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Surveying the Effects of Limitations on Taxes and Expenditures: What Do/Don't We Know?

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Survey Article

Surveying the Effects of Limitations on Taxes and Expenditures: What Do/Don't We Know?

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The literature on tax and expenditure limitations (TELs) is extensive and continues to grow, as the impact of these institutional constraints on fiscal and economic outcomes continues to develop. In this survey, we review the literature of state- and local-level TELs, in an attempt to provide an overview of their theoretical, operational, and empirical contexts. The study concludes with a discussion of future TEL research needs.

Keywords: Tax and Expenditure Limitations (TELs), State and Local Finance, TEL Index

We are now nearly a decade removed from the Great Recession of 2008–2009, and yet many local and state governments still struggle financially. One of the challenges is the inability of these entities to raise revenues. Part of that inability is lack of political will, but it is also the case that most local and many state governments operate under revenue and/or expenditure limitations. In this era of sustained state and local government fiscal retrenchment, scholars and policymakers need to fully understand the structure and fiscal impact of these limitations, known as tax and expenditure limitations (TELs). For this review of our current understanding, TELs are defined as constitutional and/or statutory restrictions on government taxing and spending authority (Mullins & Wallin, 2004). The survey of the TEL research presented here contributes to a better understanding of institutional settings that shape state and local fiscal administrations.

The study of institutional rules that limit the flexibility of state and local governments, specifically TELs, has grown rapidly in the academic literature over the few decades. For example, the 2016 Association for Budgeting and Financial Managers Association conference had two panels (eight papers) on issues related to tax and expenditure limits. This topic is not new – it dates back to the work of Ratchford (1936) – but received renewed attention in the 1970s, following California's passage of Proposition 13 in 1978, and more focus by academics following the Great Recession. Between 1978 and 1980, over 100 TEL studies were published (Lowery & Sigelman, 1981). Since then, there has been increased interest in policies around tax caps or, more broadly, tax and expenditure limitations and a corresponding increase in the research on the topic. As of July 2017, a simple Google Scholar search of "tax and expenditure limitations" yielded 1,950 results with the literature spread across several branches of economics, political science, public administration, law and psychology. In the past five years (2013 to 2017) there have been 458 results.

This study provides a review of our current understanding of TELs through the available literature with the intent of providing an historical context for the evolution of TELs, identifying patterns in TEL effects that may help policymakers, and offering suggestions for future research. We suggest that a pause to take inventory of the TEL literature is warranted because 1.) previous studies have been somewhat selective in reviewing the existing discussion of the structure and effects of TELs; 2.) there has been no comprehensive and handy guide for policymakers who

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design or redesign TELs for intended fiscal outcomes; and, 3.) if future research agendas are to be clearly articulated, it is necessary to review and synthesize what we know and do not know about TELs.

Today, the Leviathan–Niskanen–Buchanan view of government and lack of fiscal discipline justifying the need for constraints has become *a priori* fact in some circles. Cabasés, Pascual, and Vallés (2007) note that "[t]he need for restrictions on borrowing by subnational governments is a generally accepted notion that is justified both by public choice theory and by the fact that such restrictions are in force in the majority of decentralized countries" (p.293). Their research finds that TELs have been effective in constraining borrowing behaviors of local governments in Spain. At the state level, Merrifield and Monson (2011), while not nearly as explicit in their call for a TEL, contended that, had the TEL been in place, the state's fiscal and economic picture would be much brighter. This study neither agrees nor disagrees with these findings but intends to extend them by contending that the design of TELs affects fiscal and policy outcomes. Thus, a review of state and local TELs offers scholars and practitioners the opportunity to understand how TEL designs have evolved over time and the effects of those changes on policy outcomes. It may further help policymakers to devise fiscal tools that fit with their budgetary circumstances and/or policy objectives.

The review of the TEL literature is structured as follows: the next section reviews the history of TELs. This is followed by a discussion of the theoretical approaches to TELs. The operationalization of TELs and the key findings of prior TEL studies are then covered. The final section summarizes the discussion of the present study and suggests future research agendas.

History of TELs

The U.S. has a long tradition of fighting against taxes: the Boston Tea Party was a tax protest. Shays' Rebellion in Massachusetts, the Whisky Rebellion, and Fries Rebellion in Pennsylvania, all between 1786 and 1799, were aimed at rejecting taxes to pay for the Revolutionary War (Kornhauser, 2002). While not as dramatic, tax and expenditure limitations represent another form of tax revolt, and they have been in existence since the 1800s; for example, Missouri placed its first limit on property tax rates in 1875; West Virginia placed a local property tax rate limit in 1939; Florida adopted limits on corporate income taxes in 1971. It was not until 1934 that Arkansas adopted the first state-level TEL (Kioko & Martell, 2012). While New Jersey passed a TEL in 1976 (Kioko, 2011), the beginning of the recent tax limitation movement is generally attributed to Howard Jarvis and the "People's Initiative to Limit Property Taxation," or Proposition 13 in California (Mullins & Wallin, 2004). This initiative was closely followed by Michigan's Headlee Amendment, Massachusetts' Proposition 2½, Missouri's Hancock Amendment, and others (Atchison, 1992; Deller, Stallmann, & Amiel, 2012; Fino, 2003; McGuire & Rueben, 2006; Mullins & Wallin, 2004; Waisanen, 2008; Wallin, 2004). In the 1980s, 18 states implemented state TELs, and, as of 2015, 28 states have some form of state-level TEL (National Association of State Budget Officers [NASBO], 2015).

In addition to the early uprisings against taxes, another factor likely drove early concerns about public spending. In 1841 and 1842, eight states and the territory of Florida defaulted on their interest payments, often related to borrowing for transportation projects (Oates, 2008; Wallis, 2005). Three other states narrowly avoided default. As a result, 11 states rewrote their constitutions and included restrictions on debt limits and/or on how debt can be assumed (Wallis, 2005). Thus, constitutional limits on state debt are the oldest form of an explicit TEL dating from the nineteenth century (Advisory Commission on Intergovernmental Relations

[ACIR], 1987). In response to the Great Depression of 1929, limits on local government debt were continuously proposed because of local government defaults in many states (Ratchford, 1936).

One of the basic difficulties in assessing the impacts of TELs is that the laws vary not only across states but also within each law or constitutional amendment, between state and local governments and across local governments within a state. It is generally accepted that the most restrictive state- and local-level TEL in the United States is Colorado's Taxpayer's Bill of Rights ("TABOR") (Amiel, Deller, & Stallmann, 2009; Bell Policy Center, 2003; Poulson, 2005). TABOR requires voter approval for any tax increase and voter approval for new taxes, restricts expenditure growth – even stipulating expenditures priorities, such as K12 – and requires the return of revenues in excess of budget estimates (Amiel et al., 2009). The academic work to date is aimed at trying to better understand the consequences, both positive and negative, of TELs overall and also different elements of TELs.

Theory of TELs

Lowery and Sigelman (1981) offer a range of potential reasons why tax revolts, particularly against the property tax, have been so popular in the U.S. While the authors admit to overlap in their reasons, these reasons can be classified into two broad areas. First, for reasons ranging from the lack of competitive market forces to self-interested bureaucratic behavior, governments tend to be inefficient and bloated with unnecessarily high taxes. Within the literature, this is referred to as Leviathan–Niskanen–Buchanan hypothesis and is widely examined within public choice theory (e.g., Moesen & Van Cauwenberge, 2000). One could reasonably argue that this line of thinking is a foundational piece of the modern "Tea Party" movement.

Within public administration and political science, the tax level, tax efficiency, tax distribution, and political disaffection reasons listed by Lowery and Sigelman (1981) are related to political structure and seem to fall into the Leviathan–Niskanen–Buchanan hypothesis. As outlined by Santerre (1991), higher government spending provides bureaucrats with greater amounts of the five P's: power, prestige, pay, prerequisites, and ability to award patronage. In essence, bureaucrats, and, to a lesser extent, elected officials who face little or no opposition in the election cycles, have strong incentives to follow policies that reinforce their personal position within government.

One reason that allows Leviathan–Niskanen–Buchanan-type behavior is that the public sector does not face competitive market forces but rather acts as a monopoly in its jurisdiction; thus bureaucrats, and to some lesser extent policymakers, have little incentive to keep costs, and hence taxes, low. Further, agency theory suggests that bureaucrats have jobs with high levels of discretion, making it difficult to impose fiscal discipline (Cutler, Elmendorf, & Zeckhauser, 1999). Thus, they may seek to maximize their budgets as a way to increase their self-importance. Bureaucrats looking to maximize their importance also can inflate budgets only to return unused funds at the end of the fiscal year to garner political capital (Deller, 2006). Another potential reason for inflated budgets centers on interest groups, which provide not only votes but also campaign contributions to elected officials, who, in turn, have incentives to support specific budget items for the benefit of the interest group (Cutler et al., 1999). A related argument is that budgets increase when there is an economic or social shock but do not return to previous levels when the shock recedes (Kheng, 2001).

Lowery and Sigelman's (1981) second broad classification for why tax and expenditure limitations are imposed hinges on economic growth and development. This topic area, however, has received much less attention in the literature (e.g., McGuire & Rueben, 2006; Poterba & Rueben, 1995). The arguments for using TELs as a means to foster economic growth and development could be argued along three lines. The first line builds off Due's (1961) work on the role of taxation and firm location activity and include the landmark studies of Bartik (1991), Newman and Sullivan (1988), Oakland (1978), and Wasylenko (1980, 1981), as outlined by Ladd (1998). While these classic studies, along with more contemporary work such as that from Conroy, Deller and Tsvetkova (2016), generally argue that taxes play a very small role in business location activity, and hence economic performance, policymakers remain convinced that high taxes are detrimental to economic growth. As a result, tax and expenditure limitations must be imposed to focus fiscal discipline and keep taxes low.

A second line of work relates to TELs and economic growth and development talks in broader terms of fostering a positive businesses climate (Deller & Stallmann, 2007; Stallmann & Deller, 2010; 2011). Here the notion of a positive business climate is embedded in the *first wave of economic development policy* (e.g., Deller, 2014; Deller & Goetz, 2009), which can be traced back to the Mississippi Balancing Agriculture with Industry Program of the 1930s. A positive business climate is defined as low taxes, limited regulations, and inexpensive labor and land. Another component is the signals policymakers send to businesses through their actions to promote a positive business climate. The implementation of a tax and expenditure limitation may not only limit tax burdens but also send a strong signal to the business community. Arguments are made in the economic development literature that such a view of business climate is outdated and does not reflect the modern economy.

One area of agreement can be traced back to an earlier study by Ladd and Wilson (1982) who find that voters are more concerned with government efficiency than with the level of government services or with the level of the property tax. Thus, perceptions of government waste and inefficiencies are detrimental to both individuals and businesses. Within the framework of the Leviathan–Niskanen–Buchanan hypothesis, this interpretation of the relationship between government and economic performance is intuitive. It is argued that TELs are needed because public officials, for a variety of reasons, lack the fiscal discipline to rein in taxes and spending, and the government is inefficient and harms economic growth (Fraser, 2005).

There are, however, alternative arguments or hypotheses. It should be noted that most public services are normal goods; as incomes increase, citizens demand more and/or better quality public services (Stiglitz, 1989). This does not mean that demand rises at the same rate as income. For some goods, demand may rise more slowly than does income, while for others, it may rise more rapidly. Thus, an increasing public budget is not *prima facie* evidence that the budget is inefficient or bloated (Reschovsky, 2004; Skidmore, 1999).

It also has been argued that TELS can lead to government inefficiency rather than correcting it because they may affect the budget processes of governments (Mullins, 2004). If the TEL is binding, governments may look for ways to relieve their fiscal constraints by increasing alternative taxes (such as sales taxes if the TEL is a limit on property taxes) and fees and charges. For instance, Missouri's Hancock amendment was made stricter in 1996 (Hembree, 2004), and fee revenues for Missouri local governments increased 238% in real terms between 1992 and 2002 (U.S. Census Bureau, 1992, 2002). Second-best solutions, adopted because of the constraints imposed by TELs, lead to inefficiencies because of the time and effort put into devising and using an alternative rather than determining the best way to achieve the goal

(Mullins, 2004). For example, increasing reliance on sales tax revenues results in governments competing for firms that increase the sales tax base, particularly malls and big box stores. As incentives expire, firms leap frog from one jurisdiction to the next for new incentives, which increases sprawl and which, in turn, increases the costs of providing public services (Brookings Institute, 2002).

States may allow the creation of special districts for funding of services or for economic development (Mullins, 2004). Special purpose districts may be efficient because they are specialized and meet a particular demand of local voters (Tiebout, 1956). At the same time, there is the possibility that they are too small to achieve the economies of scale necessary to provide low-cost services. The literature on whether special districts are created as a way to circumvent TELs is inconclusive (Bell Policy Center, 2005; Bowler & Donovan, 2004; Carr, 2006; Mullins, 2004).

An additional change in fiscal processes can happen if TELs that apply to local governments pass power from the local government to the state. California's Proposition 13 basically passed control of property tax revenues to the state. The flow of their taxes to the state and the flow from the state back to local governments confuses voters; local taxpayers are not sure where their tax dollars are going (Douglas, 2003). Because people have paid their property tax, they become confused when local services are not up to their expectations. The use of special districts can confuse local voters also, as they no longer understand which government controls what and who is responsible for which services (Mullins, 2004). The diffusion of authority in the mind of the voter may lead to less voter oversight, and budgets may become larger and less well managed, which is a version of *fiscal illusion* (Deller, 2014).

Operationalization of TELs

One of the greatest challenges in TELs' research is measurement with the compounding effect that no two TELs are identical. Earlier literature uses a cross section of state or municipal observations and employs simple descriptive analysis such as that by Howard (1989). The second is a case-study approach using a variation on the with-and-without quasi-experimental design to examine fiscal policy in a state pre- and post-imposition of the particular TEL (Dye, McGuire, & McMillen, 2005; Dye, McMillen, & Merriman, 2006; Fisher & Gade, 1991; Maher, Deller, & Amiel, 2011; Skidmore, Ballard, & Hodge, 2010; Springer, Lusby, Leatherman, & Featherstone, 2009). Within the case-study approach literature, the two TELs that have been examined the most are Massachusetts's Proposition 2½ (e.g., Bradbury, Mayer, & Case, 2001; Cutler et al., 1999; Lang & Jain, 2004) and California's Proposition 13 (e.g., Downes, 1996; Wasi & White, 2010). The third approach uses panel data at either the state or local level within a quasi-experimental with-and-without framework. A metric to capture the presence of a particular type of TEL, traditionally a simple dummy variable (taking on a value of one if a particular TEL is present, the treatment, zero otherwise, or untreated), is regressed on a metric of government revenues and/or expenditures or economic performance (e.g., Deller & Stallmann, 2007; Mullins, 2004; Preston & Ichniowski, 1991).

The heterogeneity of TELs across states and the complexity of each one (see Appendix) are major reasons why researchers often take a case study approach, focusing only on a particular state. To address this heterogeneity, some researchers focus on specific type TELs, such as McCubbins and Moule (2010) who used a dummy variable to indicate limitations that target property tax. Primo (2006) used a dummy variable if there is a spending-limit TEL. Others focus on TELs that constrain the whole of taxing and spending, not single segments, such as property

tax limits (Kousser, McCubbins, & Moule, 2008; Poterba & Rueben, 1999a, 1999b). But again, only a dummy variable is used to capture the presence of the TEL. Others that focus on fiscal responses to TELs and use dummy variables include Abrams and Dougan (1986), Bowler and Donovan (2004), Dye et al. (2005), New (2001), Preston and Ichniowski (1991), Shadbegian (1998, 1999), and Skidmore (1999).

State TEL Index Construction

The problem with the dummy variable approach is that it masks important differences in restrictiveness across states and even within states over time. No two states are exactly alike, and states often alter TELs over time. In fact, from the information theory perspective, it is pointed out that compressing the complexity of how TELs are structured into a dummy variable loses important information and masks the impact of TELs on policy and fiscal outcomes (Amiel, Deller, Stallmann, & Maher, 2014). Several studies have taken a different approach by constructing indices to reflect the strength or restrictiveness of a state's tax and expenditure limit.

Recognizing the heterogeneity of TELs, several subcategories of TELs – ranging from simple full disclosure/truth in taxation rules to strict general revenue or expenditure increases – are often employed to understand TEL structures (Joyce & Mullins, 1991). Full disclosure rules generally require some type of public discussion and a specific legislative vote prior to enactment of tax rate increases or to increase taxes and spending. These types of tax and expenditure limitations generally are not fiscally binding (that is, it is usually possible to work around the limit). The most restrictive tax and expenditure limitations limit the amount or the percentage by which revenues and/or expenditures can increase from the previous year and are codified in the state constitution. Often tied to inflation rates, population growth rates, or growth in per capita income, depending on the state, these types of tax and expenditure limitations are the most binding for governments (Poulson, 2005).

Several studies construct indices to reflect the strength or restrictiveness of a state's tax and expenditure limit. Bae and Gais (2007) built an index that ranges from zero for no TEL to three for the strongest TEL. Modeled on the work of Poulson (2005), Amiel, Deller, and Stallmann (2009) constructed an annual TEL index that ranks the severity or restrictiveness of the TEL of individual states for both state and on local governments from 1969 to 2005.[1] The Amiel, Deller, and Stallmann (ADS) (2009) TEL index is based on the premise that these constructs vary by state and over time (also see Poterba & Rueben, 1999a). For instance, municipalities in Illinois are limited to annual property tax rate increases not to exceed 0.25% and property tax levies not to exceed 5% annually. If the Illinois municipality, however, has home-rule powers (either by meeting the population threshold, or voter approval), the TEL is void, and, interestingly, revenue authority is expanded (Hendrick & Crawford, 2014).

Another complicating factor for research is the time frame over which tax and expenditure limitations have been in place. For example, Kansas imposed a limit on local government, removed it (Springer et al., 2009) and in 2016 re-imposed a limit. Colorado voters suspended TABOR for five years. Minnesota's local TELs are statutory, which means that the structure and existence of a TEL continuously changes. Currently, there is no municipal TEL in Minnesota, but, in 2009–2011, the legislature limited municipal levies. It is therefore important that

[1] For a detailed discussion of the indices used here see Amiel, Deller, and Stallmann (2009). The indices themselves and the data used to construct the indices can be downloaded at: http://www.aae.wisc.edu/pubs/sps/ under staff paper no. 536.

Table 1. Annual Index of Tax and Expenditure Limitations Restrictiveness

Characteristics or Dimensions of Tax and Expenditure Limitations	Revenue Index Points	Expenditure Index Points	Both Revenue and Expenditure Index Points
Revenue Index			
Revenue (all)	3	0	0
Tax Revenues (only)	2	0	0
State Property Tax	1	0	0
Expenditure Index			
Expenditures (All)	0	4	0
Appropriations	0	3	0
Appropriations of Tax Revenue (only)	0	2	0
General Fund Expenditures	0	1	0
Proposed Expenditures	0	1	0
Both Revenue and Expenditure Index			
Revenue and Expenditure	0	0	1
Statutory/Constitutional			
Constitutional=1	1	1	1
Growth Restriction (Growth in Revenues or Expenditures Limit)			
Less than or equal to the rate of Inflation and/ the population growth rate	6	6	6
Less than or equal to the rate of personal income growth	5	5	5
Rate of growth in the state economy	4	4	4
Percentage of per capita personal income	3	3	3
Equal to a share of total revenue or expenditures	2	2	2
No new taxes or fees	1		1
Method of Approval			
Constitutional Convention	4	4	4
Legislative referendum	3	3	3
Citizen Initiative	2	2	2
Legislative vote	1	1	1
Override Provisions			
No override allowed	7	7	7
Override Requires Approval by:			
Supermajority of Voters	6	6	6
Supermajority of Legislature	5	5	5
Majority voters	5	5	5
Majority Legislature	4	4	4
Declaration of and Emergency Funds with:			
Supermajority legislature and voter approval	3	3	3
Supermajority legislature	2	2	2
Majority Legislature	1	1	1
Exemptions			
Budget reserves	-1	-1	-1
Grants	-1	-1	-1
Capital Projects	-1	-1	-1
Debt Service	-1	-1	-1
Court Mandates	-1	-1	-1
Non-recurring general fund appropriations	-1	-1	-1
Other	-1	-1	-1

municipal finance researchers interested in studying these institutional effects capture their associated nuances and evolution over time.

Poulson (2005) developed an index based on characteristics of state TELs, but it was only for one year. Amiel et al. (2009) develop annual indices (state and local) based on six characteristics, each of which affects how strict or binding a TEL is: 1.) the type of TEL; 2.) if the TEL is statutory or constitutional; 3.) growth restrictions; 4.) method of TEL approval; 5.) override provisions; and, 6.) exemptions (see table 1). Higher point values in each category correspond to stricter limitations, while lower point values correspond to more lenient limitations. The rankings in each category are ordinal and do not reflect magnitude. The index has been used in a number of studies suggesting a certain level of acceptance by academics (e.g., Bae & Jung, 2011; Cummings, 2013; Greer & Dension 2016; Jimenez, 2017a, 2017b; Nicholson–Crotty & Theobald, 2011; Staley, 2015, 2017; Yakovlev, Tosun, & Lewis, 2012). While the ADS TEL index has been used for state-level research, until recently, the local ADS index received less attention. The challenge with using the ADS local-government index is that it includes all units of local government–county, municipality, and school district, any of which can vary within a state. Recently, the index was recalibrated to reflect the more significant nature of overall revenue and expenditure limitations over property rate limits (Maher, Park, & Harrold, 2016).

Municipal TEL Index Construction

While not unexpected, local TELs tend to focus more on property taxes than on general revenues or expenditures. Efforts to control property taxes consist of overall property tax limits for all forms of local government, including municipalities, municipal property tax rate limits, property tax revenue limits, and assessment increase limits. Similar to state-level TELs, municipal TELs can include overall revenue limits, expenditure limits, full disclosure requirements, and exemptions (see table 2).[2]

Property Tax Rate Limits. Municipalities in 12 states are currently subject to overall property tax rate limits: AL, AZ, CA, ID, IN, NV, NM, OH, OK, OR, WA, and WV. This means that the combined property tax rate for counties, municipalities, school districts, etc. are limited in some form by the state. The majority of state constitutions or statutes provide a set rate or revenue growth limit: Arizona limits annual growth to 1% of property value (Arizona Constitution, Article IX, Section 18), whereas levies in California may not to exceed 1% of full value (California Constitution, Article XIII A, Section 1). Idaho and Ohio have a 10 mill rate limit (Idaho Constitution, Article VII, Section 9; Ohio Constitution, Article XII, Section 2). New Mexico limits property tax rates at $3.64 per $1,000 of property value (New Mexico Statutes, 7-37-7), and the maximum rates in Oklahoma and Washington are 1.5% and 1.0% of property value, respectively (Oklahoma Constitution, Article X, Section 9; Washington Constitution, Article VII, Section 2. Interestingly, Nevada's constitution caps the property tax rate at $5 per $100 of assessed value (Nevada Constitution, Article X, Section 2); however, state statutes further cap rates at $3.64 per $100 of assessed value, plus $.02 for the protection and preservation of natural resources (Nevada Statutes, 32-361.543) for a maximum rate of $3.66 per $100 of assessed value. In the cases of Alabama and West Virginia, rates are limited by property class (Alabama Constitution, Article XI, Section 217; West Virginia Statutes, 11-8-6). Oregon, on the other hand, varies the rate limits annually (Oregon Constitution, Article XI, Section 11b). On top of overall property tax rate limits, many states impose property tax limits on municipalities. In fact, these specific rate limits are the most common form of TEL and currently exist in 25 states. Of 25 states, six states (AL, ID, NM, OR, WA, and WV) have both overall and specific rate limits.
General Levy Limits. As tax levies are a function of property valuation and tax rates, a limit on levies is most restrictive, but there is a breadth of variation in these limits across states. Arizona

[2] The authors are happy to share the municipal TEL index. Please contact Craig Maher at csmaher@unomaha.edu

Table 2. Municipal TEL Index Scoring Matrix and TEL Index

Type of TEL and Restrictions	Possible Point Values	
	Revised Municipal Index	Amiel, Deller and Stallmann Local Index (2009)
Overall Property Tax Rate Limit	2	7
Limited to less than or equal to 2.5%	2	2
Limited to more than 2.5 percent	1	1
Limits by Property Class	1	-
Assessment Ratio Less 50 Pct	1	-
Assessment Ratio Less 35 Pct	2	-
Specific Property Tax Rate Limit	2	6
5 mills or less	1	-
Property Tax Revenue (Levy) Limit	5	5
Limit less than or equal to inflation or 5% whichever is less	3	3
Limit less than or equal to 5%	2	2
Limit more than 5%	1	1
Base Growth	2	-
Fixed Amount	2	-
Limited to Reassessment Rollback [a]	3	-
Assessment Increase	2	4
Lower of 5% or CPI	2	3
Limit less than or equal to 5%	1	2
Limit to Specific Properties	2	-
Limit more than 5%	1	1
General Revenue Limit	8	3
No new tax or rate increase	4	4
Limit equal to inflation and or population growth	3	3
Limit is less than or equal to five percent	2	2
Limit is between five and ten percent	1	1
General Expenditure Limit	8	2
Limit equal to inflation and or population growth	4	4
Limit is equal to the change in per capita income	3	3
Limit is less than or equal to five percent	2	2
Limit is between five and ten percent	1	1
Full Disclosure	1	1
Constitutional	1	1
Overrides/Exemptions		
Home Rule	-1	-1
Other taxes	-1	-1
Debt Service	-1	-1
Special Levies	-1	-1
Capital Improvements	-1	-1
Emergency	-1	-1
Construction	-1	-1
Other	-1	-1
Method of override		
Super majority	2	2
Simple Majority	1	1
Voter Approval	1	1
Appeal to State Board	1	1

limits city levies from growing more than 2% annually (Arizona Constitution, Article IX, Section 19). Colorado's levy limit has three components: 1.) levies may not increase more than 5.5% from the previous year; 2.) voter approval is necessary for a levy increase; and, 3.) property taxes are limited to inflation (CPI for Boulder/Denver area) plus annual local growth (Colorado Statutes, 39-1-301). Maine's levy limit allows a municipality to increase property taxes but only by an amount equal to the growth of statewide personal income plus local property development within the municipality (Maine Statutes, 5721-A). The limit is adjusted downward if a municipality receives extra money from the state that it can used instead of property taxes. West Virginia, on the other hand, allows a levy increase not to exceed 10% over the prior year (West Virginia Statutes, 11-8-6).

Assessment Limits. Limiting the growth in property value assessments is another means of limiting municipal property tax growth, particularly because nearly each of these states also imposes a property tax rate limit. The remaining states, AZ, CA, FL, IA, MI, NM, NY, OK, and OR impose varying limits on both assessments and property tax rates. California's limits annual assessments to the rate of inflation but not to exceed 2% for any given year (California Constitution, Article XIII A, Section 2). Interestingly, once property is sold in California, the sale price is reflected in the new assessed valuation. The one state with an assessment limit without a rate limit is Maryland, which limits the three-year assessment cycle for counties and municipalities to no more than a 10% increase in value (Maryland Statutes, 9-105). Maryland also has a credit for property owners whose property tax bills exceed an income threshold.

Revenue Limits and Expenditure Limits. While the primary focus of municipal TELs is on property taxes, several states also limit overall revenues and/or expenditures. On the revenue side, for example, Colorado limits municipal general taxes: new or increased transfer tax rates on real property are prohibited; no new state real property tax or local district income tax shall be imposed; neither an income tax rate increase nor a new state definition of taxable income shall apply before the next tax year. Any income tax law change also requires all taxable net income to be taxed at one rate, excluding refund tax credits or voter-approved tax credits, *with no added tax or surcharge* (Colorado Constitute, Article X, Section 20).

On the spending side, four states impose expenditure limits: AZ, CA, CO, and NJ. In general, these expenditure limits are tethered to rates of inflation. Colorado is the only state that limits both revenues and expenditures. The other states limit expenditures and not revenues. For example, New Jersey limits municipalities and counties to increasing their final appropriations to 2.5% or the cost-of-living adjustment, whichever is less, over the previous year (New Jersey Statutes, 40A-4-45.2).

Full Disclosure. While perhaps one of the least-restrictive form of TELs, full disclosure requirements are growing in popularity. Today, 12 of the states with municipal TELs include a full disclosure provision. There are also six states with full disclosure provisions that impose no tax or expenditure limits (GA, KS, MN, TN, UT, and VA). In Utah, TEL provisions were recently removed in favor of full disclosure provisions (Utah Statutes, 59-2-919). Kansas required adoption of a resolution or ordinance for any appropriation or budget, which may be funded by revenue exceeding the prior year (Kansas Statutes, SB45-21). In 2016, Kansas re-imposed a local limit.

Exemptions. As can already be discerned, municipal TELs vary substantially from state to state. In addition to the described restrictions, there are an array of exemptions. These include home-rule status, emergencies, and capital improvements. The most common exemption is for debt and debt financing, which exists in most states. Home-rule cities in Illinois, for instance, are not

only exempt from any TEL but have additional revenue-raising powers (Hendrick, 2011). Another prominent means by which a local government can seek exemption from TELs is via referendum. Going to referendum is permitted in most states, but, even here, the requirements can vary.

Changes Over Time. The mid-1800s marks the first era of local TEL adoption. This was in response to the growth of home-rule charters and the state's efforts to reign in local government taxes and spending. The states that adopted local TELs between 1850 and 1990 are

- AL, tax rate limits on counties and municipalities (1875);
- AR, tax rate limits on counties and municipalities (1883);
- FL, tax rate limits on school districts (1855);
- MO, tax rate limits on all local governments (1875);
- NY, tax rate limits on all local governments (1894);
- WY, tax rate limits on counties and municipalities (1890); and,
- TX, tax rate limits on counties and municipalities (1876) and school districts (1883).

Effects of TELs

Given both the political and academic interest in TELs, there is now an extensive body of literature focused on understanding their effects. Our attempt at highlighting this research focuses on two elements: 1) fiscal-related policy effects and; 2) distinguishing between state- and local-level research.

State-Level Research

Empirical studies on the effects of TELs on state finances are extensive. Scholars have linked TELs to some fiscal outcomes (infrastructure, debt, and credit ratings) and are divided on other effects (overall expenditures). Studies have found that state-level TELs can restrain the size and growth of state revenues and/or expenditures (Bails & Tieslau, 2000; Elder, 1992; New, 2001; Shadbegian, 1996). Bae and Gais (2007) tested to see if TELs influence state government per capita expenditures and find that more restrictive TELs produce modestly lower levels of expenditures per capita. On the other hand, studies have demonstrated that state-level TELs are not effective in restraining state revenues and/or expenditures (Bails, 1982, 1990; Howard, 1989; Joyce & Mullins, 1991; Kenyon & Benker, 1984; Mullins & Joyce, 1996). Kousser et al. (2008) used panel data from 1969 to 2000 to look at the impact of TELs on state spending and found that, other than in a small number of states, such as Colorado and Missouri, TELs have not curtailed state spending.

Hendrick and Garand (1991) examined changes in the distribution of state government expenditures across several expenditure categories, measured in relative shares of total expenditure. The authors found that identifying clear explanations for trade-offs is "somewhat elusive" and concluded that their "inferences are not as reliable as they might be" (p.314). Amiel and colleagues (2014) found that state TELs result in a shift from taxes and intergovernmental aid to reliance on miscellaneous sources of revenues. The TEL does not affect the allocation of expenditures to education, health, and natural resources but does affect the allocation to other expenditures, such as highways and income maintenance.

The research examining the relationship between debt and TELs has been more consistent. Bahl and Duncombe (1993) studied debt patterns through the 1980s to determine the extent to which the types of borrowing instruments changed under an era of high borrowing costs and increased

public pressure for tax relief (principally personal income and property taxes). The authors found evidence that states substitute non-guaranteed debt in the face of general obligation debt limitations, but that total use of debt does not change. Nice (1991) also found that states with balanced budget amendments and constitutional limits on debt were associated with less guaranteed debt but not total debt. Clingermayer and Wood (1995) focus on the relationship between political and institutional variables and the annual percentage change in per capita real state long-term debt between 1961 and 1989. This includes both guaranteed and non-guaranteed debt. The authors used dummy variables to capture whether or not a state has either a revenue or a spending TEL and whether or not the state has a debt limit. The authors found no relationship between debt limitations and state debt growth but a positive relationship between existence of a TEL and growth in debt. Thus, in states with TELs, the growth in debt exceeds that of states with no TEL. Ellis and Schansberg (1999) tested a similar hypothesis and found that only the prohibition on guaranteed debt was negatively associated with the state's accumulation of total debt. Deller, Maher, Amiel, and Stallmann (2013) found that more restrictive revenue or expenditure TELs increase the use of debt, but TELs that limit both revenues and expenditures, and the most restrictive TELs reduce the use of debt.

Fiscal institutions, such as TELs, that limit fiscal flexibility can affect credit risk and hence borrowing costs (Kioko, 2010; Lowry, 2001). There are two hypotheses concerning the connection among TELs, credit ratings, and bond yields (Poterba & Rueben 1999b; Wagner 2004). Expenditure TELs may introduce a degree of certainty into the budgeting process, which should reduce the level of risk, improve the credit ratings of governments, and in turn reduce the cost of borrowing. On the other hand, revenue TELs can create barriers to fiscal flexibility. They may inhibit the ability of governments to raise sufficient revenues for future debt obligations, thus increasing the risk of default and leading to lower credit ratings and higher credit costs. Furthermore, if governments' ability to raise taxes is limited, they may be forced to assume higher levels of short-term debt during periods of fiscal stress, further increasing their exposure.

To test this relationship, researchers have focused on estimated yields of individual bonds, (Benson, 1980; Poterba & Rueben, 1999b; Wagner, 2004) as well as government credit ratings as determined by Standard and Poor's and Moody's. Poterba and Rueben (1999a) argue that credit ratings affect the costs of borrowing because they are the predominate means by which investors determine risk of default and repayment. Johnson and Kris (2005, p.103) concluded that "modeling of credit ratings is vital in understanding the impact of fiscal institutions." Johnson and Kriz (2005) examined the effects on state borrowing, measured as interest costs using Poterba and Rueben's (1997) TEL indicators. The authors found that only revenue limits were directly associated with borrowing costs. Stallmann, Deller, Amiel, and Maher (2012) found that more restrictive revenue TELs are associated with lower credit ratings, while expenditure TELs are generally associated with higher credit ratings. These results are consistent with those of Poterba and Rueben (1999a, 1999b) and Wagner (2004).

If TELs affect fiscal decisions, we also should see a relationship between institutional constraints and policy outcomes. Nicholson–Crotty and Theobald (2010) examined the role of TELs on public infrastructure expenditures and found that, as the restrictiveness of TELs increase, the own-source funding contributed by states for public infrastructure in response to federal grants decreases. In other words, as TELs become more restrictive, states are less likely to match federal infrastructure funds, thus resulting in lower total resources going toward infrastructure. Deller at el. (2013) analyzed how TELs are directly related to infrastructure conditions, finding bridge quality to be affected by TELs; more restrictive TELs have a weak negative impact on the percentage of bridges deemed structurally deficient but a positive impact on the percent of

bridges deemed functionally obsolete. Because infrastructure investments tend to be expensive, more restrictive TELs appear to discourage those investments.

A limited number of studies directly test the relationship among tax and expenditure limitations and economic performance, and the available research provides no evidence supporting the premise that TELs enhance economic performance. Stallmann and Deller (2011), for example, used a series of non-parametric tests to test for relationships between quartiles of Poulson's (2005) index of TEL restrictiveness and 84 measures of economic "preparedness" and economic and fiscal performance as measured by the Corporation for Enterprise Development (2007). Results suggest no positive relationship between TELs and economic performance but found some evidence that more restrictive TELs actually hinder economic performance. Deller et al. (2012) found that more restrictive TELs have a dampening effect on economic growth. Taking the research a step farther, Amiel, Deller, and Stallman (2012) used a panel of annual data for the 50 states from 1990 to 2010, with a variable parameter specification coupled with a dynamic generalized method of moments (GMM) panel estimator. In general, more restrictive tax and expenditure limitations are positively related with higher rates of income growth in lower income states; however, the opposite relationship is observed in higher income states. Thus, the limited empirical evidence cannot support the central premise that TELs enhance economic performance but rather the evidence suggests they may hinder the economy.

Local-Level Research

Effects on Revenues. Many local-level TELs studies have been case studies or cross-sectional and panel analyses that have relied on dummy variables for TEL measurement. The local-level (municipal, school district, and county) research on TELs has consistently demonstrated that TELs reduce reliance on property taxes (Dye & McGuire, 1997; Shadbegian, 1998; Sun, 2014) (see table 3 for a summary of more recent local-level TELs research). A recent analysis of the effects of a uniform TEL in Denmark reveals findings that are consistent with U.S.-based research: TELs cause revenue-shifting strategies away from those taxes that are constrained to greater reliance on intergovernmental aid and, thus, have little effect on expenditures (Blom-Hansen, Bækgaard, & Serritzlew, 2014).

Circumventing TELs can come in many forms, including alternative revenue sources such as state aid. Kioko and Martell (2012) found that stricter TELs were associated with higher state aid. Kioko (2011) found that TELs with general fund limits transfer more state funds to local governments because, she argued, the general fund limits are set so high that they are not binding. When there are both a state and local TEL, state aid to local governments is higher. Skidmore (1999) found that binding local TELs are associated with increases in state aid to local governments. States with procedural limits for approving revenues and expenditures have lower state tax revenues and lower transfers to local government (Kioko & Martell, 2012).

In addition to state aid, local governments under TELs have shifted to other tax sources and fees; however, the extent to which these alternative revenues offset lost property taxes is not clear. Cities under Proposition 13 have become less reliant on property taxes and more reliant on fees/charges, miscellaneous revenues, and tax sources other than levies and sales (Hoene, 2004). Following TABOR, Colorado cities increased their reliance on user charges and permits (James & Wallis, 2004). Analysis of Oregon's evolution in TELs found an unprecedented level of reliance on user fees and a tax revenue structure that has become more income elastic (Thompson & Green, 2004). Shadbegian's (1999) county-level analysis found that TEL stringency was associated with the degree to which property tax reliance decreased. As property taxes decreased, the fall in county property tax revenues were only partially offset by

Table 3. Overview of Local TELs Research

Study	Focus (The impacts of...)	Key findings		
		IVs	Relation*	DVs
Dye & McGuire (1997)	Local TELs on local revenues and Expenditures	Years local TELs in effect	-	Property tax
			-	Expenditures
Shadbegian (1998)	Local TELs on municipal revenues and Expenditures	Existence of local TELs	-	Total revenues
			-	Total expenditures
			-	Property tax
O'Toole & Stipak (1998)	Property tax rate limit on local public services	Adoption of local TELs	-	Service level
Downes & Figlio (1999)	Local TELs on local public services	Existence of local TELs	-	Education performance
Figlio & O'Sullivan (2001)	Local TELs on municipal public services	Existence of local TELs	-	The level of police, fire and education service provisions relative to general administration
Hoene (2004)	Local TELs on municipal revenues	Years local TELs in effect	-	Reliance upon property tax
			+	Reliance upon charges and fees
			0	Reliance upon sales tax
Plummer & Pavur (2009)	Property tax rate limit on school districts revenues and expenditures	Existence of local TELs	-	Tax revenues
			-	Non-tax revenues
			-	Total revenues
			-	Operating expenditures
			-	Instructional expenditures
			-	Total Expenditures
Chapman & Gorina (2012)	Local TELs on municipal revenues	Existence of local TELs	-	Own source revenues
Clair (2012)	Local TELs on local revenue volatility	Existence of local TELs	+	The standard deviation of the annual percent change of real per capita revenues
Kioko & Martell (2012)	Local TELs on state aid to local	State with a local property tax limit	+	State aid to local
Maher & Deller (2013)	Local TELs on municipal fiscal health	Index of TELs restrictiveness	-	Own source revenues
			-	GF expenditures
			+	Unreserved fund
			-	Debt service
			-	GO debt
			+	Pension assets
Blom-Hansen, Bækgaard & Serritzlew (2014)	Local TELs on (Demark) municipal revenues and expenditures	Years local TELs in effect	+	Budgeted
			+	expenditures
			-	Grant
			-	Property tax rate
			-	Income tax rate
			0	Capital income
				Charges/Loans

Connolly & Bell (2014)	Assessment limit on county fiscal structure	Adoption of assessment limits	-	Property tax base
			-	Property tax
			-	The uniformity of assessments
			-	Distributional balance of the tax burden
Sun (2014)	Local TELs on municipal revenues	Existence of local TELs	+	Own-source revenues
			-	Property tax
			+	Sales tax, Income tax
			0	Other tax
			+	User charges
			0	Miscellaneous
Maher, Park & Harrold (2016)	Restrictiveness of municipal TELs	Municipal TEL index	+/- (depending on form of government)	Pension funding
			-	OPEB funding
Maher, Deller, Stallmann & Park (2016)	Restrictiveness of municipal TELs	Municipal TEL index	-	Municipal credit ratings
Park, Park & Maher (Forthcoming)	Restrictiveness of municipal TELs	Municipal TEL index		Annual % change of
			+	IG aid
			0	Charges/fees
			0	Property tax
			0	General expense
			-	Capital investment
			0	GO debt
			+	Debt services

Note: +, -, and 0 indicate positive, negative and no relationship, respectively

miscellaneous revenues. Skidmore found similar results: local TELs on property taxes are only partially offset by shifting to unrestrained sources, and Chapman and Gorina (2012) found that property tax limits restrict local own-source revenues. In one of the more robust analyses of TELs, Sun (2014) conducted a panel analysis of cities from 1970–2006 and found that, as property taxes were reduced, sales tax reliance grew, as did income tax collections and per capita user charges. Contrary to other findings, according to Sun, these revenue increases more than offset the reductions in property taxes.

Effects on Expenditures. Dye and McGuire's (1997) analysis of Illinois local governments found that including the effect of home-rule powers, the levy cap affected growth in levies and that overall spending was reduced, but not instructional spending, suggesting a prioritization of spending. Figlio and O'Sullivan (2001) also suggested that spending is affected by TELs, but their study revealed a strategic pattern: cities have a propensity to manipulate their expenditures to get voters to override limits. Maher and Deller (2013) found that stricter TELs were associated with lower general fund expenditures as a percentage of property valuation. A recent analysis of cities during the Great Recession years, 2008–2011, found no relationship between TEL stringency and general expenditures (Park, Park, & Maher, Forthcoming).

Fiscal Condition. Following the Great Recession of 2008–2009, a few attempts have been made to study the effects of TELs on local fiscal condition. Maher and Deller (2013) found that TELs are positively associated with key measures of fiscal condition: higher fund balances, better-funded pensions, and lower debt. According to the authors, "[i]t could be that TELs force communities to more effectively manage their resources by building their reserves, funding

future obligations better, and controlling debt" (p. 423). In a study of municipal cutback strategies during the recession, differences in fiscal outcomes were found based on the severity of the municipal TELs (Park et al., Forthcoming). Municipalities constrained by more stringent TELs received more intergovernmental aid, incurred higher debt service expenditures, and experienced less net capital investment during the most recent recessionary period.

A study of pension and other post-employment benefit (OPEB) obligations found that TEL stringency is positively associated with municipal pension funding ratios and is negatively associated with other post-employment benefit funding (OPEB) ratios (Maher, Park, & Harrold, 2016). Interestingly, when the authors interacted TEL stringency with a form of government, they found negative effects on both pension and OPEB funding ratios. They concluded that, during periods of fiscal distress, the political consequences of underfunding these liabilities may be much greater for mayors than administrators/managers.

Local Policy Outcomes. Much of the research on the impacts of local TELs focuses on the impacts on schools and school performance. Figlio (1997) found that TELs are associated with higher student teacher ratios (see also Shadbegian, 2003), lower starting teacher salaries, and lower performance in mathematics, science, reading, and social studies examinations, but administrative spending is not reduced. Figlio (1998) reported similar findings for Oregon. Figlio and Reuben (2001) found that the TELs affect the quality of new teachers. In a review of the literature, Downes and Figlio (1999) found that TELs have a negative impact on long-term school performance. When investigating the impacts of Massachusetts's Proposition 2½, Bradbury, Mayer, and Case (2001) found that, in communities where school spending was constrained by the law, there was a willingness to pay for increased school spending.

Bradbury et al. (2001) found that in Massachusetts "... house prices performed worse in communities that had slower increases in spending, suggesting that Proposition 2½ led communities to spend 'too little' on services" (p.289). Cheung (2008) found that private home owners' associations became more common in the most fiscally constrained cities in California. These associations had the ability to provide services to their residents beyond those provided by the constrained city.

Summary and Conclusion

About four decades ago, Shannon, Bell, and Fisher (1976) argued that "despite their longstanding character...fiscal controls on...governments are again an issue of controversy in need of careful and complete analysis" (p.276). Since passage of California's Proposition 13, there has been a significant amount of research on TELs at both the state and local level. We now know that TEL design has an effect on fiscal outcomes and that fiscal outcomes range from changes in revenue structures to long-term investments, including pensions and other post-employment benefits and infrastructure. The methodology also has evolved in recent years from single-state analyses to multi-state and overtime analyses. The operationalization of TELs also has evolved from binary measures capturing the existence/nonexistence of TELs to measures of the structure and nuances of TEL design. The TEL literature has made significant efforts to respond to Shannon, Bell, and Fisher's challenge and continues to grow and evolve.

In this study, we attempted to synthesize previous studies on TELs in a comprehensive manner. Based on our discussion, several suggestions can be made for practice and policy. First, the leverage of TELs is significant at both state and local levels, and such influences can be not only positive but also negative, depending on budgetary components or policy issues. Because TELs

are not a one-size-fits-all solution for a variety of issues, policymakers who aim to achieve certain outcomes need to be careful in adopting and implementing limitations. With an elaborate understanding of varying types and forms of TELs, policymakers may be able to find some structures of limitations, which are appropriate for their budgetary and/or policy issues. Last, previous studies have shown that even TELs of similar design can differ greatly in their consequences depending on the time and context. Policymakers in a state can learn how TELs work with varying environments from other states' experiences described in this study.

One strong take-away point from the literature is that local context matters, and lessons learned from one state must be carefully applied to another state because subtle institutional differences make each state unique. What may appear to be subtle statutory or constitutional differences on the surface can have large influences on how a TEL plays out in a particular state. For example, in some states, local governments that face property-tax-focused TELs can easily shift to user fees and chargers or the sales tax. Other states have statutory rules outside of the TEL than can limit flexibility. For example, in Wisconsin, a non-home-rule state, revenues from fees and charges can only be used for the specific service and cannot flow to the general fund. Thus, a TEL on local governments in Wisconsin will have a different impact than the identical TEL imposed in Illinois, which is a home-rule state and has no restrictions on user fees and charges.

Another take-away from the literature is that TELs seldom have the intended outcome their proponents promise. Many TELs, it turns out, are easily circumvented, thus neither limiting expenditures nor revenues because governments shift to other revenue streams to maintain services. If the goal of the TEL is to reduce property tax burdens, they do tend to have that effect, but it raises the question of paying with another form of tax (or fee/charge) rather than the property tax. What is gained by shifting from one form of tax to another if the overall tax burden remains the same? The limited evidence also suggests that TELs do not foster economic growth and development and may, indeed, hinder economic performance. The literature also indicates unintended consequences such as lower credit ratings and less robust infrastructure.

The work on TELs is far from complete. TELs research has primarily focused on revenues, and much less is known about the impact on expenditures (see Deller et al., 2013). Yet to be determined is the extent to which TELs affect the prioritization of expenditures; thus, are core services emphasized at the expense of perceived less "essential" services similar to what has been found in research on changes in intergovernmental aids (Deller & Maher, 2005)? More fundamental, do short-term costs savings in the name of the TEL result in higher costs in the long-term (e.g., deferred infrastructure maintenance)? Given that local TELs affect revenue structures by decreasing reliance on historically more stable property taxes and shifting to more volatile revenues such as sales or income taxes, should we expect to find TELs affecting expenditure categories?

Furthermore, research on TELs would benefit greatly by better understanding within state variation. Many studies have focused on the impact of TELs on state fiscal outcomes or have examined the role of local TELs using aggregate local fiscal data. It was only in recent years that studies have analyzed the particular influence of TELs on municipal governments (city, town, and equivalence) (Chapman & Gorina, 2012; Dye, McGuire, & McMillen, 2005; Maher, Deller, Stallmann, & Park, 2016; Sun, 2014). Because states in general have different TEL structures for their counties, municipalities, and school districts (ACIR, 1995), separate efforts to understand the role of TELs by units of local government may be needed. This approach also encourages consideration of other factors that can generate within-state variations, such as home-rule charters and self-imposed local TELs. It has to be noted that only a few studies have been

interested in TELs placed by a local government on its own fiscal behavior (e.g., Brooks, Halberstam, & Phillips, 2012; Hoene & Pagano, 2010).

Another area that could use further development is the inclusion and analysis of the interactive and collective effects of all institutional constraints on fiscal behavior. The tendency is to focus the research scope to specific types of institutions, such as TELs or balanced-budget requirements or debt limits at the expense of systematic analysis of all institutions. From the institutionalism standpoint, all budgetary institutions may work together in shaping government fiscal outcomes (Poterba, 1995). This idea has been consistently emphasized since Inman's (1979) suggestion of a correct "policy mix" for local finance (p.159). Nevertheless, few studies have directly addressed the interaction between fiscal institutions and between fiscal rules and other institutional settings (except for Maher, Park & Harrold, 2016). To have a robust understanding of TELs and to make TELs work better, we need to be informed of whether or now TELs generate surprising results when they are coupled with other institutions. These are all fruitful agendas for future research.

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Appendix

Table A1. The Structure of TELs by State (as of 2015)

State	State-Level TELs		State-Imposed Municipal TELs					
	Revenue Limit	Expenditure Limit	Property Tax Rate Limit	Property Assessment Limit	Property Tax Levy Limit	General Revenue Limit	General Expenditure Limit	Full Disclosure
Alabama			√					
Alaska		√	√		√			
Arizona	√	√	√	√	√		√	
Arkansas	√		√	√	√			
California	√	√	√	√			√	
Colorado	√	√	√		√	√	√	√
Connecticut		√						
Delaware	√	√						
Florida	√		√	√				√
Georgia								√
Hawaii		√						
Idaho		√	√		√			
Illinois			√		√			√
Indiana		√	√		√			
Iowa		√	√	√				
Kansas								√
Kentucky	√		√		√			√
Louisiana	√	√	√		√			
Maine		√			√			
Maryland		√		√				√
Massachusetts	√		√		√			
Michigan	√		√	√	√			√
Minnesota								√
Mississippi		√			√			
Missouri	√	√	√		√			
Montana					√			√
Nebraska			√			√		
Nevada	√	√	√		√			√
New Hampshire								
New Jersey		√					√	
New Mexico			√	√	√			
New York			√	√	√			
North Carolina		√	√					
North Dakota			√		√			
Ohio		√	√		√			
Oklahoma	√	√	√	√				
Oregon	√	√	√	√				
Pennsylvania			√					
Rhode Island		√			√			√
South Carolina		√						
South Dakota	√		√					
Tennessee		√						√
Texas		√	√		√			√
Utah		√						√
Vermont								
Virginia								√
Washington		√	√		√			√
West Virginia			√		√			√
Wisconsin					√			
Wyoming			√					

Source: Amiel et al. (2009); Maher, Deller, Stallmann, & Park (2016); Maher, Park, & Harrold (2016); NASBO (2015)