest payments, facing possible censure by credit agencies in the form of lower bond ratings, appear to have responded to this threat by issuing significantly lower levels of full faith and credit debt and higher amounts of nonguaranteed debt over the eleven year period when compared to those states with interest payments less than 5% of revenue.

While this may only be a rough comparison, the results are interesting and should be explored further. We refined the examination by conducting a regression analysis, controlling for additional institutional factors such as the type of limitation.[7] From our previous analysis, we knew serial correlation in the panels would present a problem, so it was corrected by calculating the correlation coefficient for each state and then using this value in a generalized differencing model. The results are reported in Table 4.5.3 below:

Table 4.5.3 about here

We regressed real per capita full faith and credit debt and real per capita nonguaranteed debt on the proscribed variables. The standard errors are located below the coefficients. Because most of the results are similar to those discussed in Chapter 3, we will concentrate on only new findings. Focusing on the type of limitation variables (constitutional versus statutory), it appears that states with statutory limitations have higher levels of guaranteed debt along with lower amounts of nonguaranteed debt. While this may seem to contradict our hypothesis that all forms of debt should increase if the tax limitations are binding, we know from our earlier analysis that 4 out of 5 states exceeded their statutory limit. If statutory limitations are not binding, then issuing nonguaranteed debt as a means of circumventing the restriction is unnecessary.[8] The coefficients on the constitutional variable are negative (indicating lower levels of debt are held by states with constitutional limitations); however, these values are not significantly different from zero. This result is interesting in light of the fact that the limitations restricting the levels of full faith and credit borrowing, in particular, the referendum and dollar debt limit, are still constraining. It implies that the tax limitations may restrict revenues and expenditures, but are not as constraining as first

believed. These results confirm our earlier analysis, in that more than half the states (in particular, those with statutory limitations) use procedures to exceed their limits while those that remain within the limit usually do not face a very restrictive one (e.g., Louisiana).

4.4. Conclusions

Limitations on borrowing, taxing, and spending have been put into practice at the state and local level of governance for many years. These restrictions vary a great deal in their effectiveness. This chapter sought to quantify the bindingness of the restrictions on taxing and spending resulting from the Tax Revolt. We found that the states which were not bound by the constraints either exceeded the limit through legislative channels (e.g., approved amendments to the constitution) or established a limit so high as not to be binding. Further analysis is needed to determine what specific characteristics, if any, predetermine a state to fall into either of these categories. We speculate that the certain combinations of limitations (e.g., referendum and dollar debt limit) allow states to achieve one of these outcomes easily.

Our results also demonstrate that certain types of limitations are more effective than others at constraining the choices made by state officials. In

particular, the constitutional tax revolt limitations on taxing and spending appear to be more restrictive than similar statutory ones. Statutory limitations were not so successful. Most states with this type of restriction exceeded their limit. Surpassing a defined limit through legislative channels seems much easier to achieve under statutory restrictions because they require only a new measure to replace it whereas under a constitutional limitation, several steps need to be taken, including, for example, a declaration of emergency from the governor, a referendum, etc. Constitutional limitations, however, may be exceeded because state officials maneuver items on- and off-budget, as the earlier California example showed. We need to gather more information from other states before we can say if this phenomena gives budgetary officials much power. Thus, the effectiveness of tax revolt limitations can be judged as mixed. While they appear effective at first, upon further examination, in many cases (in particular, states with statutory limits), they are either not binding or are easily skirted.

Table 4.5.1. The Tax Revolt: Limitations on Revenues and Expenditures

State	Year Adopted	Description of Limitation
Alaska	1982	Appropriations shall not exceed $2.5 billion by more than the cumulative percentage change in population and inflation since 7/1/81.
Arizona	1978	Appropriations of state tax revenues shall not exceed 7 percent of state personal income.
California	1979	Yearly growth in appropriations limit shall not exceed percentage increase in population and inflation.
Colorado	1977	Yearly growth of state general fund appropriations.
Delaware	-	98 percent of estimated general fund revenue and prior year's unencumbered funds.
Hawaii	1978	Growth of appropriations limited to rate of growth of state economy--defined as preceding 3 years average growth rate of personal income (Act 277).
Idaho	1980	Appropriations shall not exceed 5.33 percent of state personal income.
Louisiana	1979	Tax revenue shall not exceed: [(FY78-79 tax revenue)/(1977 state personal income)].
Massachusetts	1986	The average growth of wages and salaries of the previous 3 years.
Michigan	1978	Revenue shall not exceed: [(FY78-79 state revenue)/(1977 state personal income)] x the greater of state personal income in prior calendar year or average state personal income over previous 3 calendar years.
Missouri	1980	Revenue shall not exceed [(FY80-81 state revenue)/1979 state personal income)] x the greater of personal income in prior calendar year or average state personal income over previous 3 calendar years.
Montana	1981	State biennial appropriations shall not exceed state appropriations for the preceding biennium plus the product of preceding biennial appropriations and the growth percentage. The growth percentage is the percentage difference between average state

Table 4.5.1. The Tax Revolt: Limitations on Revenues and Expenditures

State	Year Adopted	Description of Limitation
		personal income for 3 calendar years immediately preceding the next biennium and the average state personal income for the 3 calendar years immediately preceding the current biennium.
Nevada	1979	(NON-BINDING) Proposed biennial expenditures authorized for the 1975-76 biennium x (1 + percentage population change since 7/1/74) x (1 + percentage inflation).
New Jersey	1976	(Expired 1983) Fiscal year appropriations shall not exceed: FY state per capita income, prior state per capita income multiplied by appropriations in prior FY.
Oklahoma	1985	(1) 12 percent yearly increase (adjusted for inflation) (2) 95 percent of certified revenue.
Oregon	1979	The rate of growth of appropriations in each biennium shall not exceed rate of growth of state personal income in 2 preceding calendar years.
Rhode Island	1977	Yearly growth in governor's general fund appropriations request shall not exceed 6 percent.
South Carolina	1980,1984	Yearly growth in state appropriations shall not exceed average growth of personal income over 3 preceding years or 9.5 percent of total state personal income, whichever is greater. Also, the number of state employees is tied to state population.
Tennessee	1978	Growth in state appropriations shall not exceed growth in state personal income.
Texas	1978	Growth of biennial appropriations shall not exceed rate of growth of state personal income.
Utah	1979	(NEVER IMPLEMENTED) Growth in appropriations may not exceed 85 percent of the increase in state personal income.
Washington	1979	Growth in tax revenues shall not exceed average rate of growth of state personal income over 3 years.

Source: Significant Features of Fiscal Federalism (1992), pp. 14-17.

Table 4.5.2. Average Growth of State Debt, 1979-1990

	Constitutional	Statutory	No Limit	All
Guaranteed Debt	-146.2	12.8	-77.8	-73.3
Non-guaranteed Debt	437.3	529.4	379.7	422.0
(Interest Rate as % of Revenue Greater than 5%)				
Guaranteed Debt	-691.6	-479.9	-48.7	-249.1
Non-guaranteed Debt	383.4	103.9	759.8	553.3
(Interest Rate as % of Revenue Less than 5%)				
Guaranteed Debt	-93.6	67.6	-81.1	-53.3
Non-guaranteed Debt	443.2	576.6	335.9	407.1

Table 4.5.3. The Efficacy of State Limitations: 1979-1990

Dependent Variable:	Guaranteed Debt	Nonguaranteed Debt
Constant	35.7	461.8
	(162.1)	(299.0)
Real Per	.01*	.05*
Capita Income	(.006)	(.01)
Federal Revenue	-30.7	806.7*
	(125.5)	(230.1)
Population	31.4	-248.0
Aged 5-17	(547.1)	(1030.9)
Crime Rate	.02	-.06*
	(.01)	(.02)
Constitutional	-76.2	-49.3
Limitation	(46.9)	(98.0)
Statutory	252.0*	-400.2*
Limitation	(40.1)	(102.7)
Referendum	-137.1*	-52.6
	(65.6)	(133.6)
Supermajority	77.9	584.3*
	(71.8)	(162.0)
Dollar limit	-173.8*	-278.6
	(75.4)	(167.7)
Flexible limit	-85.4	167.3
	(77.4)	(149.0)
R^2	.37	.29
n	686	686

* = p<.01

4.6. Figures

Figure 4.6.1

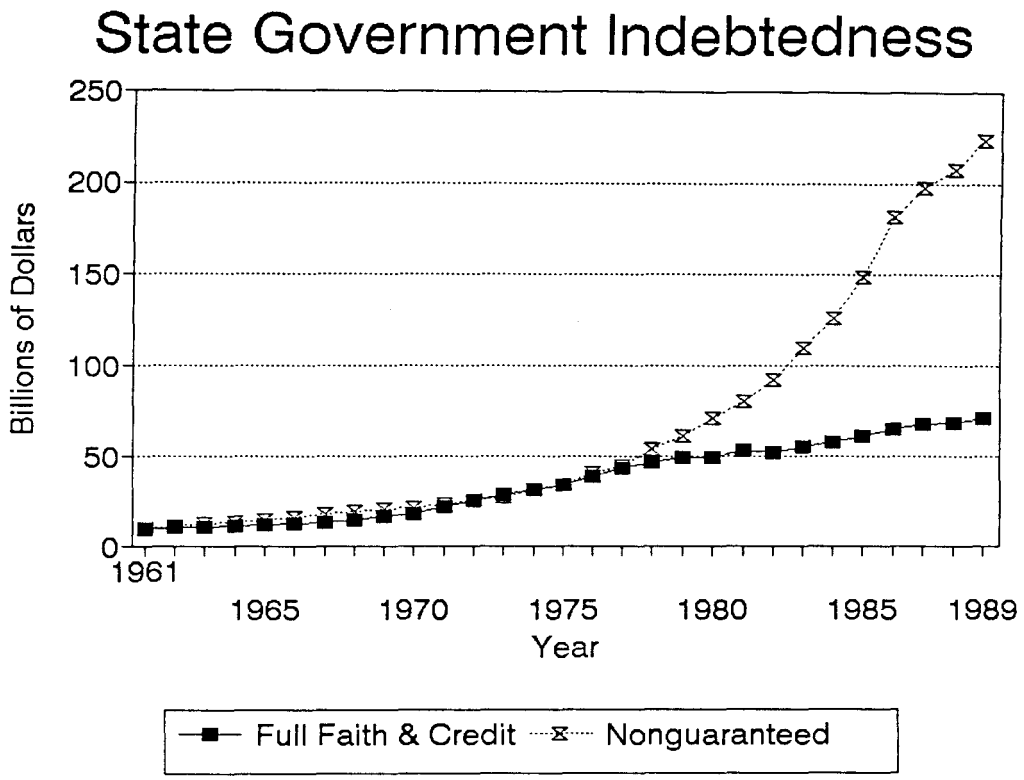


Figure 4.6.2

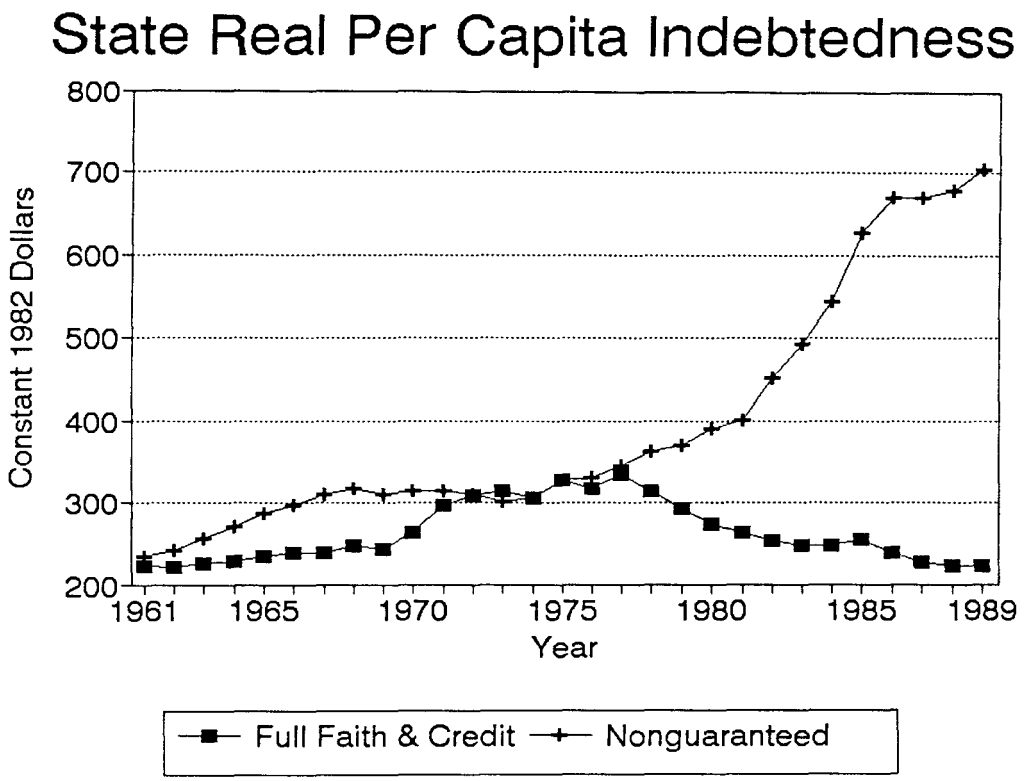

State Real Per Capita Indebtedness
800
700
600
500
400
300
200
Constant 1982 Dollars
1961
1965
1970
1975
1980
1985
1989
Year
Full Faith & Credit
Nonguaranteed

Figure 4.6.3

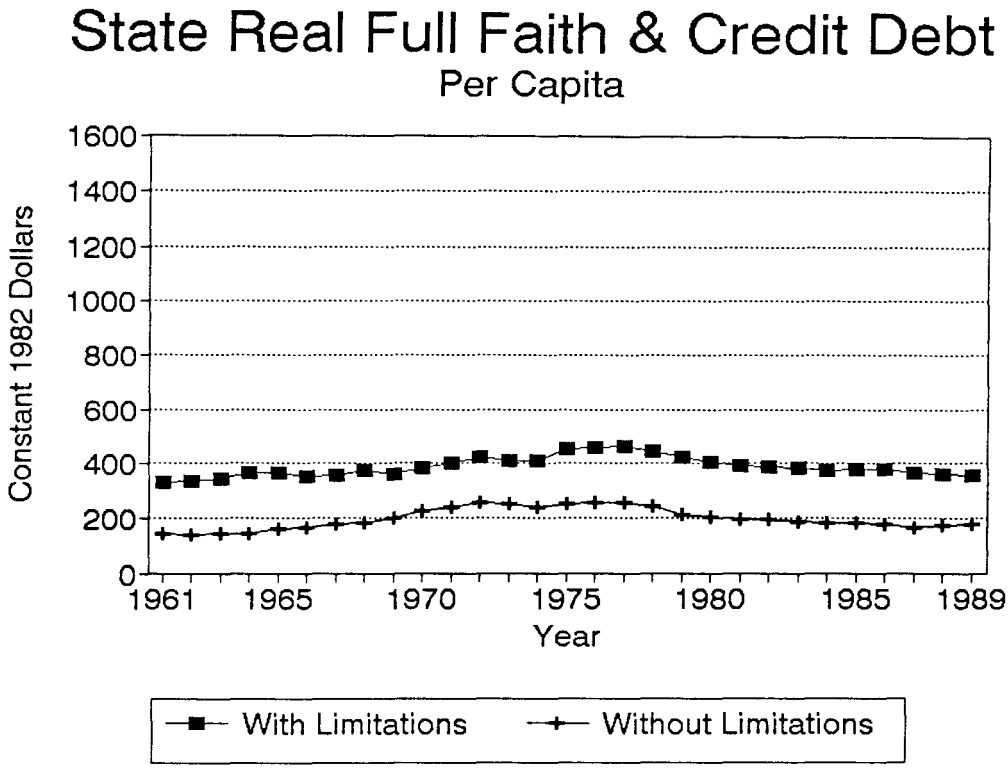

State Real Full Faith & Credit Debt
Per Capita
Constant 1982 Dollars
1600
1400
1200
1000
800
600
400
200
0
1961
1965
1970
1975
1980
1985
1989
Year
With Limitations
Without Limitations

Figure 4.6.3

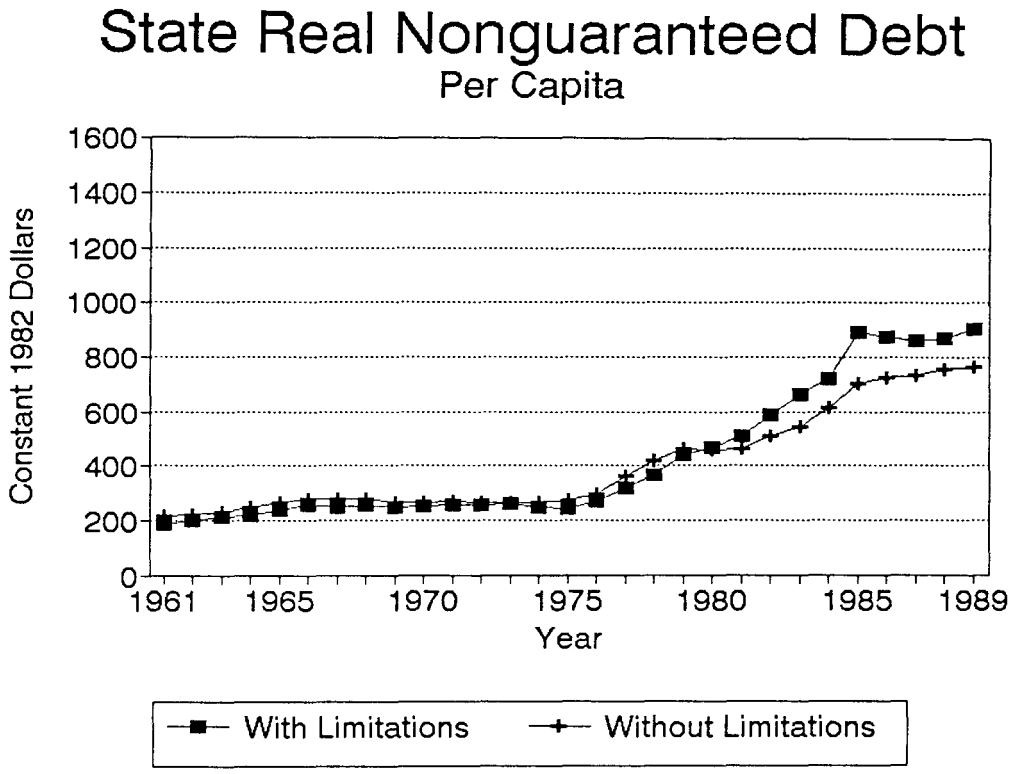

State Real Nonguaranteed Debt
Per Capita
Constant 1982 Dollars
1600
1400
1200
1000
800
600
400
200
0
1961
1965
1970
1975
1980
1985
1989
Year
With Limitations
Without Limitations

Figure 4.6.3

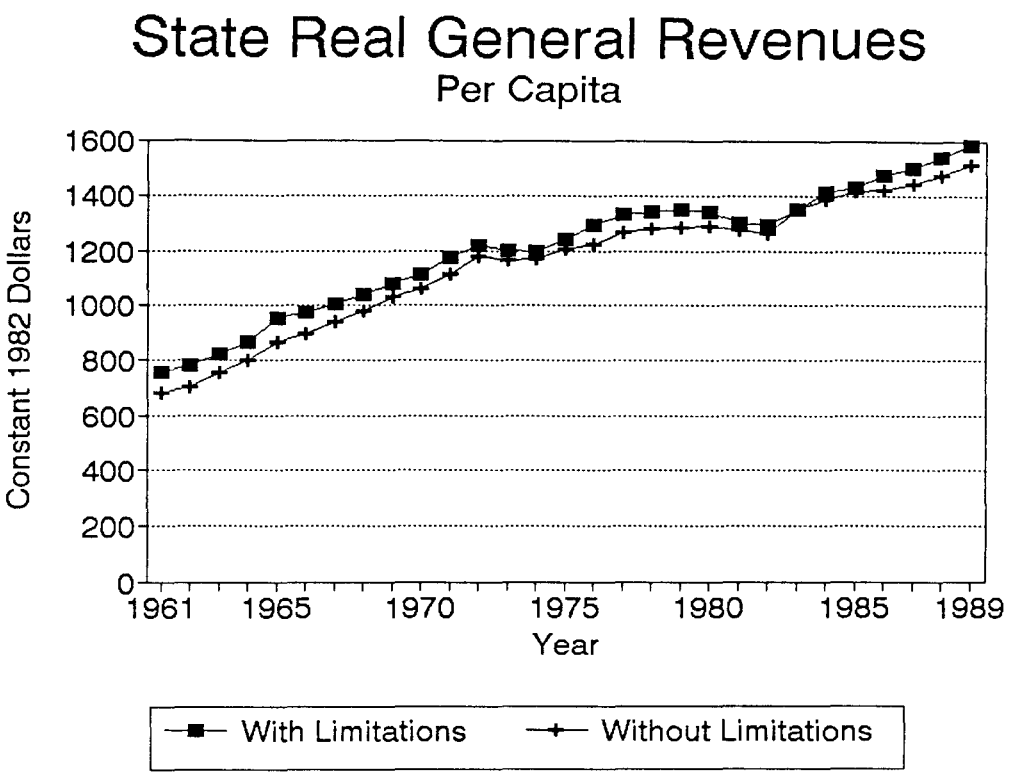

State Real General Revenues
Per Capita
Constant 1982 Dollars
1600
1400
1200
1000
800
600
400
200
0
1961
1965
1970
1975
1980
1985
1989
Year
With Limitations
Without Limitations

Figure 4.6.3

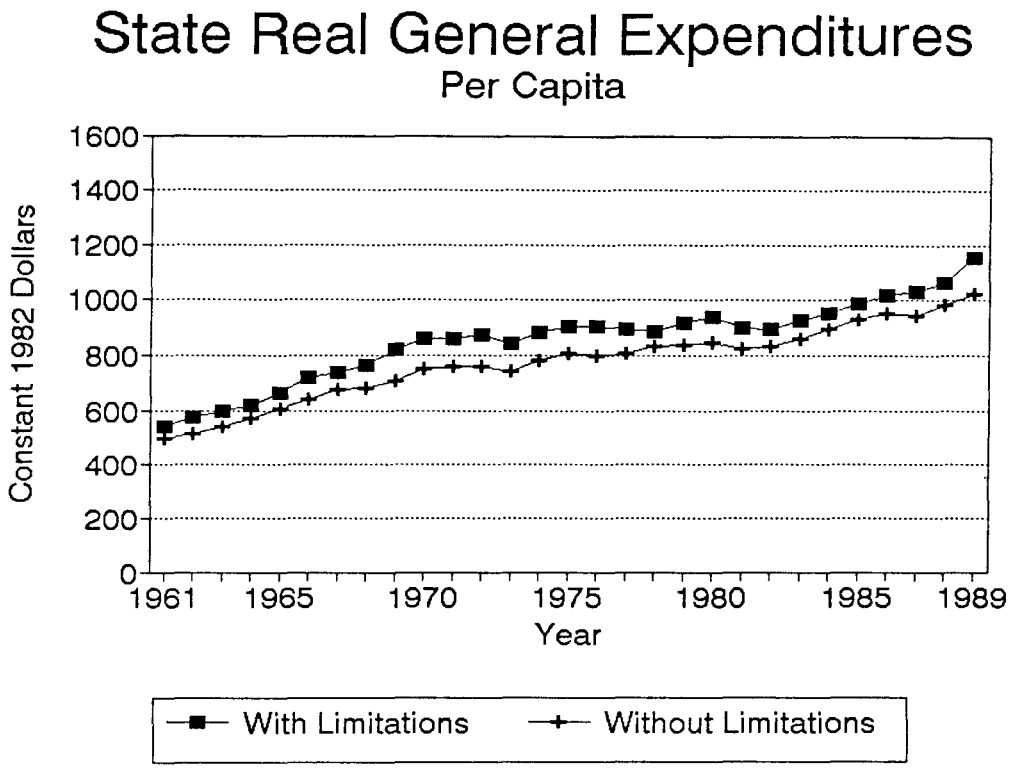

State Real General Expenditures
Per Capita
Constant 1982 Dollars
1600
1400
1200
1000
800
600
400
200
0
1961
1965
1970
1975
1980
1985
1989
Year
With Limitations
Without Limitations

Figure 4.6.4

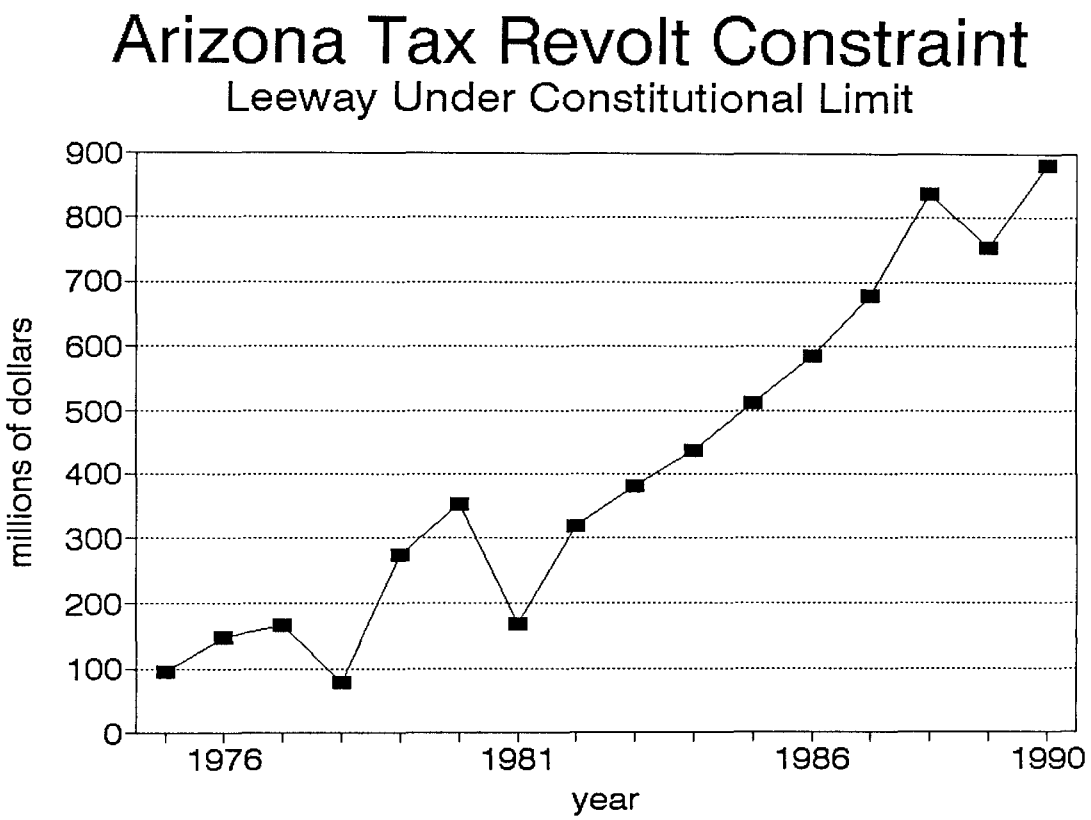

Arizona Tax Revolt Constraint
Leeway Under Constitutional Limit
900
800
700
600
500
400
300
200
100
0
millions of dollars
1976
1981
1986
1990
year

Figure 4.6.4

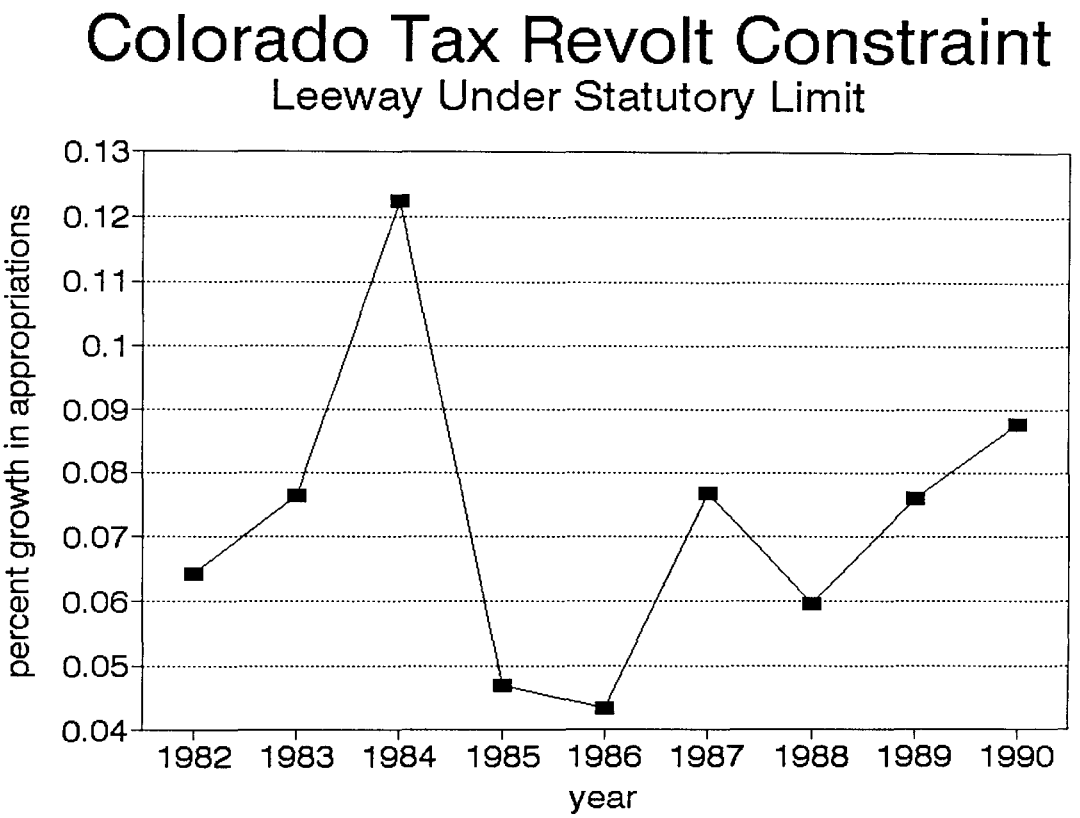

Colorado Tax Revolt Constraint
Leeway Under Statutory Limit
percent growth in appropriations
0.13
0.12
0.11
0.1
0.09
0.08
0.07
0.06
0.05
0.04
1982
1983
1984
1985
1986
1987
1988
1989
1990
year

Figure 4.6.4

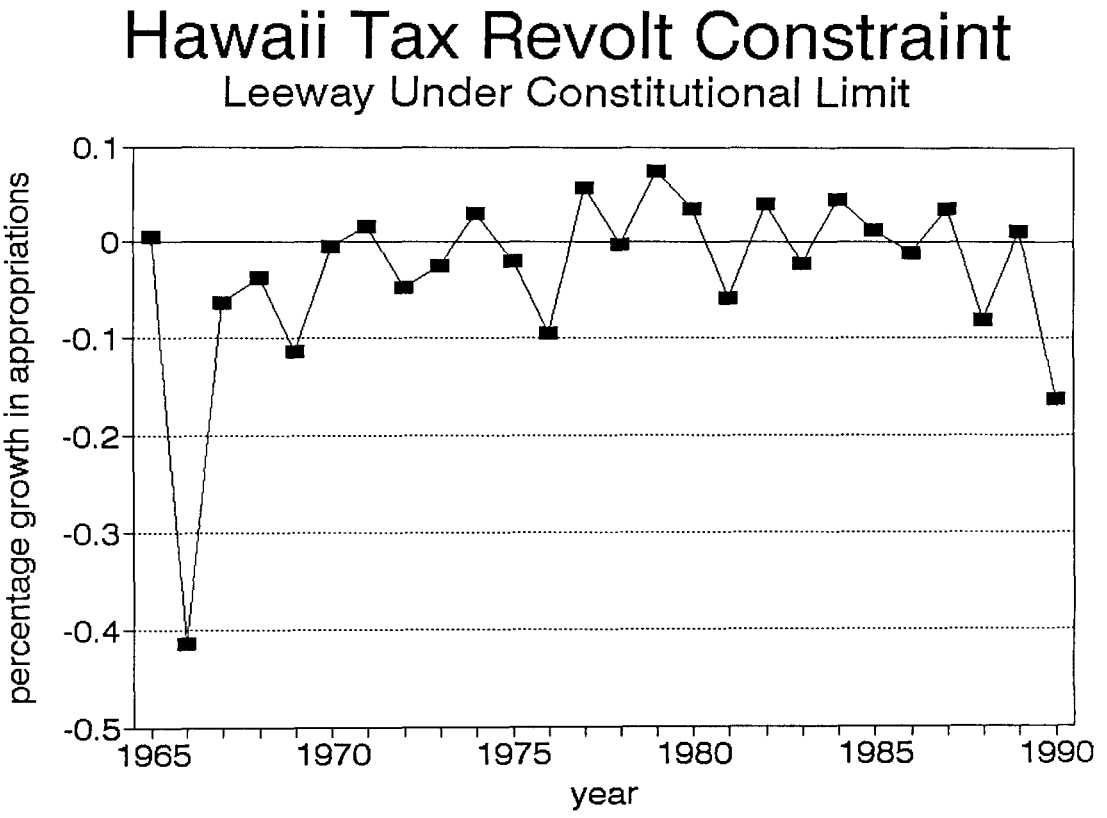

Hawaii Tax Revolt Constraint
Leeway Under Constitutional Limit
percentage growth in appropriations
0.1
0
-0.1
-0.2
-0.3
-0.4
-0.5
1965
1970
1975
1980
1985
1990
year

Figure 4.6.4

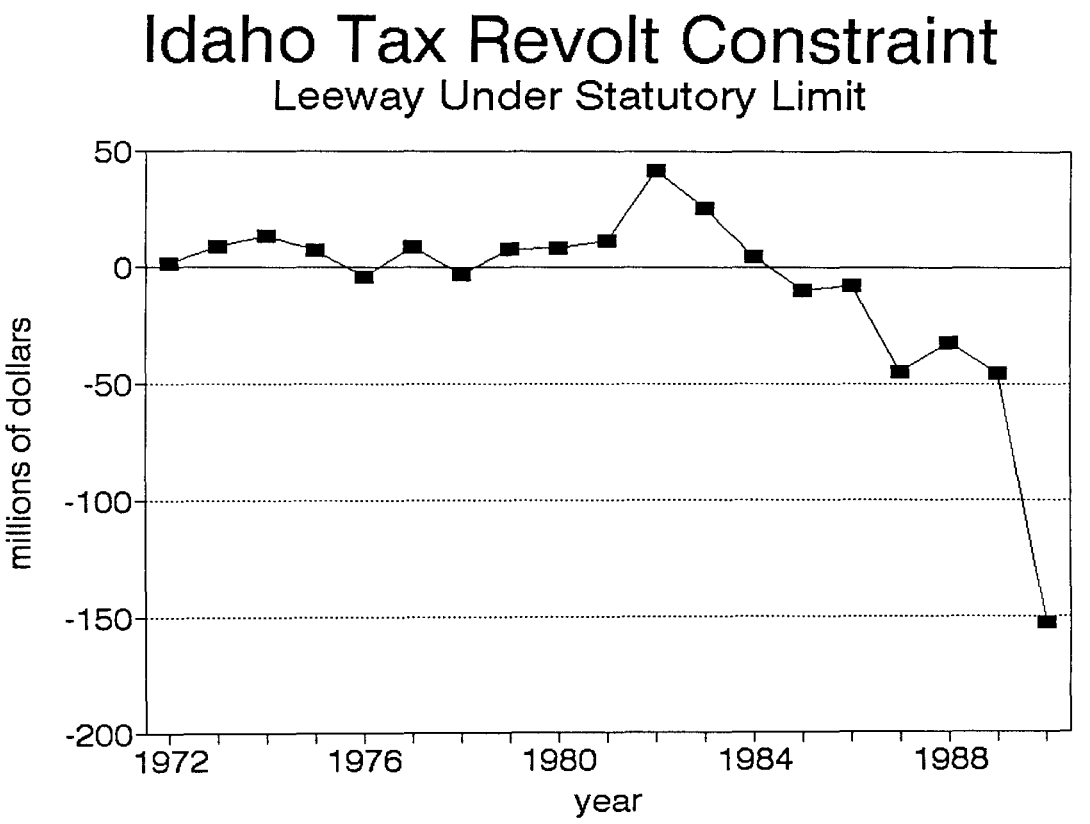

Idaho Tax Revolt Constraint
Leeway Under Statutory Limit
50
0
-50
-100
-150
-200
millions of dollars
1972
1976
1980
1984
1988
year

Figure 4.6.4

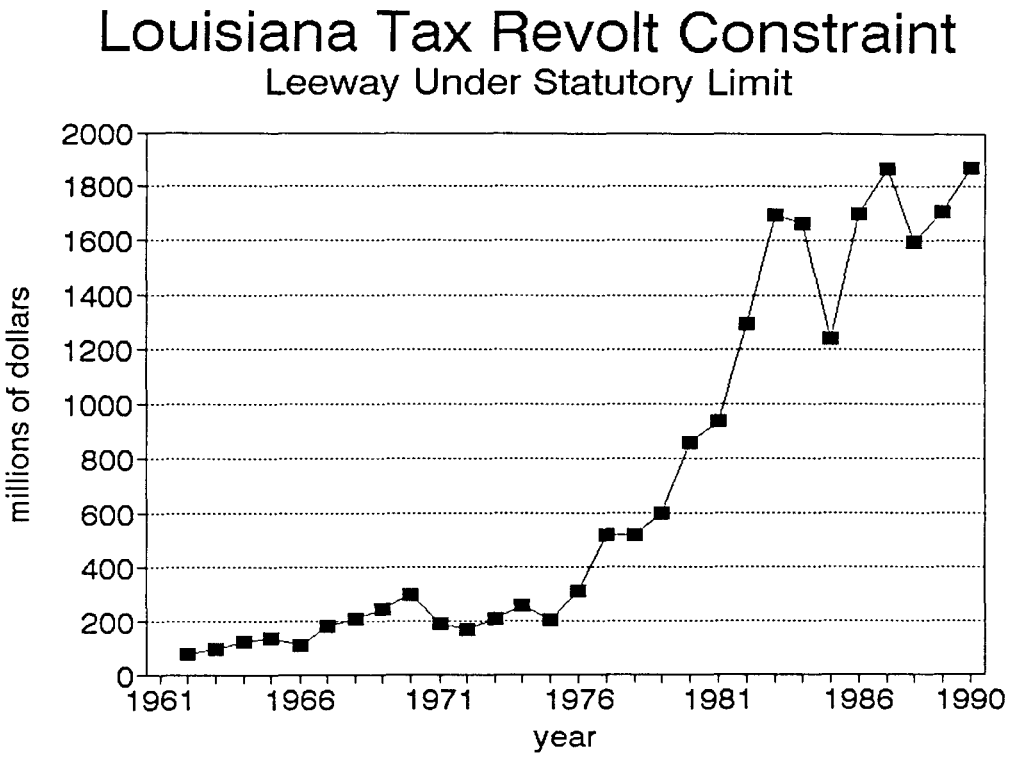

Louisiana Tax Revolt Constraint
Leeway Under Statutory Limit
millions of dollars
2000
1800
1600
1400
1200
1000
800
600
400
200
0
1961
1966
1971
1976
1981
1986
1990
year

Figure 4.6.4

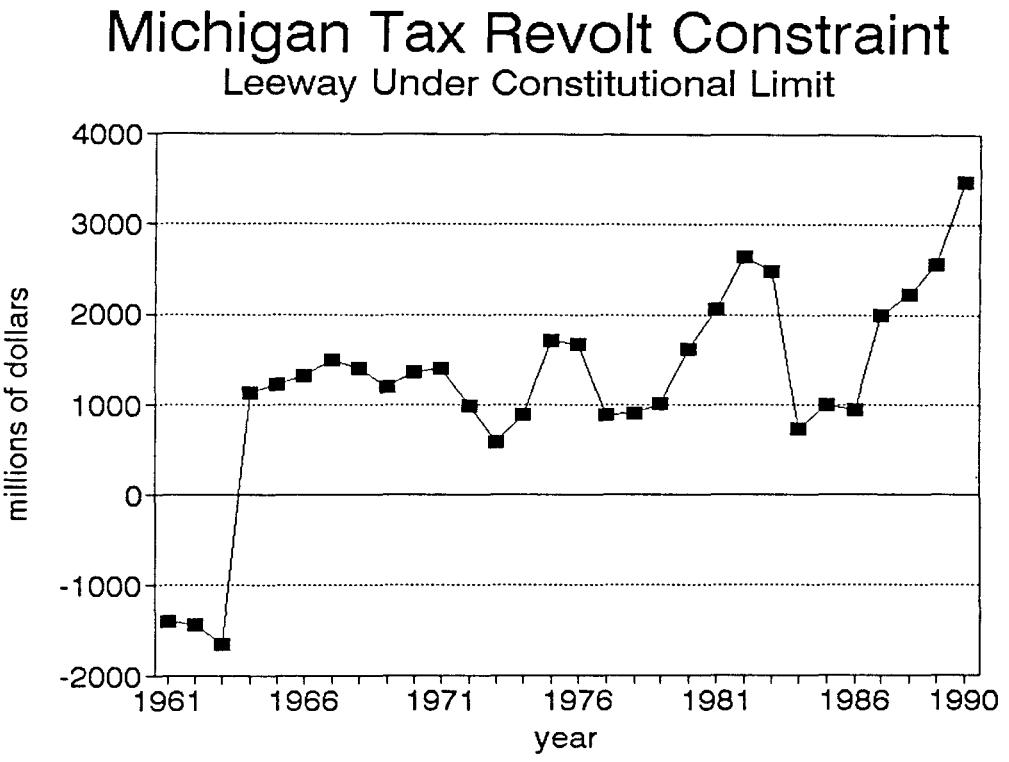

Michigan Tax Revolt Constraint
Leeway Under Constitutional Limit
millions of dollars
4000
3000
2000
1000
0
-1000
-2000
1961
1966
1971
1976
1981
1986
1990
year

Figure 4.6.4

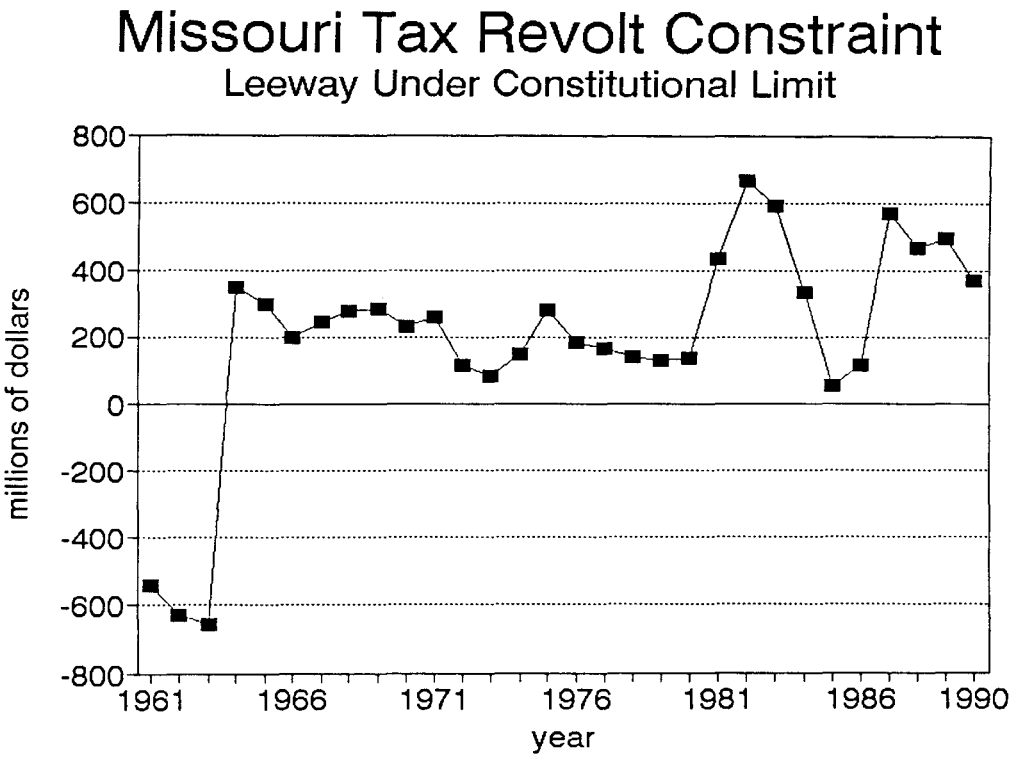

Missouri Tax Revolt Constraint
Leeway Under Constitutional Limit
millions of dollars
800
600
400
200
0
-200
-400
-600
-800
1961
1966
1971
1976
1981
1986
1990
year

Figure 4.6.4

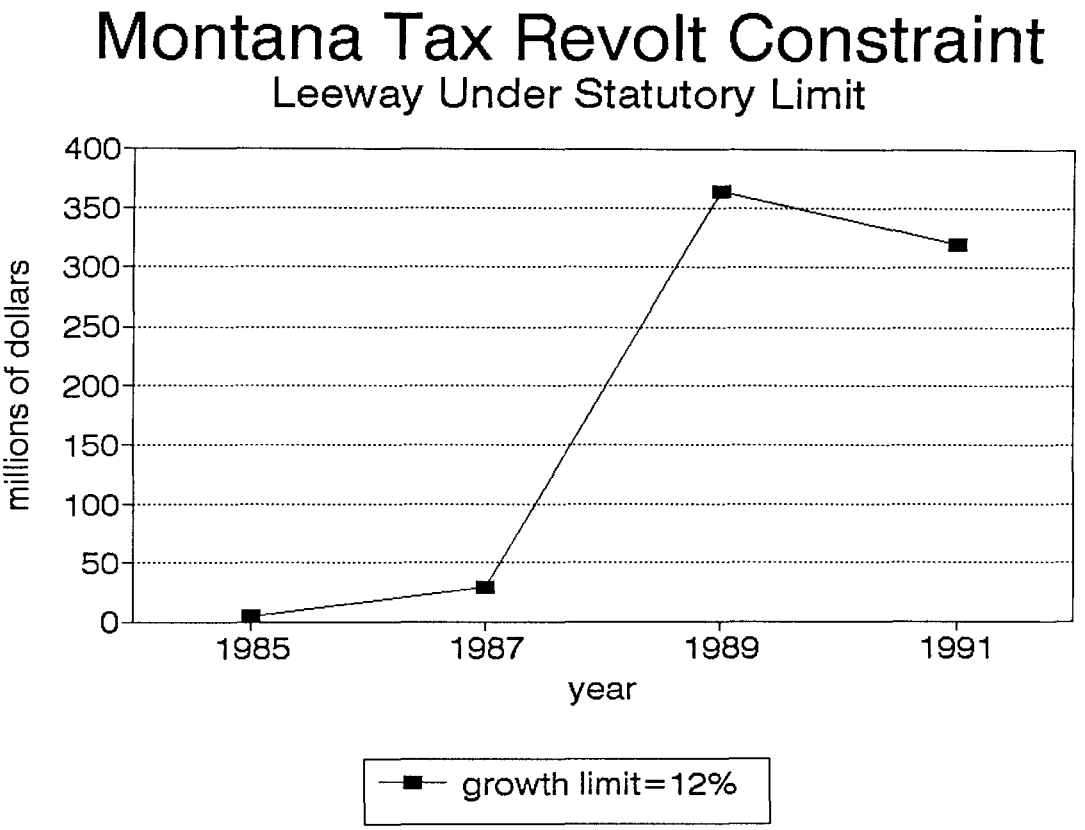

Montana Tax Revolt Constraint
Leeway Under Statutory Limit
millions of dollars
400
350
300
250
200
150
100
50
0
1985
1987
1989
1991
year
growth limit=12%

Figure 4.6.4

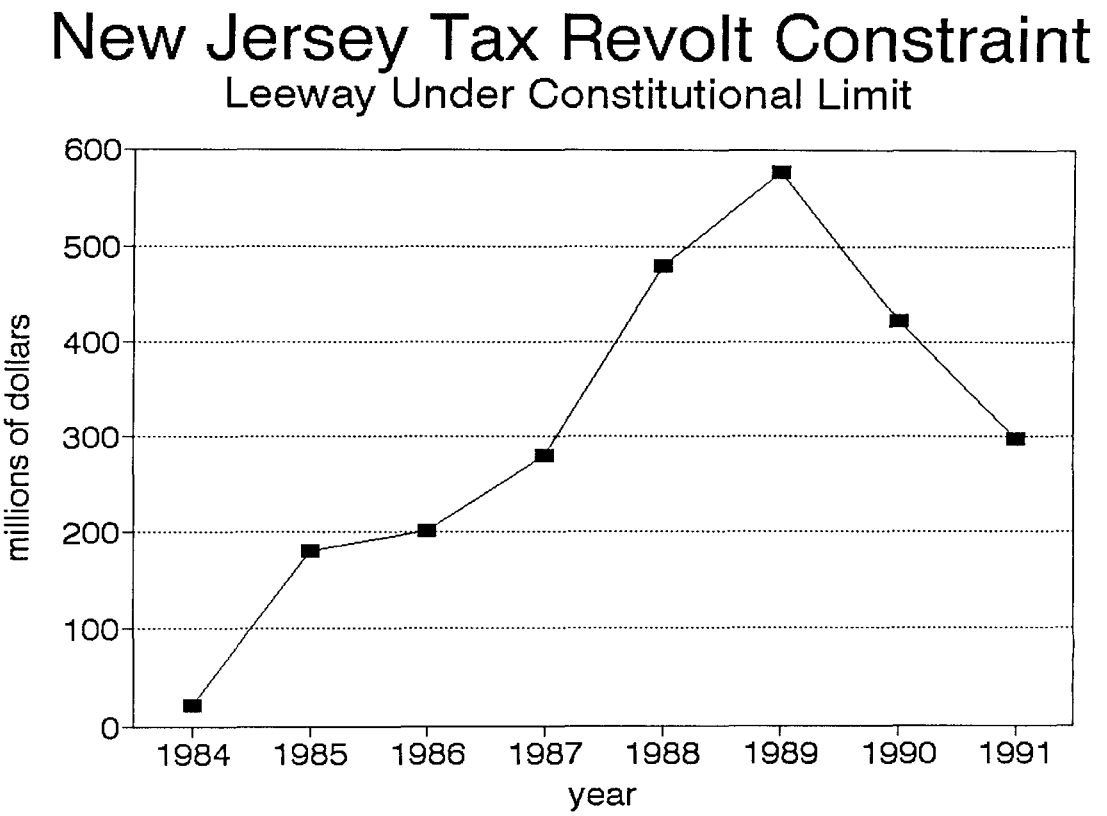

New Jersey Tax Revolt Constraint
Leeway Under Constitutional Limit
millions of dollars
600
500
400
300
200
100
0
1984
1985
1986
1987
1988
1989
1990
1991
year

Figure 4.6.4

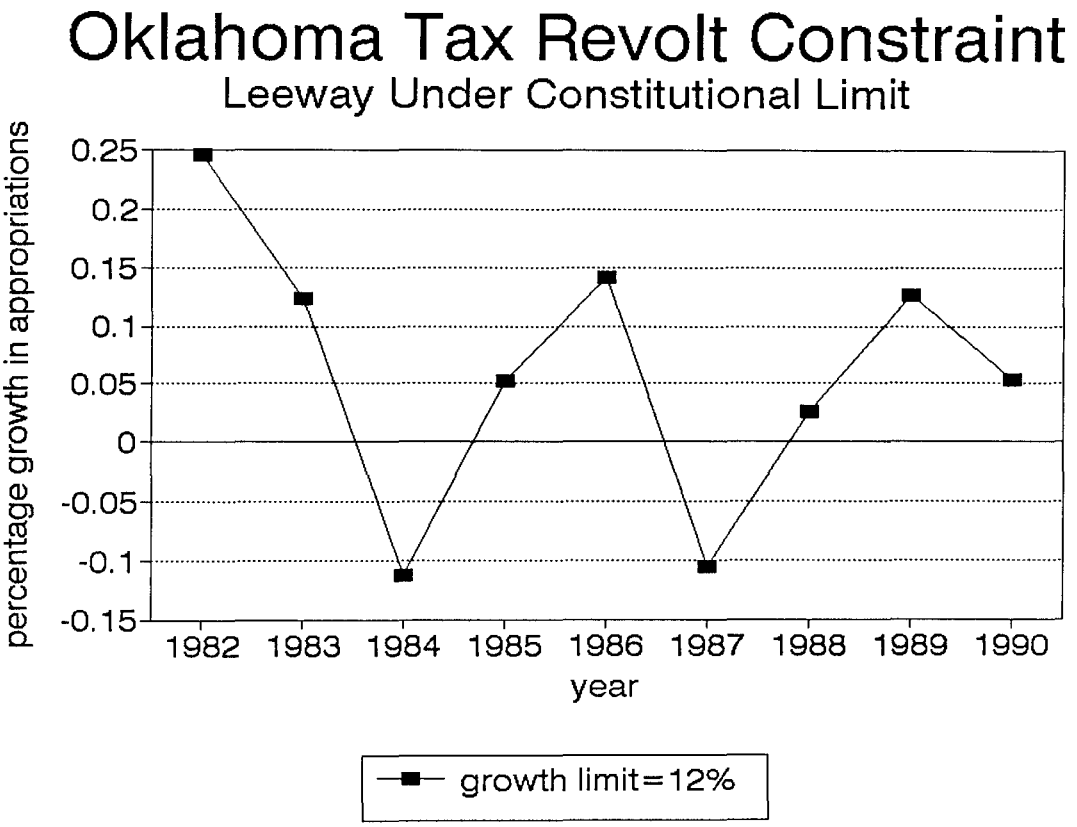

Oklahoma Tax Revolt Constraint
Leeway Under Constitutional Limit
percentage growth in appropriations
0.25
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
1982
1983
1984
1985
1986
1987
1988
1989
1990
year
growth limit=12%

Figure 4.6.4

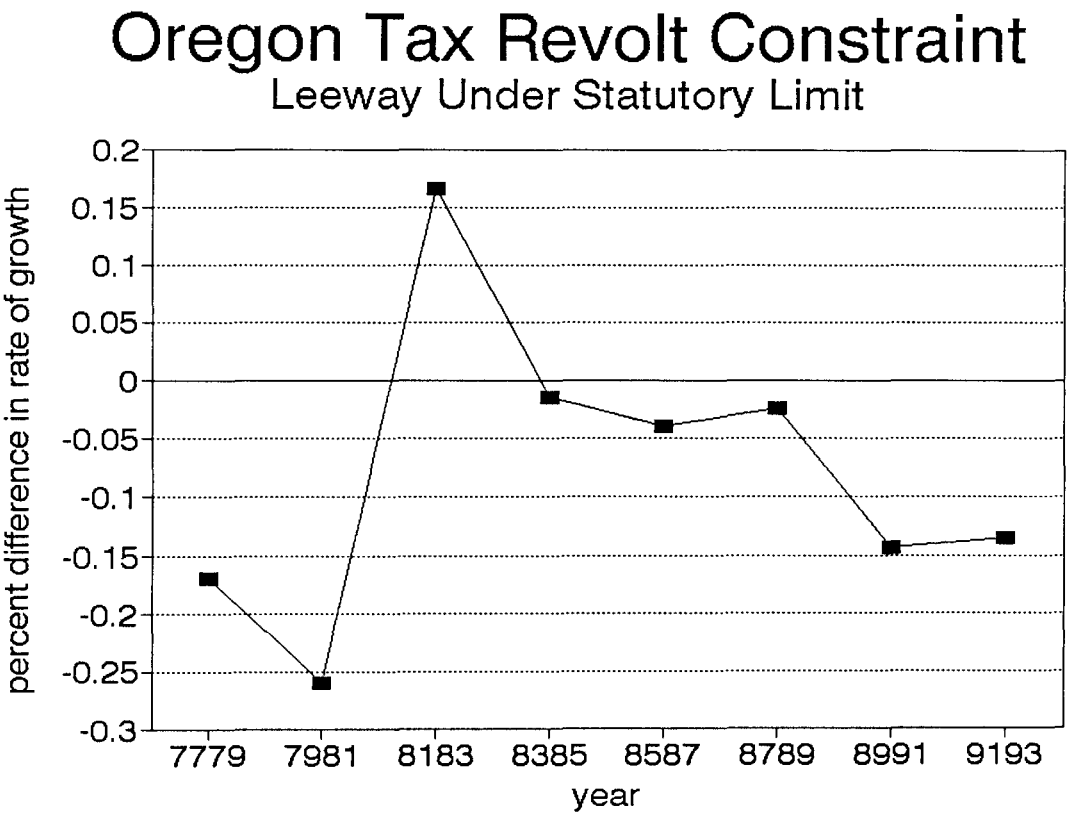

Oregon Tax Revolt Constraint
Leeway Under Statutory Limit
percent difference in rate of growth
0.2
0.15
0.1
0.05
0
-0.05
-0.1
-0.15
-0.2
-0.25
-0.3
7779
7981
8183
8385
8587
8789
8991
9193
year

Figure 4.6.4

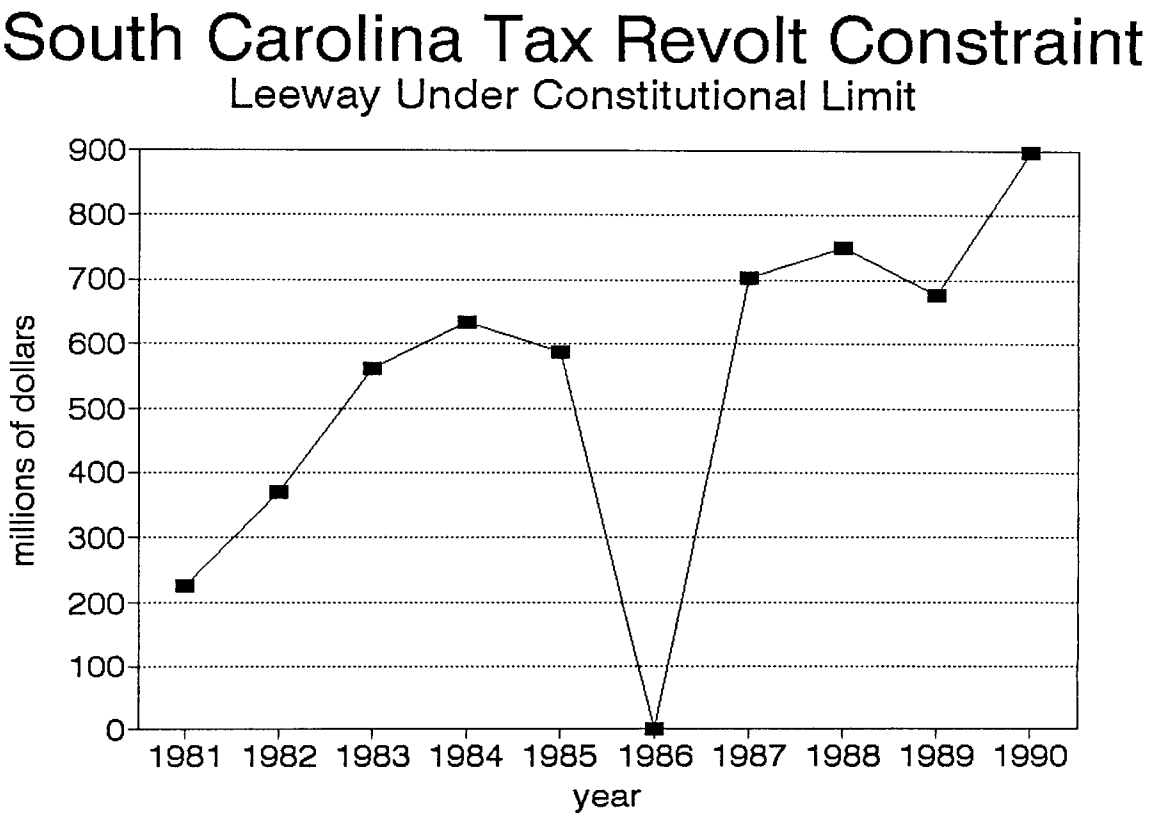
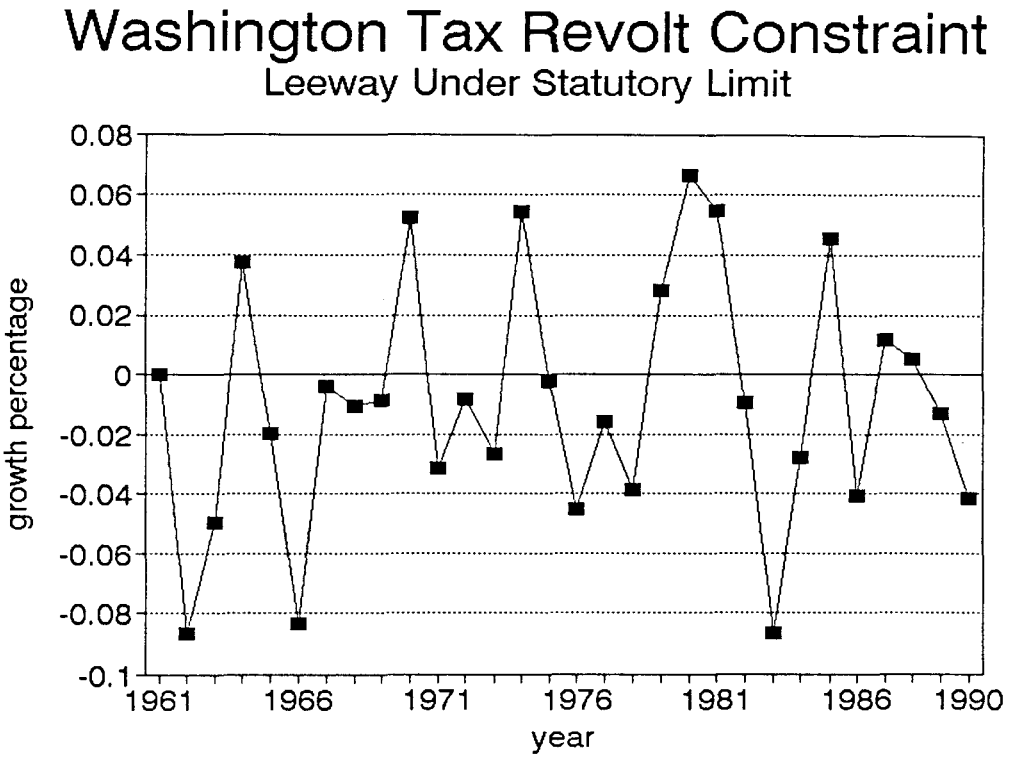

South Carolina Tax Revolt Constraint
Leeway Under Constitutional Limit
millions of dollars
900
800
700
600
500
400
300
200
100
0
1981
1982
1983
1984
1985
1986
1987
1988
1989
1990
year

Figure 4.6.4


Washington Tax Revolt Constraint
Leeway Under Statutory Limit
growth percentage
0.08
0.06
0.04
0.02
0
-0.02
-0.04
-0.06
-0.08
-0.1
1961
1966
1971
1976
1981
1986
1990
year

4.7. Endnotes

1.The decline in real disposable income was largely the result of inflation induced "bracket creep"; that is, many people were put into higher tax brackets because of rising inflation.

2.While the amount of new debt issued by state and local governments was growing slowly through the 1970s, less and less was being invested in capital projects. According to the Government Finance Research Center (1983a), between 1968 and 1980 state and local government capital expenditures fell from over 37 percent, from $35.9 billion to $22.6 billion in constant (1972) dollars, or from $179 to $96 in per capita terms. Grants from the federal government for capital expenditures also fell during this period; in 1968 44 percent of all federal aid to state and local governments was for capital projects, but by 1980 it was only 25 percent. Cumulatively, between 1968 and 1980 total government investment in capital projects fell from 4.1 percent of GNP to 1.5 percent (p. 3).

3.As several observers have noted, most nonguaranteed debt is issued by public corporations, special assessment districts, and other off-budget enterprises (Moak 1982; Bennett and DiLorenzo 1982; Hackbart et al. 1990).

4.We are still waiting to receive the necessary data from California, Massachusetts, and Texas. Alaska was not included in the study, and Nevada and Utah have limitations that officials state are non-binding or have never been implemented. New Jersey officials could not provide appropriations information for years earlier than 1983 (the same year that their tax revolt limitation expired).

5.The referendum requirement allows a state to exceed its limit through a constitutional amendment; thus, a state may legally be "in the red."

6.In general, constitutional amendments do not appear to be more enforceable in a court of law than statutory amendments; though, it may vary to some degree from state to state.

7.A description of each variable, including source and reason for including it in the analysis, is provided in Chapter 3.

8.As in Chapter 3, there exists the possibility that some of the independent variables are endogenous, particularly because the limits were enacted within the last ten to fifteen years. Thus, the behavior of states in certain policy areas may have influenced the choice of limitation and the choice of limitation may influence the behavior captured in some of the variables. We ran several

probability tests (e.g., probit and logit), but found no evidence of endogeneity.

4.8. References

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5 Conclusions

The purpose of this research was to study the efficacy of self imposed limitations. In particular, it focused upon a set of restrictions instituted by most state governments over a hundred years ago; namely, limitations on full faith and credit borrowing. These restrictions, as discussed in Chapter 2, were incorporated in most state constitutions because of the massive defaults on bonds that occurred in the 1840s. Revenues were not sufficient to cover the sizeable debt; therefore, state governments could not continue interest payments, let alone refunds on the principle investment. The restrictions became a means by which a state restored its credit worthiness.

As we argued in Chapter 1, this overspending/borrowing bias can be traced, in

part, to the design of legislative government itself. Legislators want to continue legislating; therefore, they pursue policy conducive to getting them re-elected. This policy often involves spending programs because the benefits associated with such programs are directly visible to constituencies. Money must be raised to pay for these programs; however, and raising taxes is politically undesirable. Thus, governments often resort to borrowing to pay for costly spending programs.

We argued that without any limits or rules, it is difficult to control the overspending/borrowing bias because elections are not effective, and the hierarchial system promotes collusion and vote trading, leading to suboptimal policy outcomes. Limitations or rules restricting the choices of democratically elected officials has been suggested by many scholars as a possible means of preventing these outcomes. Thus, the motivation behind this work was to measure to what extent limitations prevent or correct undesirable political outcomes, and if constitutional restrictions were as binding as many researcher have argued.

For most of our analyses, the debt limitations were classified into five categories (only for our regression analysis did we separate states into mutually exclusive groupings). The results of our work placed the restrictions into definite categories of effectiveness. The referendum and dollar debt limits

both appeared to hold down the level of full faith and credit debt across all tests, while a supermajority of the legislature requirement seemed to allow legislatures to borrow more. Our preliminary analyses found little evidence to support a circumvention hypothesis (defined as a state actively skirting limitations on full faith and credit debt by issuing more nonguaranteed debt). It did show up in the regression calculations; however, the size of the affect was minuscule when compared to other influential factors such as crime rates, number of school age children, and most important, the limitation variables themselves. We concluded from this result that the states probably do not actively pursue such a policy with any rigor.

Our regression analyses supported the efficacy of the dollar debt limit and the referendum requirement. This result, though, should be accepted with a degree of caution. When we examined the bindingness of the dollar debt limit more closely, we saw that half of the states did not actively issue full faith and credit debt, while the other half legally (and regularly) exceeded their limits. The same held true for the flexible debt limit, except instead of not issuing debt, many states set limits so high as not to be binding.

In addition, while the constitutional limitations on taxing and spending that arose out of the Tax Revolt Era did not appear to contribute to more borrowing, the statutory limits did explain some of the increase in full faith

and credit borrowing and decrease in nonguaranteed debt. We hypothesized that if the tax revolt restrictions were binding, states would be forced to come up with revenues through issuing debt, in particular, nonguaranteed debt. Our regression results were obviously contrary to this prediction. After looking at the long term full faith and credit debt restrictions of these states, we conjecture that they issue more full faith and credit debt than other states because the limitations are not severely binding. Most of the states were restricted by a flexible debt limit (which we already found to be ineffective at controlling the level of debt) or a dollar debt limit with a provision that allowed it to be amended. Because the borrowing limits were not constraining, they could issue more full faith and credit debt without resorting to issuing nonguaranteed debt. Future research should examine this relationship more closely.

If we have some limits that appear to control borrowing and little evidence exists for circumvention, how do states manage? We conclude that states pursue policies that legally skirt the limitations without appearing to circumvent them. First, states can hide long term debt by issuing bonds in short term denominations (one and two year bonds). By rolling over the bonds year after year, the debt becomes long term without having to fulfill the obligations associated with full faith and credit bonds.

The limits themselves can be manipulated to a certain extent. Many states, such as California, have the ability to move spending items off- and on-budget. Moving items off-budget exempts such debt from the borrowing and spending restrictions of the state. In addition, some states have clauses that allow them to exceed their limit for one or more years and several, such as Hawaii, can use estimated figures in their calculations that may bias the results in favor of remaining within the specified limits.

Finally, as we saw earlier, it may just be the case that the limit set is not binding (as with many states subject to the flexible debt limit). In the early 1980s, California authorized the issuance of more than $13 billion in bonds. It was not until the late 1980s, however, when Kathleen Brown became treasurer, that these bonds were actually issued. If the limitations were truly binding, we conjecture that this debt would have been issued much earlier in the decade. Because of their obvious effect on state fiscal practices, it appears that in addition to circumvention through the issuance of nonguaranteed debt, the less obvious loopholes mentioned above should be included in any future analysis of the efficacy of the borrowing limitations.