Assessing Fiscal Sustainability

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Abstract: We assess fiscal sustainability based on actual fiscal performance, and the ability to sustain sustainable practices; paying special attention to states' Tax and Expenditure Limits (TEL). We grade sustainability based on these criteria: 1.) binding/stringency of TEL; 2.) spending growth; 3.) emergency preparedness; 4.) debt and use of surplus revenue; and 5.) four political sustainability determinants. From those assessments, we assign each state a fiscal sustainability score between zero and one hundred, and on that basis a grade of A-F. We conclude with general critiques, improvement recommendations, and some specific examples to illustrate our key points.

I. Overview

Curbs on government spending, debt, and revenue (TEL – because of the common name, Tax and Expenditure Limits) will always have some political support for two nearly opposite reasons. 1.) Cutting specific programs is politically difficult, so a TEL offers a less confrontational way to address the higher-than-optimal spending levels, including unsustainable spending growth, that tend to result from spending bias. That bias – general policymaker preference for spending over tax rate cuts - results from the ability to concentrate spending on potential political supporters, especially marginal supporters, often at a low political cost. Ability to impose taxes on non-residents (tax exporting), on political opponents, and diffusely (small amounts per program from everyone) can make inefficient levels of 'tax and spend' politically optimal; and 2.) Discussion, even enactment, of a weak TEL can provide the appearance of determination to rein in spending growth without providing an effective basis for reining it in.

That the latter 'seems' to be the dominant basis for TEL development and enactment is a key reason for the research underlying this paper. We also aim to highlight the differences between the more and less successful honest attempts to curb spending bias (TEL motive #1, above). By defining and quantifying TEL effectiveness, and other key elements of state fiscal policy, we aim to strike a blow for at least state fiscal policy sustainability, if not also for an even more efficient

allocation of resources between the public and private sectors. So, while we pay special attention to limits on debt, and spending and revenue growth, we also take account of stability, emergency preparedness, and political sustainability.

In successive sections of the paper, after a literature review, we discuss our basis for a Fiscal Sustainability Index (FSI). A TEL could influence each of the five FSI components, but may not. A) Since, "tax and expenditure limits (TELs) [aim or pretend to] restrict the growth of government revenues or spending,"[1] a key fiscal outcome is whether the TEL affects spending levels. A TEL is binding to the extent that spending levels are often near the TEL cap amount. B) Spending growth is unsustainable to the extent that it exceeds personal income growth. C) A key state function is emergency preparedness. D) Debt and uses of surplus revenue that a TEL may be partly responsible for matter beyond the other measured fiscal outcomes of a TEL. E) TELs that have reduced spending growth have suffered from political unsustainability. That is, attention to likely grounds for TEL weakening (even to the point of irrelevance) can create a durable tool for "restricting the growth of government revenues or spending."

We calculate a Fiscal Sustainability Index (FSI) value even for the states that lack a formal rule restricting spending, debt, or revenue growth. A state can possibly have a sustainable, or even efficient, fiscal policy without a rule restricting spending, debt, or revenue growth. However, as we can see from the long-term federal experience, good performance backed by well-conceived rules is more sustainable than a good performance based just on tradition.

II. Literature Review

A still to be focused extensive TEL Literature Review is in the Appendix

III. The FSI Components

A. Binding

Our measure of the extent to which a TEL is binding begins with a calculation of the average difference, positive or negative, between the annual TEL Cap amount and the spending subject to the limit (BIND). Then we take account of the total spending share of the spending subject to the limit (TELSHARE). An average difference between the cap amount and actual spending subject to the cap of less than two percent yields 'α' = 100. A difference greater than five percent yields 'α' = 0. With BIND between two and five percent: $\alpha = 166.67 - 3333.33(BIND)$

$A = TELSHARE \times \alpha$

B. Fiscal Performance

Some states have periodically grown state spending faster than their state's personal income growth; something that is unsustainable. The closer total spending growth is to that threshold the greater the danger; the weaker the state's fiscal rules, formal or informal, with a TEL or without. So, we specify that β is the full-data-period average difference between the rate of state government growth (GG = total spending) and full-period personal income growth (PIG).

$\beta = GG - PIG$

GG = (EndG/BeginG)^(1/n) – 1 End is last observation
PIG = (EndPI/BeginPI)^(1/n) – 1 Begin is first observation
n = total observations - 1

For β greater than 2%, B = 0; less than 2%, B = 100. For β between +/-2%: $B = 50 + 2500\beta$

C. Emergency Preparedness

Emergency preparedness is a core state function. A state can provide the financial basis for the state government's share of emergency response and recovery costs either with money set aside in an Emergency Fund (EF), or by maintaining a large general fund (GF) account balance in years

that did not require significant expenditures to address emergencies. Ideally, we'd score such readiness through the following equation:

C = Average for the full data period: [Year-End GF Balance + EF Balance]/(Worst x Prob) x 100

Where: Worst = the state government's outlay for a worst-case scenario disaster.

D. Debt and Use of Surplus Revenue

We compared the debt level to personal income. Debt over ten percent of personal income yields a debt score of zero. Between zero and ten percent, yields a fraction of 100.

We used the following subjective measure to score use of surplus revenue.

d = 100 with this prioritization: 1.) Emergency Fund (EF) up to the EF cap level; 2.) Budget Stabilization Fund (BSF) up to the BSF cap level; 3.) Tax Rate Cut up to non-cyclical level; 4.) Capital Fund (KF) up to the KF cap level; and 5.) Rebates to taxpayers.
d = 75 with this prioritization: 1.) combined EF and BSF; 2.) Tax Rate Cut up to non-cyclical level; 3.) Capital Fund (KF) up to the KF cap level; and 4.) Rebates.
d = 50 with this prioritization: 1.) Tax Rate Cut up to non-cyclical level; 2.) Capital Fund (KF) and or Rebates.
d = 25: Rebates
d = 0: Stays in the fund that had the surplus.

Since the designation of surplus revenue, and its uses, depend on the degree to which the TEL is binding:

$D = ((d \times [\alpha/100]) + ((10 - ((Debt/PI \times 100))) \times 100))/2$ α = 'Binding' score

E. Political Sustainability

Each of the following four factors earn up to twenty-five of the 100 political sustainability points: 1) TEL is in the state constitution (f1 = 40). 2) A direct democracy/referendum role in creating or revising the TEL (f2 = 20). 3) The TEL Limit depends upon the previous year's limit (f3 = 20 with no 'rebasing;' no ratchet down), or the previous year's spending or revenue (0). 4) Stability: We find the Standard Deviation of Actual spending from steady growth at the long-term average. Since the importance of the TEL depends on TELSHARE: $E = (f1 + f2 + f3 + f4) \times TELSHARE_{AV}$

Stability Measure (**SM**) = (1 – (Std Dev/Mean)). Std Dev = Sqrt of: ($\sum$(actual spending subject to TEL - exp)^2/N-1) Expected is based on long-term average growth rate.

f4 = SM x 20

Then: **FSI** = (A x 0.2) + (B x 0.2) + (C x 0.2) + (D x 0.2) + (E x 0.2)

IV. Results, Plus Sensitivity Analysis Recommendations

The findings for each state are in an Appendix. Here, we limit the discussion to Colorado, Connecticut, Florida, Illinois, Kansas, Texas, and Utah. Table 1 ranks them by FSI_A, with detail.

Table 1: FSI rankings, with Index Component Detail

								ΔTELSHARE	
	FSI_A	FSI_L	A	B	C	D	E	FSI_A	FSI_L
Colorado	47	40	43	73	23	53	43	64	53
Connecticut	32	26	72	32	12	0	42		
Florida	31	32	0	93	16	18	28	36	37
Texas	29	29	0	66	12	41	26	34	35
Utah	27	31	0	65	34	14	21	31	35
Kansas	21	19	0	66	10	28	0	21	19
Illinois	5	3	0	13	10	0	0	5	3

where: FSI_A = fiscal sustainability index value based on component averages, where relevant.
FSI_L = fiscal sustainability index value based on last component value, where possible.
A-E are the FSI elements (100 total possible for each) described in section III, above.

In terms of fiscal sustainability, even the best states have a lot of room for improvement. Of the seven depicted in Table 1, only Colorado and Connecticut have TELs that are ever binding (A > 0); less often since a 2005 referendum changed the base for the annual increase in the Colorado TEL from the revenue available last year to the previous year's available revenue limit. An especially significant reason for the low FSIs is that the existing TELs typically apply to less than half of total spending; often much less (e.g. Utah's ~20%).

Colorado is famous for the TEL created by its Taxpayer Bill of Rights (TABOR), but its FSI score is only 47 out of 100. A 2005 referendum made TABOR less binding and the TEL applies to a falling share of total state spending; after a time-out, down to 35% by 2017. Connecticut's TEL is binding more often than Colorado's TEL, which seems to have caused spending pressures to yield significant debt. Connecticut's debt is way above the ten percent of personal income threshold for zeroing out the debt component of the FSI calculation. Though Colorado's spending is rising faster than Florida, it is doing better than Florida on emergency preparedness, debt, and political sustainability. $FSI_L < FSI_A$ means that sustainability is declining slightly.

In addition to its significant debt, Connecticut's FSI suffers from low preparedness for emergencies. In most years, it had very little in its reserve fund, or as a year-end general fund balance. That is especially troublesome with its large existing debt hampering borrowing to meet emergency demands, and with spending growth still topping personal income growth. Still, Connecticut is slightly out-performing the red states, Texas and Utah.

Florida, which should be more renowned for its ability, in a very politically competitive, fast-growing state, to achieve a long-term spending growth rate of 2.6% (not inflation-adjusted) from FY '98 to '18, scored only 31 out of 100. Does that low score, despite impressive fiscal performance, mean that the FSI formula is deeply flawed? It is reflecting vulnerability to change. Since Florida's TEL is not binding, and debt has been creeping up, the impressively low rate of spending growth may not be very sustainable. It could be just one more close election away from its demise. $FSI_L > FSI_A$ means that Florida's fiscal policy is improving.

The 'purple' states, Colorado and Florida, are out-performing the red states, Texas and Utah. Therefore, while competitiveness threatens regime change, it may force fiscal restraint. Texas (24) and Utah (23) have a TEL, but it applies to less than half of spending, and has not slowed spending growth, which has been barely sustainable; barely less than personal income growth, which is faster than inflation plus population growth. For both, $FSI_L > FSI_A$, so fiscal sustainability is improving.

So that it doesn't look like the FSI measures freedom in Eastern European countries when they were behind the Iron Curtain (largest number still very small), we could do one or both of the following: 1) Grade on a curve; start with an FSI of 100 for the top state; and or 2) Base the 100 for each element on the best existing performance. That may be especially appropriate for TELSHARE which is likely a useful sensitivity analysis (last columns of Table 1) for some states. With much of each state's total spending based on earmarked funds, putting total spending under a TEL umbrella would just amount to an especially tight, perhaps politically unsustainable, cap on discretionary

spending. For example, suppose earmarked spending (nearly mandatory) is half of total spending, and it rises annually at 8%. Then suppose the TEL allows a 6 percent annual rise in total spending. To comply with the TEL, the discretionary spending half of total spending can rise only 4%. So resetting TELSHARE to 100 for the top TELSHARE of nearly 50%, we recalculate each state's FSI with TELSHARE doubled. That significantly increases the FSI of states with a binding TEL.

V. Summary and Concluding Remarks

We regard this chapter as the first step in the development of a summary measure of a state's fiscal practices. The process of envisioning and measuring the components of a FSI identified some areas of possible improvement in what is taken into account, and how. Feedback will likely identify further improvement possibilities. We have already begun to examine: 1) differential weighting; in part by disaggregating the existing five components into a larger number of categories. While it is almost always obvious that some components are more important than others, how much more important is much less obvious; 2) making TELSHARE – as discussed above – less important; expecting TELs to cover much less than total state spending; 3) consider state and local spending together; 4) score the fiscal cost of mandates; and 5) score off-budget activity.

An important insight generated by the just-completed assessment is that states are not well-insulated from external stresses, much less changes in the preferences of their electorates, and external stresses are likely to proliferate.

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Literature Review Appendix

Introduction

Following Stark (2001) we can distinguish between two basic provisions in TELs: (1) direct limitations, such as tax rate limits, tax base constraints, and expenditure caps; and (2) procedural limitations, such as supermajority voting requirements, or voter approval requirements. Most of the economics literature has focused on the direct limitation provisions of TELs, but recent studies explore procedural limitations as well.

Early studies of TELs analyzed their effectiveness in constraining the growth of revenue and/or spending at the state and local level. This focus reflected the origin of TELs during the 1970s in taxpayer initiatives, such as Prop 13 launched by Howard Jarvis in California.

In recent years economic analysis of TELs has shifted away from the narrow focus on fiscal constraint. This is because TELs have emerged as an important component in the fiscal adjustment policies pursued in the states in response to recent recessions. On the one hand some states responded to these recessions as they had in the past; as revenues contracted they increased taxes and in some cases issued new debt to sustain higher levels of spending. These fiscal policies were exacerbated when fiscal stimulus dollars were used to fund ongoing state programs. When the federal stimulus ended some states offset the loss in federal funding by increasing taxes and debt in order to sustain these ongoing programs.

In contrast to these 'business as usual' fiscal policies some states attempted to enact fundamental fiscal reforms in response to the fiscal stress experienced during the recessions. Sharp reductions in spending were enacted to balance state budgets. Some states rejected the federal stimulus funds and limited the 'annualization' of these one-time federal subsidies. In some states spending cuts were combined with tax reforms designed to promote higher rates of economic growth. The rationale is that as jobs and income increase this could generate increased tax revenue to offset the static revenue effects of lower tax rates.

TELs are an important component of this 'supply side' approach to fiscal policy. To the extent that TELs constrain state spending this will keep spending more in line with revenues and limit the fiscal stress of falling revenues in periods of recession. Further, linking the TEL to a budget stabilization fund could allow states to build up reserves in periods of rapid growth to offset revenues shortfalls and sustain spending in periods of recession.

TELs could also set the stage for tax reforms. As TELs generate surplus revenue some of that revenue can be earmarked for tax rebates. As tax rebates shift resources from the public sector to the private sector this can stimulate higher rates of economic growth. Tax rebates can also set the stage for tax cuts. Because tax rebates are transitory they have less impact on consumption and investment spending. Tax cuts, on the other hand, impact permanent or lifetime income and consumption and therefore stimulate higher rates of economic growth.

The economic analysis of TELs has expanded to address this wider range of issues in state fiscal policies pursued in response to fiscal stress. A major issue is the role of TELs in stabilizing state budgets over the business cycle. This requires analysis of the linkages between TELs and budget stabilization funds. Much of the literature on budget stabilization funds focuses on the stringency of rules for deposit

and withdrawal. But, the effectiveness of budget stabilization funds may also depend upon linkages to other fiscal rules, such as TELs.

The literature on TELs also extends to their impact on economic growth. TELs can impact economic growth when they constrain spending and shift resources from the public to the private sector. And when TELs are linked to tax rebates and/or tax cuts they will impact economic growth over and above the shift of resources from the public to the private sector.

The linkage between TELs and tax rebates/tax cuts also impacts state revenues. Usually the supply side effects of tax rebates and tax cuts are analyzed independently from TELs. But, when tax rebates and/or tax cuts are linked to the surplus revenue generated by TELs this requires a different type of analysis to capture this linkage.

Direct TEL Limitations on State Government

TELs and the Growth of Revenue and Spending

Most of the literature on TELs focuses on the impact these fiscal rules have in constraining state revenue and spending. Early studies of TELs found evidence that they had only a small effect on state budgets (Abrams and Dougan, 1986; Howard, 1989; Bails, 1990; Joyce and Mullins, 1991; Poterba, 1994; Poulson and Kaplan, 1994; Mullins and Joyce, 1996; Poterba and Reuben, 1999). But other studies provide evidence that TELs can effectively constrain the growth in state spending (Elder, 1992; Shadbegian, 1998; Bails and Tieslau, 2000; Merrifield, 2000; Merrifield and Monson, 2011; Merrifield and Poulson, 2014; Mitchell, 2010; Mitchell and Tusyznski, 2011; New, 2001; Poulson, 2004; Stansel, 1994; Stansel and Mitchell, 2008).

What distinguishes the recent literature on TELs is the analysis of TEL structure, and how different TEL designs impact revenue and spending. Every state has a somewhat unique design, however there are several components of design that determine their effectiveness. We distinguish here the differences in design or technical structure of TELs from the political factors that determine how effectively they are implemented.

Six states have TELs linked to a measure of general fund revenue or expenditures. Generally TELs linked to population growth and inflation are considered the most stringent in design. Seven states have enacted this type of TEL: Arkansas, California, Colorado, Nevada, Ohio, Utah, and Washington. At various points in time these TELs have constrained the growth in state spending, although in each case these TELs have been amended and modified to render them less effective in constraining spending.

Most states have designed their TELs to link them to some measure of personal income. The most ubiquitous TELs are ones linked to the annual or average annual rate of growth in personal income, or income per capita; seventeen state have this type of TEL. Six states link their TEL to

spending as a share of personal income. There are many variations on these TEL designs, reflecting the many amendments and modifications to the original TELs enacted in these states. Many of these changes resulted in a weakening of the TELs as constraints on state spending. When these TELs did impose a binding constraint on spending, the instability in personal income growth was accompanied by volatility in state spending over the business cycle.

TELs that link spending growth to personal income are often non-binding, and when they are binding, the instability of personal income growth erodes TEL support by creating periods of costly fiscal instability and uncertainty (Crain, 2003; Holcombe and Sobel, 1997; Kioko, 2011; Krol, 2007; Mitchell, 2010; Mullins and Wallin, 2004; Schunk and Woodward, 2005; Shadbagian, 1996; Wagner and Elder, 2005; Waisenan, 2010). Economic conditions and the business cycle phase when TELs take effect are key determinants of effectiveness. For example, they seemed to be more binding in low income states. Florida introduced a TEL in the recession phase of the business cycle that was never binding, the spending cap rose more rapidly than actual growth in state revenue.

One of the most controversial issues in this literature is the so called 'ratchet down effect'. If a fall in revenue or spending sets a new lower base against which the TEL limit is applied this is referred to as a 'ratchet down effect' of the TEL limit. Kioko (2011) notes that every state must establish their base year general fund revenues or expenditures subject to the TEL limit and then adjust these base year revenues or expenditures with a fiscal growth factor (FGF). The FGF is a composite index of one or more of the following socio-economic variable: population growth, inflation, or personal income. A major factor determining the effectiveness of the TEL is whether or not a state 'rebases' the limit to establish a new base. Most states multiply the fiscal growth factor times the prior year spending limit to determine the current year spending limit. However, six states have multiplied the fiscal growth factor times prior year actual revenue or expenditures, including Colorado, Connecticut, Montana, New Jersey, Texas, and Washington. Another group of states 'rebases' the limit as a percent of annually estimated revenues: Delaware, Iowa, Missouri, Oklahoma, and Rhode Island. It is this 'rebasing' of the limit using actual or estimated revenues and expenditures that results in a 'ratchet down effect' in subsequent years. The 'ratchet down' of the limit over time is controversial and has often led to modifications designed to weaken and erode these limits as constraints on spending.

Another factor influencing the effectiveness of the TEL design is the disposition of surplus revenue. Four states simply return the surplus revenue to the general fund, Arkansas, Hawaii, South Carolina, and Texas. These TELs defer spending to a later period but have little impact in constraining spending in the long run. Four states mandate that surplus revenue be rebated to taxpayers, which can reduce spending in the long run, California, Colorado, Massachusetts, and Oregon. Thirteen states

allocate a portion of the surplus revenue to a budget stabilization fund, often referred to as a rainy day fund or reserve fund. Surplus revenue may also be earmarked for emergency funds, capital funds, maintenance and repair, education, or debt relief (Merrifield and Monson 2011; Primo 2006; Waisenen 2010; Zycher 2013).

TELs and Budget Stabilization

The fiscal stress experienced by the states during recent recessions has renewed interest in the role that fiscal rules can play in budget stabilization (Reuben and Rosenberg 2009; Wagner and Elder 2005 and 2007; Wagner and Sobel 2006; Wagner 2003 and 2004; Thatcher 2008; McNichol 2013; Henchman 2012). There is an extensive literature on budget stabilization funds (BSF) and their effectiveness in stabilizing state budgets. BSF rules governing deposits and withdrawals vary widely (Holcombe and Sobel, 1997; Knight and Levinson 1999; Reuben and Rosenberg, 2009; Wagner and Elder, 2005, 2007; Wagner 2003 and 2004; Wagner and Sobel, 2006). Without the strict rules, savings often migrate from the BSF to the General Fund to finance current outlays, regardless of the state of the economy, leaving insufficient BSF money to offset the revenue shortfalls of recessions (Wagner and Elder 2005). Wagner and Elder (2005) found that states with strict rules for BSF deposits and withdrawals experience a twenty percent reduction in spending volatility, as measured by the cyclical variability of per capita spending over time. Stansel and Mitchell (2008) found that states with stricter BSF withdrawal rules experienced less fiscal stress during the 2001 recession.

Some of the reserve accounts with an official budget stabilization mission also finance 'emergency' spending, and they may serve as discretionary funds for special projects and lawsuit settlements. Some of the states that allow BSF use for emergencies define emergency so broadly that it allows virtually any type of outlay. Or emergency preparedness concerns may yield fiscal stress that separate emergency and BSF accounts might have avoided. For example, during the 2011 Texas legislative session, Governor Perry cited hurricane preparedness as the reason to oppose most of the requested appropriations from the state's BSF.

The extensive literature on state fiscal rules focuses mostly on the impact specific rules have on state budgets (Poterba 1996; Merrifield and Poulson 2014). But since the absence of one fiscal rule may diminish the impact of other rules as a constraint on revenue and spending, some studies have examined combinations of fiscal rules (Fatas and Mihov 2006; Merrifield and Monson 2011; Poterba 1994; Schunk and Woodward 2005; Wagner and Sobel 2006).

Wagner and Sobel (2006) tested the hypothesis that some BSFs adopted in the 1980s were designed to circumvent TELs. They found that states with TELs were much more likely to adopt BSFs, and were much less likely to adopt funds with stringent deposit and withdrawal rules. That study is consistent with earlier research by Poulson and Kaplan (1994) exploring TELs within the framework of

a rent seeking model. They find that stringency in the design and implementation of TELs reflects the influence of rent seeking groups as well as taxpayers. Schunk and Woodward (2005) were the first to simulate effects of a TEL/BSF combination. The Merrifield and Monson (2011) simulation of a population-plus-inflation-based TEL included a BSF and several key features excluded from the Schunk and Woodward (2005) simulation.

TELs and Economic Growth

An important refinement in this literature on TELs is the analysis of their impact on economic growth (Amiel et al, 2012; Deller et al, 2012; Lav, 2009; Lav and Williams, 2010; Lyons and Johnson, 2006; Mcguire and Rueben, 2006). Several recent studies attempt to measure the restrictiveness of different TEL specifications, and to determine whether or not increased restrictiveness is a significant determinant of state economic growth (Stallman and Deller, 2010; Stallman, 2011); The empirical results in these studies are mixed. A major issue is whether a drop in the state's share of personal income accelerates economic growth (Bergh and Henrekson, 2011; Dahlby, 1998; Ladner and Schlomach, 2007; McBride, 2012; Peterson, 1994; Spencer and Yohe, 1970). For 1980-90, Peterson estimated a 22.1% private rate and a 7.0% public rate of return. The 15.1% gap is a proxy for the marginal cost of shifting resources from the private to the public sector. But some studies suggest that shifting resources from the private to the public sector can increase economic growth. One study (Amiel, et al, 2011) concludes that "more restrictive TELs tend to be associated with faster convergence and higher rates of economic growth for lower income states. But as income increases, the positive impact of TEL restrictiveness on overall growth declines, and for very high income levels more restrictive TELs have either very little impact or negative impact on growth". The explanation for a potential negative impact of TELs on growth is unclear. That study hypothesizes that "in lower income states with restrictive TELs, state governments must use their more limited resources to provide the more productive public goods that are necessary for economic growth. In other words TELs can impose some level of fiscal discipline that has a positive impact on the economy. But as income grows, the demand for higher level goods and services, such as recreational services or higher levels of spending on education, also grows, and restrictive TELs may prevent the required investments, placing downward pressure on growth".

TELs and Tax Rebates/Cuts

A binding TEL will yield a mixture of tax rebates and lower tax rates. Despite the tedious nature of tax rebates, controversy over the basis for estimating the appropriate rebate for each taxpayer, and evidence that permanent tax cuts have larger economic growth effects than one-time rebates (Padquit, 2011; Poulson and Kaplan, 2008; Taylor, 2008), it will probably take some persistence in the payment of rebates to elicit the permanent cuts. Indeed, Colorado's TABOR Amendment yielded large

tax rebates for several years in the late 1990s, before state legislators responded with several permanent tax cuts.

Tax cuts impact economic growth more than tax rebates because of different behavioral responses. Tax rebates are seen primarily as transitory private income rather than permanent income. Transitory income mostly pays down debt, with little impact on consumption or investment spending. When permanent tax cuts impact permanent income, people raise their consumption and planned investment spending to a greater extent, and increase productive activity. Permanent tax cuts in one state relative to that in another state will also create incentives for mobility of labor and capital into that state.

Poulson and Kaplan (2008) measured the relationship between marginal tax rates (MTR) and state economic growth. The MTR is the increment in taxes paid when personal income rises. MTRs vary with tax structure (Reed, Rogers, and Skidmore, 2011). The nationwide MTR is the average of the marginal rates levied in each state. Poulson and Kaplan (2008) find that a drop in the MTR in state X relative to others is associated with higher economic growth in state X. Their regression analysis indicates that every one percentage drop in a state's aggregate MTR relative to the nation's average MTR raises that state's growth rate between 0.251 and 0.374 percent.

Merrifield and Poulson (2014) explore the impact of different TEL measures on state economic growth, using the Poulson and Kaplan (2008) estimates of the relationship between marginal tax rates and state economic growth. What is clear in their analysis is that the heterogeneity of TEL rules matters in measuring their impact on economic growth. Further, the specific attributes of individual states, most importantly their level of income and unique tax structure, determine the impact that TELs have on their economic growth.

Procedural TEL Limitations on State Government

Recent research has focused on the voting provisions of TELs as procedural limits on the power of state legislators to tax and spend (Knight 2000; Stark 2001; Kioko and Martell 2012; Kioko and Martell 2012; Kousser et al 2007; Kousser et al 2008) . Two types of voting provisions are identified as procedural limitations in the states. Seventeen states require a supermajority vote of the legislature to propose new or increased taxes; one state; Missouri, requires majority voter approval; and two states, Colorado and Washington, require either a supermajority vote of the legislature, or majority voter approval.

Insert table

The super-majority vote requirements are comparable to other procedural limitations on the power of state legislators to tax and spend. These fiscal rules address a principle agent problem when the preferences of legislators, as agents, differ from that of their principle, the citizens they represent. When

legislators prefer a higher level of taxation and spending than citizens, the supermajority vote requirement sets a higher bar for proposing new or increased taxes, compared to rules requiring a simple majority vote of the legislature.

The majority voter requirement to enact new or increased taxes, however, is a qualitatively different procedural limitation. In effect, this rule empowers citizens as lawmakers in fiscal policy decisions; the role of legislators as agents in fiscal policy decisions is considerably reduced. Legislators must propose new or increased taxes with the expectation that the approval of the taxes will be determined by the preferences of citizens as lawmakers.

The benefits of majority voter requirements for new or increased taxes extend beyond the constraints imposed on state taxes and spending. This procedural limitation introduces a deliberative process that achieves broader political legitimacy for fiscal policy decisions. Special interests may attempt to influence the vote on the proposed taxes, but that task is more difficult with the majority vote requirement. It is much easier for special interests to effectively lobby a few hundred legislators than it is to convince millions of citizens to vote for a proposed state tax. On the other hand, taxpayer organizations that oppose a proposed tax increase are likely to find broad support, especially when the taxes are imposed on a large cross section of the population. With special interests and taxpayer groups on opposite sides of the budget constraint, majority voter approval requirements shifts the balance of power to the taxpayer group. The role of legislators is that of mediator between these opposing groups, as well as agent for the citizens they represent.

We have learned a great deal from the experience with the majority voter approval requirement in the states. With this procedural limitation in place, citizens are given a voice in fiscal rules, and fiscal policies, that otherwise is delegated to their elected representatives. It is up to citizens to impose fiscal rules to limit the growth in federal spending, deficits, and debt; and it is up to citizens to decide on major tax and spending issues. Experience in the states where citizens exercise these rights, reveals that, over time, they choose effective fiscal rules and prudent fiscal policies. Citizens, as lawmakers, are able to constrain the growth in government in ways that they can't when they rely on their elected representatives to make fiscal decisions. These institutions of direct democracy create a more participatory, as well as deliberative, legislative process. Citizens have an incentive to become more knowledgeable, and more active in the political process. Institutions of civil society, as well as legislative assemblies, pay attention to the preferences of citizens as law makers. Elected officials, the business community, and the media have an incentive to learn the preferences of citizens on fiscal policy issues, and to take those preferences into account in the fiscal policies they support. A major benefit of this direct democracy is that divisiveness in competing political parties and elective

assemblies becomes less important than the preferences of individual citizens expressed through their votes on fiscal rules and fiscal policies.

An important advance in the economic analysis of TELs is the distinction between direct limitations and procedural limitations (Kioko and Martell 2012). Kioko and Martell (2012) are critical of economic studies that aggregate these different TEL limitations into a single measure, or that exclude either of these limitations, because those studies fail to capture the full impact of TELs. They analyze the impact of TELs on state government revenues and on aid to local governments, distinguishing between the direct limitations and procedural limitations. They find that direct limitations on revenue and expenditure do not constrain the taxing and spending authority of state governments; however, they find that states with procedural limits have significantly lower tax revenues. They conclude that supermajority or voter requirements effectively constrain the ability of state governments to impose new or higher taxes.

Kioko and Martell (2012) suggest several reasons for the ineffectiveness of direct TEL limitations on state revenue and spending. They note that some states exempt major categories from general fund limits. In some states the TEL cap is set too high to be effective in constraining revenue and expenditures. Some states turn to alternative sources of revenue, and rely on debt to fund capital expenditures, that are not subject to the TEL limit. Other studies also find that legislators exempt major categories of spending from the TEL limits, including, expenditures for education K-12, intergovernmental transfers, and aid to local governments. (Bails 1990; Howard 1989; Kioko 2011, 2012). These studies also find that state and local governments have an incentive to use debt to finance capital expenditures when debt is not subject to the TEL limit. Other studies find that state and local governments shift expenditures off budget to avoid the constraints imposed by TELs (Bennett and Dilorenzo 1982). Some studies show state and local governments relying on nontax revenues, such as fees and user charges, to avoid TEL limits (Clingermayer and Wood 1995).

TELs and Institutional Irrelevance

There is one school of economics that rejects the public choice analysis of TELs. The "institutional Irrelevance" school maintains that fiscal rules, such as state TELs, simply reflect the preferences of citizens. These economists argue that in a conservative state in which citizens prefer smaller government, TELs signal this voter preference; legislators would have enacted fiscal policies consistent with voter preference for smaller government even in the absence of a state TEL. Empirical studies that find TELs to be ineffective constraints on state taxes and expenditures often provide this "institutional Irrelevance" argument for their findings (Joyce and Mullins 1991; Reuben 1997; Shadbegian 1996). Some studies have attempted to address this endogeneity issue, with mixed results (Reuben 1997; Kousser et al 2007; Kousser et al 2008).

A recent study of Colorado's TABOR Amendment by Eliason and Lutz (2015) provides the most extensive argument for this "institutional Irrelevance" view. The Eliason and Lutz (2015) study constructs a hypothetical state of Colorado based on structural and institutional features in other states that are very similar to Colorado, but which of course did not impose the TABOR limits on tax and expenditure decisions. The study then simulates the trend of state revenue and expenditure growth in this hypothetical Colorado over the years since TABOR was enacted. Their results reveal no significant difference in the trend of growth in revenue and spending in this hypothetical Colorado compared to the actual trend of revenue and spending in Colorado over this period. Eliason and Lutz (2015) conclude that TABOR had no effect on the level of taxes and spending in Colorado, and in their view there is no support for the contention that fiscal rules alter budget outcomes. They argue that if a stringently designed TEL such as the TABOR Amendment in Colorado had an insignificant impact on budget outcomes, we should not expect weaker TELs enacted in other states to be effective either.

Before we jettison TELs and other fiscal rules as constraints on state fiscal policy it is important to critically evaluate this "institutional Irrelevance" argument. We can identify several scenarios in which TELs are ineffective; but, that does not mean that all TELs are irrelevant to fiscal outcomes.

One scenario returns us to the neoclassical assumptions that institutions in general are irrelevant to fiscal policy decisions. If we assume that government planners make fiscal decisions to maximize social welfare, then all institutions, including fiscal rules, are irrelevant to this social maximizing outcome. The literature on Ricardian Equivalence suggests that these assumptions are far removed from actual fiscal policy decisions in the complex institutions of our democratic republic.

An alternative scenario is one in which legislators enact fiscal rules as well as fiscal policies that are consistent with the preferences of the electorate. These assumptions are basic to the median voter model. If legislators make tax and spending decisions to maximize the welfare of the median voter, then TELs may simply signal the preferences of the median voter. The level of taxes and expenditures would then be the same with or without the fiscal rules, a scenario favored in the Eliason and Lutz (2015) study.

The public choice literature relaxes the assumption that elected officials make fiscal policy decisions to maximize the welfare of the median voter. The literature on deficit bias in democratic societies surveyed earlier suggests why legislators may prefer higher levels of taxation and spending than the citizens they represent. A deficit bias provides the rationale for TELs and other fiscal rules designed to constrain tax and spending decisions in a democratic society.

If a deficit bias exists, then legislators have an incentive to design and implement ineffective TELs. In fact, many of the early TELs with limits linked to income imposed little if any constraint on taxes and spending. The Florida TEL, for example, never constrained spending because the TEL limit

increased faster than state revenue (Poulson 2007). Also it has been easy for legislators in some states to modify statutory TELs, or simply ignore them, such that they were ineffective. In Colorado the first statutory TEL initially constrained spending, but was subsequently modified to exempt major categories of spending, which rendered it an ineffective constraint. Even in the states with statutory TELs, however, differences in the design and implementation affected their impact on state spending. Within these states elected officials from the different parties had different preferences regarding the level of taxes and spending, and the statutory TELs they enacted reflected compromises between the parties. It is not true that statutory TELs are irrelevant to fiscal policy outcomes in these states.

In contrast to these statutory TELs are constitutional TELs such as the GANN Amendment in California and the TABOR Amendment in Colorado. These constitutional TELs were enacted through the initiative and referendum process, and incorporated stringent direct and procedural limits on taxes and spending. In Colorado the TABOR Amendment was a much more stringent limit than the statutory TEL enacted earlier. In fact, state legislators, anticipating that the TABOR Amendment would be enacted in 1992, enacted a more stringent statutory TEL, the Arveschaugh/Bird Amendment, in an attempt to preempt passage of the TABOR Amendment. When both of these measures passed, Colorado imposed a stringent statutory limit on general fund spending, and a stringent constitutional limit on total spending.

The constitutional TELs enacted through the initiative and referendum process reflected the preferences of citizens regarding the level of taxes and spending, so it is not surprising that these constitutional TELs were designed more stringently than statutory TELs. This was especially true for the constitutional TELs enacted through citizen initiative; taxpayer organizations and political entrepreneurs played a key role in designing and enacting these constitutional TELs. In a later chapter we explore case studies of TELs in several states, including California and Colorado, in which we trace changes in design and implementation of their TELs; changes which in some cases weakened the effectiveness of their TELs.

The question of whether TELs are effective in constraining the fiscal decisions of elected officials is an empirical one. The more recent economic studies that explore differences in the design of TELs find that in some states they are effective, while in other states they are ineffective. The "institutional irrelevance" argument may be relevant in the former but not in the latter states. The challenge for those inferring "institutional irrelevance" from empirical analysis is to show that TELs did not **significantly** impact fiscal policies; it is not sufficient to show that states with a conservative electorate would have pursued prudent fiscal policies in the absence of a TEL.

The case studies explored in a later chapter provide insight into the complexities of TEL design and implementation in individual states. The case studies suggest that empirical analysis may not

capture the full impact of direct TEL limits on state and local fiscal policy. For example, in Colorado local jurisdictions often maintain levels of revenue and expenditure well below the TABOR limits. Elected officials do this in order to avoid having to offset surplus revenue with tax rebates or tax cuts. Even more important, they avoid expenditures in excess of that permitted by the TEL limits to avoid court challenges and costly penalties for violating the TABOR rules.

Empirical studies that distinguish between direct limits on taxes and spending, and procedural limits are especially important in assessing the full impact of TELs on state and local fiscal policy. Studies that make this distinction find that procedural limits are significant (Knight 2000; and Stark 2001); and one study (Kioko and Martell 2012) suggests that procedural limits are more important than direct limits on state fiscal policy.

Procedural limits introduce additional complexity in understanding how TELs may impact fiscal policy. The supermajority vote requirement sets a higher bar for legislators to enact higher taxes, increased debt, or expenditure of surplus revenue. In a divided legislature, bills calling for significantly higher taxes and spending may not be proposed, or pass from committees to be voted on by the legislature. Legislators supporting increased taxes and spending must compromise with fiscally conservative legislators to garner the requisite supermajority vote.

The majority vote requirement for ballot measures often sets an even higher bar for proposed increases in taxes and debt, and for expenditure of surplus revenue. When citizens are presented with ballot measures specifying costs as well as benefits, they are able to assess the impact of these ballot measure on their welfare. As the literature on Ricardian Equivalence suggests, citizens are not indifferent to these costs. Further, citizens are less likely than legislators to be influenced by the special interests who benefit from higher levels of taxation and expenditure.

Majority vote requirements for ballot measures shifts the balance of power from special interests and elected officials, to citizens. When these procedural limits are imposed at the local level as well as the state level, the role of citizens as law makers is greatly enhanced. The case studies reveal that citizens have quite different preferences regarding fiscal policy at the local level compare to that at the state level. At the local level citizens are more directly impacted by ballot measures, both as beneficiaries of government services and as taxpayers who bear the cost of the proposed measures. There is likely to be greater transparency and accountability for taxes and expenditures at the local level. Thus, it is not surprising that ballot measures proposing higher taxes and spending at the local level often have a higher rate of success than these ballot measures at the state level. However, at both the state and local level ballot measures proposing significantly higher taxes and spending are not likely to be proposed when the prospects for passage are low.

When procedural limits call for majority vote requirements to spend surplus revenue rather than rebate the revenue to tax payers this provides a unique insight into the preferences of citizens. From the standpoint of citizens who pay taxes that generate surplus revenue, and who are eligible for tax rebates, there is perhaps no better measure of the cost of government. Elected officials must make a case for spending surplus revenue rather than returning it to taxpayers. Again, the case studies reveal that the preferences of citizens toward these ballot measures at the level are quite different than their preferences for ballot measures at the state level. Ballot measures proposing to spend surplus revenue at the local level usually specify a specific government service to be funded from surplus revenues, and these measures usually pass at a high rate. Ballot measures to spend surplus revenue at the state level often specify spending the surplus revenue on multiple programs, and these measures tend to pass at a much lower rate. At both the state and local level elected officials are reluctant to propose expenditure of surplus revenue when the prospects for passage are low.

While the case studies provide insight into the impact of procedural limits on fiscal policy, it is clear why empirical studies may fail to capture these effects. If we pose the counterfactual hypothesis and ask what fiscal policy would have been in the absence of these procedural limits there is much that is unknown. We would expect more measures proposing higher taxes, increased debt, and expenditure of surplus revenue with a simple majority vote in the legislature compared to that with a supermajority vote requirement. We would expect more of these measures to be proposed at both the state and local level in the absence of a majority vote requirement. But, the magnitude of potential increases in taxes and expenditure without these procedural limits in place is to some extent immeasurable. Empirical studies that incorporate procedural limits as well as direct limits on fiscal policy provide an indirect measure; but even these studies are likely to underestimate the full impact of the procedural limits.

From a public choice perspective we can turn the "institutional irrelevance" argument on its head. Empirical studies likely fail to capture the full impact of procedural and direct TEL limits. Not only are these fiscal rules relevant, empirical studies probably underestimate their importance for state and local fiscal policy. The inference of "institutional irrelevance" is reached because many empirical studies assume away complexities in the design and implementation of TELs in the different states. While it is true that TELs are ineffective constraints on fiscal policy in some states, it is not true that TELs are "nothing more than a veil which can be easily pierced by political actors" in all states, as suggested in the Eliason and Lutz (2015) study.

[1] https://www.taxpolicycenter.org/briefing-book/what-are-tax-and-expenditure-limits