PROPERTY TAX LIMITS AND FISCAL BURDENS:
THE ROLE OF ORGANIZATIONAL STRUCTURE

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ABSTRACT
The effects of tax and expenditure limitations (TELs) have been studied from a number of perspectives ranging from fiscal policy responses to government performance to economic performance. To a large extent the response of local governments to the imposition of a TEL is determined by local policy makers. Surprisingly, the role of organizational structure of local governments on how policy makers respond to TELs has not been widely examined. This study works toward filling that gap by examining the effect of county government structure on property tax burdens before and after the imposition of a property tax levy limit, a specific form of TEL in Wisconsin. The results demonstrate that government structure has a more profound effect on property tax burdens following the TEL. Specifically, counties with elected executives had lower tax burdens, particularly following the TEL, whereas counties with a hired administrator had higher tax burdens following the TEL.

INTRODUCTION
The fiscal crisis facing governments throughout the U.S. has put a premium on fiscal flexibility. The federal government generally has the greatest flexibility as it has unlimited borrowing authority and the ability to run annual
deficits. County governments, on the other hand, are at the “... bottom of the fiscal food chain” (Pagano and Johnston, 2000, p159). The difficulties in which county governments operate has been well documented (e.g., Menzel and Thomas, 1996) and stems largely from their lack of home-rule powers, service provision mixes which have historically been dominated by state mandated services (health and human services, road maintenance, public safety and courts and public records systems) and, in many states, state-imposed tax and expenditure limits (TELs).

A good deal of research has been conducted on the impact of TELs on municipal and state government decision-making (Abrams, 1986; Bails, 1990; Joyce and Mullins, 1991; Lowery, 1983; Mullins and Joyce, 1996; Lowery, 1983; Mullins, 2004; Mullins and Wallin 2004; Shadbegian, 1999; Skidmore, 1997). Unfortunately, very little research has been conducted on county-level responses to TELs. In one of the few that included counties, Springer et. al. (2009) found that Kansas county officials increased property taxes, own source revenues and expenditures under a stricter version of TEL at higher rates than they did after the TEL was made much less stringent. The authors speculate that, “local officials, fearing potential shortfalls, automatically levied to the near maximum allowable amount... freed of limitations, local officials knew they had the flexibility to tax what was needed...” (67).

While our understanding of county-level responses to TELs is limited, we do know quite a bit about county governance structure. A host of research is available that examines explanations for changes in county organizational or administrative structure and the effects of those changes (Advisory Commission on Intergovernmental Relations, 1988, 1991; DeSantis and Renner, 1993; Menzel and Thomas, 1996; Morgan and Kickham, 1999; Sokolow, 1993; MacManus, 1996; Marando and Reeves, 1993;
Martin and Nyhan, 1994; Salant and Martin, 1993; Wiseman, Giles and McCormick, 1994; Mead, 1994; Lyons and Scheb, 1998; Leland and Thurmaier, 2000; Feiock and Carr, 2000; Carr and Feiock, 2002; Benson 2003a). Of particular interest has been the conversion to “reformed” or “progressive” forms of organizational structure, typically defined as elected executive or appointed administrator (Benton, 2002, 2003a; DeSantis and Renner, 1996; Cigler, 1995). These works, of course, stem from empirical studies of municipal governance structure effects dating back to the 1960s (e.g., Lineberry and Fowler, 1967). While the research on the effects of government structure on policy outcomes is extensive, much less has been done in the area of fiscal policy with the exception of some of the most recent work by Benton (2002, 2003b) and some of the earlier work of DeSantis and Renner (1996), Schneider and Park (1989) and Park (1996).

This is important because of the nagging question of what responsiveness means in terms of structural effects. The progressives argued for non-partisan elections and professional administration as a means of minimizing the effects of party machines and enhancing local government’s responsiveness to its citizens (Lineberry and Fowler, 1967). If we assume that state adoption of TELs is a political response to constituent concerns over high taxes, we should expect to see reformed county governments more responsive to those concerns.

The shift to progressive forms of local government lies on two central pillars; the removal of party machine politics and the introduction of administrative professionalism. Here the goal is to improve the efficiency of producing services while reducing tax burdens. The shift has occurred, however, in many states where local governments are subject to artificial tax and expenditure limits. What is missing from the body of work on the consequences of county organizational or administrative
structure is what role the imposition or presence of artificial tax and expenditure limits, or TELs, plays in local policy outcomes. In other words, much of the existing literature examining the impact of alternative organizational or administrative structures on county fiscal policies ignores the presence of tax and expenditure limitations. Similarly, the current literature on TELs, including Springer et al. (2009), ignores the impact of government structure in policy outcomes.

This study addresses one overriding question: does the imposition of a property tax levy limit, one specific form of a tax and expenditure limitation (TEL) alter the relationship between organizational or administrative structure and fiscal policies. Because one of the driving motivations for pursuing progressive reforms is improved efficiency and reduced tax burdens we focus our attention on burdens. Property tax burden was chosen as the fiscal metric of interest (as opposed to expenditures) because taxes, particularly property taxes, tend to be the focus of local residents and politicians and are the form of TEL in this study. As such tax burdens drive budgetary decision-making (Bland, 1989; Gosling, 1992; Cigler, 1995). In other words, concerns over minimizing tax burdens, again particularly property tax burdens, trump other considerations. We employ a definition of tax burden based on work by Pagano and Johnston (2000), which is levies divided by personal income.

We examine annual data from 1987 to 2005 for 70 Wisconsin counties for a total sample size of 1,330. The time period is appealing because it encompasses an era in which county adoption of an optional sales tax was permitted and a state-mandated property tax rate limit (TEL) that went into effect in 1993. The other advantage of looking at Wisconsin counties is state reporting requirements provide for comparable fiscal data during the period. In addition to detailed data on expenditure
categories there are detailed data on sources of revenue.¹
The remainder of the study consists of sections on tax and expenditure limits (TELs), the evolution of county administrative structures, a brief discussion of county governments in Wisconsin, methodology, findings and concluding comments.

**TAX AND EXPENDITURE LIMITS (TELS)**

County governments’ ability to make fiscal decisions have been hampered by state actions; most common are statutory or constitutional limits on how fast taxes and/or expenditures can expand. Dissatisfaction with taxation levels and perceived excessive government spending grew substantially over the latter half of the twentieth century. As a result, the number of tax and expenditure limitations (TELs) efforts such as California’s Proposition 13, Massachusetts’s Proposition 2½ and Colorado’s Taxpayers’ Bill of Rights (TABOR) has grown. By 2006, forty-six states had implemented state statutory or constitutional limits on local government tax revenue and expenditures, with thirty-one states placing limits on state taxes and/or expenditures (Deller and Stallmann, 2007; Mullins, 2004).

As outlined in detail by Amiel, Deller and Stallmann (2009) no two TELs are exactly alike and the variation in nature, scope and complexity of TELs across the U.S. is significant. Joyce and Mullins (1991) place tax and expenditure limitations into six broad classifications

¹ These data were derived from the University of Wisconsin-Extension’s Local Government Center, Graphing Revenues and Expenditures and Taxes (GREAT) program and consist of annual fiscal reports submitted by municipalities and counties to the Wisconsin Department of Revenue (DOR). DOR audits the reports and uses them for aid allocation purposes. The data were supplemented with economic data from the Bureau of Economic Analysis’ Regional Economic Information System and socio-demographic from Woods and Poole, Inc.
ranging from simple full disclosure–truth in taxation rules--to strict general revenue or expenditure increases. In terms of the property tax different limitations may be focused on changes in assessments, mill rates, or overall property tax levies. Depending on how the TEL is structured, they can be in essence non-binding, or easily circumvented, or strictly binding leaving local government officials with little if any flexibility with the levy limits the most restrictive. This heterogeneity of TELs across the U.S. has historically hindered the study of TELs and has almost forced the literature into a collection of case studies examining individual states. The approach the literature has assumed almost by default is to study individual states and then see if within state conclusions are consistent across states.

There are two primary rationales underpinning TELs. First, proponents of TEL’s argue that government spending and correspondingly revenues are excessive and inefficient and in the end place an unfair and/or unreasonable burden on taxpayers. Under this view, TELs are designed to “curb the perceived excess associated with a piecemeal budgetary process which yields …larger expenditures than a majority of voters deem desirable” (Abrams, 1986, pg. 105). One could also place this argument in the light of a Leviathan-Niskanen-Buchanan-type budget-maximizing bureaucrat framework. Second, arguments are also made that unnecessarily high tax burdens negatively impact economic growth and development (Chandler, 2005). Therefore, the logic follows, TELs should be implemented to force downward pressure on taxes in order to promote economic growth. Unfortunately, there is limited systematic research which directly tackles this latter argument in favor of TELs.
Extensive research has been conducted on the impact of TELs on state and local fiscal outcomes. The initial focus centered on the impact of TELs on the level of state and local government revenues and expenditures; specifically, how state and local governments responded to the imposition of artificial limits on revenue and/or expenditure growth rates. Analysis of the expenditure differences between states with state level TELs and those without suggest that TELs do not have a significant impact on state expenditure growth (Abrams, 1986; Bails, 1990; Lowery, 1983). Mullins (2004) argues that on the whole local TELs have more impact on the process of local government than on local budgets. Local governments will look for ways to relieve their fiscal constraints by moving to revenue streams not covered by the TEL. They may also increase the use of special districts for funding of services. Mullins goes on to argue that these 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 the best way to achieve the goal.

Nation-wide the property tax, which is often the target of TELs, has declined from 54 percent of total revenues for state and local government during the 1930 to 34 percent in the 1960s to 21 percent in 2007. One can surmise that as property tax revenues were constrained by TELs, coupled with a general dislike of the property tax by tax payers, local governments looked toward other revenue sources. As a result of these apparent shifts, research on tax and expenditures limits has aimed to conclusively determine if and how TELs have altered the fiscal structure.

2 There is a vast literature looking at the role of taxes and public spending on economic growth (e.g., Bartik, 1996; Ladd 1998; Lynch 2004) but a limited one directly linking TELs as a policy tool to economic growth and development.
of local and state governments. For example, do limits on property taxes lead to shifts to other sources of revenues such as fees and charges along with the sales tax (e.g., Mullins and Wallin 2004)? Overall, scholars tend to concur that local TEL’s have resulted in movement away from local property taxes toward alternative revenue sources (Joyce and Mullins, 1991; Mullins and Joyce, 1996; Skidmore, 1997; Lowery, 1983; Shadbegian, 1999).

Another question to consider, which gets to the heart of TELs, is whether or not they have resulted in lower overall burdens on local taxpayers, regardless of whether it is taxes or fees/charges. Pagano and Johnston (2000) examined overall city and county revenue burdens and found that county burdens were associated with property tax reliance and intergovernmental aid. Contrary to their hypothesis, counties that relied more on property taxes also had higher revenue (tax and fee) burdens. In addition, the more state aid received by a county, the greater its overall revenue burden. Missing from the analysis was whether or not any of the counties were under any artificial constraints (i.e., TELs) imposed by the state. In addition, the study consisted of 92 counties nationwide in one year (1996), which raises questions about generalizability. Despite these limitations, Pagano and Johnston (2000) provides a compelling methodology for examining the impact of TELs on residents which is more extensive than merely focusing on tax burdens.

THE EVOLUTION OF COUNTY GOVERNMENT

In much of the U.S., counties have traditionally been viewed as extensions of the State or as the “administrative arm” of the State providing services (health and human services, highway maintenance, courts, sheriff and corrections, etc.) to local residents. Benton (2003a) notes, however, that nationally county services have been
shifting from simply being an “administrative arm” of the State to providing “municipal-type” services (police and fire protection, sewerage and water, parks and recreation, etc.) and regional-type services (planning and economic development). This evolution has occurred most frequently in the more rapidly growing southern and western regions (Benton, 2003a). In other parts of the U.S. this evolution has resulted from smaller municipalities contracting with the county for a range of services. Smaller municipalities have found that by joining together and contracting with the county both scale and managerial efficiencies can be gained (Deller 1998; Mohr, Deller and Halstead (forthcoming)). This latter strategy is particularly true for municipalities that are struggling under more restrictive TELs.

As the breath of service provision has expanded, so too has county home-rule powers (DeSantis and Renner, 1993). Determinants of county structural change, including the expansion of home-rule powers, received the most attention in the 1990s. Martin and Nyhan (1994) found greater discretion granted to counties where citizen pressure for a broader range of services was greatest. Similarly, Wiseman, Giles and McCormick (1994) demonstrated that county structural change was related to urbanism. Citizens living in incorporated communities supported broadening the range of services offered and reformed governance, whereas those living in more remote less densely populated rural areas were generally opposed. In general, more urban residents demand higher level of services and are willing to pay for those services, while more rural residents expect less from government and are unwilling to pay for expanded services.

In addition to home-rule powers, scholars of county government have also examined their conversion to “reformed” or “progressive” forms – typically defined as elected executive or appointed administrator (Cigler, 1995).
For our purposes, the impact of these changes is more important than the reasons for such transformation. County government structure and its impact on fiscal policies have received a good deal of attention over the past two decades. The research has focused on examining the impact of reformed or progressive structures (appointed administrator or elected executive) on counties that have not adopted such structures and the findings have been mixed. MacManus (1996) and Sokolow (1993) conclude that the relationship between structure and fiscal outcomes remains largely unknown. Similarly, Morgan and Kickham’s (1999) examination of ten reformed and ten unreformed counties found no difference in either revenue or expenditure policies. On the other hand, Park (1996) finds spending greatest in counties with an appointed administrator and elected executive. Desantis and Renner (1996) found counties with appointed administrators spending more than commission forms whereas Schneider and Park (1989) found counties with elected executives had higher spending. Similarly, Benton finds, at least for growing counties, that changes in organizational structure are related to both revenue (2003b) and spending policy (2002). No studies, however, have examined the interplay between the imposition or presence of a TEL and county organizational structure on local property tax burdens.

**WISCONSIN COUNTIES**

Wisconsin counties reflect both consistencies and inconsistencies with national trends identified earlier in the study. Inconsistencies exist primarily in the areas of organizational change and service delivery. While Benton’s (2003a) research suggests that counties are evolving into forms with greater home-rule and provide services comparable to municipalities that evolution has, to date, evaded most Wisconsin counties. Wisconsin counties’
home-rule powers are limited to those “… expressly granted to them by the state (UW-Extension, 2003 p4).” It was not until 1985 that Wisconsin counties were even granted administrative home-rule which merely enables them to organize their administrative departments as they see fit (UW-Extension, 2003). These limitations are reflected in county spending patterns. In 1987, 66.5 percent of county expenditures were for largely mandated services – health and human services, sheriff and corrections, courts and highway maintenance. Nearly 20 years later (2005), those same services accounted for 64.7 percent of general fund expenditures. The modest increase in non-mandated services tend to be in areas like park and recreational services, educational services like the University of Wisconsin Cooperative Extension Service, and conservation services and economic development planning.

Similar to the rest of the nation, the level of government spending and taxes has been an ongoing debate in Wisconsin that has intensified over the last few years. There is a widespread perception that Wisconsin is a high tax, high spending state. In 2006, taxes (property, income and sales) accounted for 11.6% of total personal income in Wisconsin, which is higher than the national average of 11.0%. This placed Wisconsin 12th in terms of state and local tax burden relative to income. On a per capita basis, Wisconsin state and local governments collected $4,013 in taxes compared to $3,992 nationally; ranking 16th. These ranking (which have come down in recent years) have provided the impetus for many state legislators and voters to support comprehensive and binding spending limits on both state and local government.

Wisconsin has implemented several different local limits in the past. A revenue limit for K-12 education has been in effect since the 1993-1994 school year. This TEL limits annual growth in revenues to approximately $256 per student; this amount is adjusted for by the rate of inflation
over time. As a result of this TEL, property taxes are only allowed to increase by approximately two percentage points annually (Deller and Stallmann, 2007). In addition, municipalities are prohibited from increasing levies by more than the percentage change in net new construction or two percent, whichever is greater (Deller and Stallmann, 2007). These TELs are designed to constrain tax revenue (especially property taxes) at the local level.

The property tax limit on Wisconsin counties went into effect in 1993. The limit is, in fact, a tax rate limit, thus tying ability to raise property taxes to growth in equalized valuation. Initially, the TEL had limited effect on WI counties because of strong property value growth. Between FY 1995 and FY 2007, property valuation grew at an average annual rate of 12.2 percent (WI LFB, 2009). In addition, counties were granted the authority to adopt an optional 0.5 percent sales tax in 1996 (technically they had the authority prior to 1986, but it was not until that year that the State allowed them to keep the revenues). The following year, 12 of the 72 counties adopted the optional sales tax; the number rose to 27 in 1990, 47 in 1995, 55 in 2000 and 57 in 2005. Clearly the largest increase in counties opting for the sales tax occurred between 1990 and 1995, the same time levy limits were imposed. In recent years, however, as property values have fallen, the county TEL has received increased attention. Citing concerns with the tax rate limit in conjunction with the economic downturn the counties’ lobbying arm, the Wisconsin Counties Association, is advocating for the elimination of the TEL. Due to their efforts and concerns with the rate limit expressed by some county officials, a bill has recently been drafted that sunsets the TEL.

What is not well understood is how individual counties responded under the TEL. While the TEL may not have functionally limited counties abilities to raise property taxes, the fact that the TEL was passed through the
legislative process suggests strong political support for limiting property tax growth. Currently, ten Wisconsin counties are led by an elected executive, fourteen have an administrator and the majority (46) are administered by a coordinator (30 are part-time). Coordinators have limited powers compared to administrators. These include the inability to appoint/remove department heads qualifications (the coordinator can be an elected or appointed official) and source of power. Regarding the latter, administrators’ powers are defined by State statute whereas coordinators’ powers are defined by the County Board. Counties led by elected executives are larger (in terms of population); receive a smaller share of state aids; and have lower fee and levy burdens (see Table 1). Counties managed by coordinators tend to be smaller; receive the most per capita state aid; and have fee and levy burdens comparable to administrators.

**DATA AND ECONOMETRIC MODELS**

The data set employed in this study contains information from 70 of Wisconsin’s 72 counties from 1987 to 2005, yielding 1,330 observations. From these data, we can determine how a TEL affects the relationship between organizational structure and a county’s property tax burden. In addition, we are able to assess: the impact of the adoption of a local-option sales tax; state aid receipts relative to local tax burdens; and the relationship between fees, revenue diversity and tax burdens. We employ

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3 Menominee County is excluded from the analysis because of its unique structure; it consists largely of a Native American reservation. Milwaukee County was also removed because a host of special financing agreements between the State and the County makes it atypical.

4 In future studies, political attitudes should be considered. While all WI county-level elections are non-partisan, gubernatorial, presidential or US Senate election results could serve as proxies.
Pagano and Johnston (2000), definition of burdens as levies divided by total personal income.

**VARIABLE MEASUREMENT**

- Property Tax Burden (DV) = Property tax collections divided by Personal Income. Sources: Wisconsin Department of Revenue and U.S. Bureau of Economic Analysis
- Revenue Diversity = Levy as Percentage of GF Revenues. Source: Wisconsin Department of Revenue
- Per Capita Shared Revenues. Source: WI Department of Revenue.
- Per Capita HHS Aids. Source: WI Department of Revenue.
- County Administrator. Dummy variable coded 1= county administrator form, 0=other. (14 counties in 2005)
- Coordinator. Dummy variable coded 1= coordinator form, 0=other. (46 counties in 2005)
- Elected Executive. Dummy variable coded 1= elected executive form, 0=other. (10 counties in 2005)
- Sales Tax is a dummy variable coded 1=county adopted sales tax, 0=it did not adopt sales tax.
- Per Capita Income. Source, Bureau of Economic Analysis.

Based on our literature review and model specification, we propose the following set of hypotheses:

\( H_{1a} \): Reformed county government structures (full-time administrators and elected executives) are positively related to property tax burdens independent of the TEL;

\( H_{1b} \): Counties with an elected executive will be negatively related to property burdens following the adoption of the TEL.
The existing literature on county finances and government structure suggests that counties with an elected executive or an administrator have higher spending (Desantis and Renner, 1996; Park, 1996; Schneider and Park, 1989) and, therefore, higher taxes. Causation, however, is not clear; larger counties tend to have both higher spending along with a higher likelihood of having a reformed organizational structure. Hence, it is not clear that having a reformed structure results in higher spending levels. What is also not known is how or if these relationships change following the imposition of a TEL. Given the political dynamics surrounding TELs, it is not unreasonable to hypothesize that county leaders who are elected would be most sensitive to the tax pressure following the TEL. A reasonable and testable hypothesis is that following the adoption of the TEL, counties with an elected executive will be negatively related to tax burdens. In other words, elected executives may not only have a political incentive to lower property tax burdens but will also be in better administrative position to use the TEL to lower burdens.

Through median-voter theory Bergstrom and Goodman (1973) and Borcherding and Deacon (1972) suggest that income, federal and state aid to local governments and population all affect local spending patterns and taxation decisions. Estimates of the income elasticity of government services are generally positive; as a result, we expect demand for government services, and government revenue requirements by extension, to increase as incomes increase (Skidmore, 1999). In essence, public services are a normal good and as income rise people demand more of the good or service.

The effect of state aid and population on local revenue is more ambiguous. State aid per capita in our model consists of three variables, shared revenues per capita, highway aids per capita and other state aid per
capita. Given the structure of Wisconsin counties the latter is dominated by health and human services aids. The variables represent different aid structures. Wisconsin’s shared revenue program is modeled after the now defunct federal revenue sharing programs of the 1970s where there are no strings attached to how the funds can be used. The impact of such aid has been at the center of an extensive body of literature seeking to test the “fly-paper” effect. The shared revenue program was intended to reduce local tax burdens, however, empirical evidence has demonstrated that the aid, in fact, leads to a mix of slightly higher spending and slightly lower taxes (see Deller and Maher, 2005). For Wisconsin municipalities, every dollar of shared revenues tended to increase spending by 55 cents, but reduce property taxes by 45 cents (Deller and Maher, 2006; Deller, Maher and Lledo, 2007). Consistent with the fly-paper effect and previous work on Wisconsin municipalities, we hypothesize a negative relationship between tax burden and per capita shared revenues.

Other intergovernmental aids are often “matching grants,” where the contribution of the local government must match that of the state and/or federal government. In addition, intergovernmental aid might encourage additional spending and investment in specific programs by providing just enough resources to compensate for insufficient local funds.

Another possible scenario is where the state requires counties to provide services such as highway maintenance, health and human services and courts and corrections yet do not fully fund those services, necessitating greater local effort to cover those unmet costs. This seems to have been the case in Wisconsin, at least for health and human services. Between 1987 and 2005, county expenditures for health and human services grew at a more rapid pace than state aids for those services. Because health and human services tend to dominate the typical Wisconsin
county budget this trend is particularly troublesome. Our third and fourth hypotheses can be stated as:

\( H_2: \) Per Capita Shared Revenue payments are negatively related to tax burden;

\( H_3: \) Per Capita Highway Aids and Per Capita Health and Human Service aids are positively related to tax burdens;

Wisconsin law was revised so that effective in 1986 counties were given the authority to implement an optional 0.5 percent sales tax. Much like the Wisconsin state shared revenue program was passed in the name of property tax relief the statute allowing counties to adopt a sales tax is quite clear that the proceeds of the sales tax are to be used to reduce property tax burdens. To our knowledge the extent to which the intent of the law has been followed has not been explicitly examined. For this study we can formally state the hypothesis as:

\( H_4: \) Sales tax adoption is negatively related to property tax burdens;

Fiscal diversity, according to Pagano and Johnston (2000), should lead to greater tax burden. Their approach is consistent with the fiscal illusion literature arguing that the misperception of tax-price results from the fragmentation of the revenue system (Wagner 1976; Pommerehne and Schneider 1978; Baker 1983; Lowery 1987). If the Leviathan-Niskanen-Buchanan-type budget-maximizing bureaucrat framework is correct then bureaucrats can take
advantage of fiscal illusion and inflate county budgets and taxes.\footnote{See Hendrick (2002) and Carroll (2009) for an alternative argument. Their research finds that the more diverse the municipality’s revenue stream, the lower the tax burden.} Stated as a formal hypothesis:

\[ H_5: \text{Revenue diversity is positively related to property tax burden;} \]

In addition to variables intended to reflect our key questions, the median voter theoretical approach as well as the empirical literature is clear that other socioeconomic characteristics of the county must be controlled. The demographic variables in these models include per capita income and the percentage of population 18 years of age or less. Per capita income is introduced as a control variable in our model based on the median voter theory of the demand for state and local public goods and services. Median voter theory also suggests that population characteristics should have effects on government tax revenue. This analysis includes the percentage of population age 18 or less. The expectation is that greater the percentage of population age 18 or less, the lower the service demand and, thus, the lower the revenue burden.

**ECONOMETRIC RESULTS**

We estimate our models using both pooled OLS regression along with random one way effects estimators. Because of the nature of our dummy variables the fixed effects estimator is not viable.\footnote{This prohibits us from computing the traditional tests for fixed and random effects such as the F test for FE and the Hausman test for RE. Because it is likely that we have omitted variables that may vary across time and space we estimated both one and two way random effects models. The random effects model is also sometimes described as a regression with a random constant term where it is assumed that the constant term or intercept is a random outcome variable that is a function of a mean value plus a random error. Based on the} We report a set of results...
for the whole time period in which we include a dummy variable for the imposition of the property tax rate limit on county governments plus a set of results for pre- and post-the imposition of the limit. The intent of looking at pre- and post-imposition is to see if the affects of the policy variables (e.g., the presence of a county executive or administrator) change which could attributable to the imposition of the property tax rate limit. All results are presented in Table 2. Based on the percent of the variation in property tax burden explained (i.e., $R^2$) the models perform well ranging from over 89 percent to a low of 51 percent.

Interestingly, the imposition of tax rate limits did not have a direct effect on county property tax burdens. In the simple pooled model the coefficient on the TEL dummy variable is positive and statistically significant suggesting that property tax burdens have actually increased. On the random effects model the coefficient on the TEL dummy is positive but statistically insignificant. The two results in tandem suggest that the imposition of the TEL did not lower property tax burden. Such a finding must be discouraging to policy makers who expected lower tax burdens following adoption of the TEL. The results are also somewhat counter to previous empirical research which has typically found that the adoption of TELs results in lower taxes (Joyce, Mullins, 1991; Mullins, Joyce, 1996; Skidmore, 1997; Lowery, 1983; Shadbegian, 1999).

It is important to note that the Wisconsin TEL on county governments does allow increases in property taxes, although at artificially fixed rates. In our work with county officials across Wisconsin we have uncovered antidotal evidence that counties feel that they must increase their bases regardless of immediate need as insurance against more potentially more restrictive limits that could be
imposed in the future. One must also note that the most recent boom in the real estate market has dramatically increased assessed values that property taxes are based. This boom in real estate markets over the last few years of study period coupled with the incentive to increase bases as insurance against more restrictive limits set the stage for increasing property tax burdens. This suggests that, on average, the TELs imposed on Wisconsin counties had the opposite affect than expected. Now, let us consider each of our hypotheses in turn.

Our hypotheses about the relationships between county structure, TELs and property tax burdens are generally supported by the findings. For each of the models estimated with the pooled OLS estimator those counties with a hired administrator have higher property tax burdens. Those models estimated with the random effects estimator produce positive coefficients on county administrators, but the t-statistics suggest that the coefficients are not significantly different from zero. Thus, there is weak statistical evidence that the presence of a county administered results in higher property tax burdens.

The coefficients on the presence of an elected county executive strongly suggest that those counties have lower property tax burdens all else held constant. Looking over the entire time period both the pooled OLS and random effects estimators produce large negative and statistically significant coefficients. Coupled with the simple descriptive statistics presented in Table 1, this latter result is as expected. These results confirm our hypothesis that elected county executives have a strong incentive to keep downward pressure on property taxes but county administrators who are hired may act more strategically to ensure the property taxes are sufficiently large in case further restrictions are imposed in the future.
Table 1
Descriptive Statistics by Type of County Government: FY 2005

<table>
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<tr>
<th></th>
<th>Executives</th>
<th>Administrator</th>
<th>Coordinator</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Mean</td>
<td>St. Dev.</td>
<td>Mean</td>
</tr>
<tr>
<td>Population</td>
<td>288,509</td>
<td>257,097</td>
<td>58,087</td>
</tr>
<tr>
<td>Pct. of Pop. up to 17 yrs.</td>
<td>69.41</td>
<td>65.48</td>
<td>13.07</td>
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<tr>
<td>PC Income</td>
<td>34,634</td>
<td>4,626</td>
<td>29,719</td>
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<tr>
<td>PC Shared Revenues</td>
<td>22.24</td>
<td>13.76</td>
<td>33.37</td>
</tr>
<tr>
<td>PC Other State Aid Prop. Taxes as Pct. GF Revs</td>
<td>250.96</td>
<td>75.85</td>
<td>287.86</td>
</tr>
<tr>
<td>Fee Burden</td>
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<td>0.09</td>
<td>0.50</td>
</tr>
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<td>Levy Burden</td>
<td>2.20</td>
<td>1.98</td>
<td>5.00</td>
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<td>Cases</td>
<td>8.22</td>
<td>1.82</td>
<td>14.02</td>
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</tbody>
</table>

Of particular interest to this study is how administrators and executives have responded to the imposition of the TEL on property taxes. To do this we estimate models with the data grouped into pre- and post-TEL periods and look for changes in estimated coefficients. Consider the pre-TEL period estimated with the pooled OLS estimator. The estimated coefficient for administrators is 0.2582 and not statistically significant; for executives the coefficient is -0.5114 and is statistical significant. Now consider the post-TEL pooled estimator results. The coefficient on county administrator increases to 0.5782 and is statistically significant. The coefficient on the presence of a county executive decreases to -1.6437 and the statistical significance level also increases. For the pooled OLS results, there is sufficient evidence to suggest that the imposition of the TEL has reinforced the behaviour of both county administrators and executives. Within the broader
theoretical framework, the findings suggest that elected executives were more responsive to public (and political) pressure for lower property tax burdens following adoption of the TEL.

**Local-Option Taxes**

The adoption of the local sales-tax appears to have resulted in higher property tax burdens and the impact differs little before and after the county TEL. The findings appear to contradict the legislative intent as the statute requires that sales tax revenues be used for property tax reduction. Apparently, WI counties that adopted the sales tax treated it simply as a new source of revenue. Finally, while not central to our research question, the results add to the growing debate about the relationship between revenue diversification and tax burdens (Hendricks, 2002; Carroll, 2009).

Table 2.
**Modeling Results for Wisconsin Counties**

<table>
<thead>
<tr>
<th></th>
<th>Pre-TEL Pooled</th>
<th>Random</th>
<th>Post-TEL Pooled</th>
<th>Random</th>
</tr>
</thead>
<tbody>
<tr>
<td>Intercept</td>
<td>0.8664</td>
<td>-0.6478</td>
<td>1.9175</td>
<td>6.3359</td>
</tr>
<tr>
<td></td>
<td>(0.70)</td>
<td>(0.29)</td>
<td>(1.36)</td>
<td>(2.27)</td>
</tr>
<tr>
<td>Property Tax Limit</td>
<td>0.7073</td>
<td>0.3911</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td></td>
<td>(3.57)</td>
<td>(0.71)</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>Sale Tax</td>
<td>3.0558</td>
<td>2.6306</td>
<td>3.0273</td>
<td>2.6839</td>
</tr>
<tr>
<td></td>
<td>(19.12)</td>
<td>(14.46)</td>
<td>(17.26)</td>
<td>(15.51)</td>
</tr>
<tr>
<td>Percent of the</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Age 0-17</td>
<td>-17.3704</td>
<td>-4.7362</td>
<td>20.8324</td>
<td>35.0944</td>
</tr>
<tr>
<td></td>
<td>(5.16)</td>
<td>(0.81)</td>
<td>(4.96)</td>
<td>(3.74)</td>
</tr>
</tbody>
</table>

Finally, while not central to our research question, the results add to the growing debate about the relationship between revenue diversification and tax burdens (Hendricks, 2002; Carroll, 2009).
Table 2 Cont.

<table>
<thead>
<tr>
<th></th>
<th>Pre-TEL</th>
<th>Post-TEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Pooled</td>
<td>Random</td>
</tr>
<tr>
<td>Per Capita Income</td>
<td>0.0004</td>
<td>-0.0001</td>
</tr>
<tr>
<td>Per Capita State Shared Revenues</td>
<td>0.0514</td>
<td>-0.0364</td>
</tr>
<tr>
<td></td>
<td>(15.69)</td>
<td>(6.45)</td>
</tr>
<tr>
<td>Per Capita State Highway Aids</td>
<td>0.0266</td>
<td>-0.0035</td>
</tr>
<tr>
<td></td>
<td>(4.14)</td>
<td>(0.68)</td>
</tr>
<tr>
<td>Per Capita Heath and Human Services Aids</td>
<td>0.0379</td>
<td>0.0232</td>
</tr>
<tr>
<td></td>
<td>(31.63)</td>
<td>(15.20)</td>
</tr>
<tr>
<td>Revenue Diversity</td>
<td>33.4788</td>
<td>26.1361</td>
</tr>
<tr>
<td></td>
<td>(32.77)</td>
<td>(19.74)</td>
</tr>
<tr>
<td>County Administrator</td>
<td>0.5298</td>
<td>0.0159</td>
</tr>
<tr>
<td></td>
<td>(3.45)</td>
<td>(0.02)</td>
</tr>
<tr>
<td>County Executive</td>
<td>-1.5259</td>
<td>-3.7055</td>
</tr>
<tr>
<td></td>
<td>(7.19)</td>
<td>(4.62)</td>
</tr>
<tr>
<td>Adjusted R²</td>
<td>0.8091</td>
<td>0.4665</td>
</tr>
<tr>
<td>n</td>
<td>1330</td>
<td>1330</td>
</tr>
</tbody>
</table>
Intergovernmental Aid

The role of inter-governmental aid had mixed effects on county revenue burdens and remains unchanged before and after the TEL. Consistent with previous work on the relationship between municipal shared revenues and municipal spending in Wisconsin (Deller and Maher 2005, 2006 and Deller, Maher and Lledo, 2007), the relationship between per capita shared revenues and tax and general fund own-source revenue burdens is negative. Thus, the more shared revenues a county receives, the lower its burden on local residents. This result does not appear to change when we estimate separate models using pre- and post-TEL data.

Conversely, per capita health and human services (HHS) are positively related in all models. Based on the growth trends in health and human service expenditures relative to aids received, it appears that property tax burdens are increasing to keep up with the costs of these mandated services.

The third major source of state aids for county governments in Wisconsin are highway aids. In Wisconsin the top three categories of expenditures in order are: 1) health and human services; 2) sheriff-jail-courts; and 3) highway services. Unfortunately, our results on the impact of highway aids per capita on property tax burdens are somewhat inconsistent. The pooled OLS and random effects estimators for the whole period models provide inconsistent results with the OLS result positive and significant and the random effects negative but statistically insignificant. With the pre-TEL model the two estimators yield positive and statistically significant results which is consistent with the health and services aids result. But in the post-TEL model the coefficient is only statistically significant in the pooled model. It is not clear why highway aids would have a positive impact on property tax burdens pre-TEL and marginal influence post-TEL.
Revenue Diversity

Finally, our measure of revenue diversity (levy as a percentage of own-source GF revenues) was positively associated with property tax burdens and changed little before and after the imposition of the TEL. The finding suggests that the less diverse a county’s revenue structure (the larger the levy as a share of total general fund revenues), the greater its revenue burden. While opposite of our hypothesis, the finding is consistent with the work of Pagano and Johnston (2000). Our findings as well as those of Pagano and Johnston suggest that counties with more diverse revenue streams have lower tax burdens and have the added advantage of exporting a portion of the tax burden (sales) to non-residents. It therefore appears that the relationship may be capturing the benefit of opting for a sales tax (greater diversity) than downward pressure on tax burden caused by increased reliance on property taxes.

Control Variables. The two control variables, percent of the population under age 18 and per capita income, both perform reasonably well. A higher share of the population that is young appears to have a strong negative impact on property tax burdens particularly before the imposition of the TEL. It is not clear why the strong negative relationship would weaken after the TEL was put in place. Per capita income has a negative impact on property tax burdens in all three time periods examined and the imposition of the TEL does not appear to have altered that negative relationship.

CONCLUSIONS

The results of this study, while specific to Wisconsin counties, add to a growing body of literature on structural influences and policy outcomes. Within the context of government structure, the evidence demonstrates that form affects fiscal outcomes and the imposition of an
artificial property tax limit (TEL) can alter those outcomes. While this study revealed that county executives tended to have lower tax burdens, it remains unknown whether this is a result of progressive reform and greater accountability as described by Cigler (1995) or simple political calculations by elected officials knowing property taxes are least liked by constituents. Similarly, what does the positive relationship between county administrator structures and property tax burden following the TEL suggest? We offer that the relationship reflects the nature of the TEL in Wisconsin and administrative fiscal responsibility. The Wisconsin county TEL means that not levying to the limit one year sets back a county’s ability to raise levies in subsequent years. This is a response we have heard from several Wisconsin county administrators and is consistent with the findings of Springer, et al. (2009). Such a relationship between administrators and property tax burdens does not run counter to Cigler’s work, it, in fact, supports the assertion that they bring greater accountability. On one hand, accountability can be defined in political terms – elected executives are more responsive to political pressure for tax relief – whereas administrators may be acting more financially responsible by maintaining revenues within levy constraints.

In addition to our central research question, the findings shed light on several additional policy issues. Much of the existing literature describes how the imposition of an artificial limit (i.e., TEL) on the property tax would result in a shift away from the property tax to other unrestricted revenue sources. This does not appear to have happened in Wisconsin; property tax burdens were not lowered following the imposition of the TEL, rather they increased. One explanation for the finding could be in the design of the Wisconsin TEL. The statute essentially froze the county rate, not the levy (Kava and Olin, 2007). Between 1987 and 1993, the average annual rate of growth
in Wisconsin county equalized values was more than one percentage point lower than that between 1993 and 2005. In essence, much of the boom in the real estate market occurred post imposition of the TEL. Thus, if simply looking at property tax rates, levies could grow at a faster rate following the TEL and rates would not have changed.

Another state policy that appears to have unintended consequences is the local-option sales tax. The statute giving counties this authority was justified solely for the purpose of reducing tax burdens. This does not appear to have happened. The adoption of a sales tax is positively related to tax burdens in Wisconsin counties. Not only does this raise policy questions, it also adds to the revenue diversification literature. For instance, Hendrick’s (2002) work on revenue diversification in Illinois municipalities suggests that greater diversity results in lower overall tax burdens. Lowering tax burdens in counties may be more difficult given the limited fiscal flexibility and state service mandates Cigler (1995). This could be the case in Wisconsin. For example, county health and human service aids have not been keeping up costs and thus, tax burdens (largely property taxes and, where adopted, sales taxes) have been rising to keep pace. Given that health and human services are the single largest expenditure of Wisconsin counties, the shift to own sources of revenues and hence burden is understandable. This is further supported by the positive relationship between health and human service aids and property tax burdens. We contend this finding is a function of service expenses outpacing levels of aids received by the state, resulting in greater local revenue effort to fill the gap7.

7 There may also be cost-shifting occurring between government layers. For instance, State statutes limit the growth in GPR program expenses (excluding education and debt service) which could result in lawmakers shifting costs to counties and municipalities.
Interestingly, it appears that the one state policy that has had a direct impact on the reduction of county tax burdens is shared revenue payments. The results were consistent; counties that received more per capita shared revenue payments had lower property tax burdens. The relationship between per capita shared revenue payments and county tax burdens is particularly intriguing to us. Our earlier work on the relationship between municipal shared revenue payments and property taxes revealed the same negative relationship (Deller, Maher and Lledo, 2007). Our analysis of shared revenue payments and spending, on the other hand, consistently supported the “fly-paper” effect literature. Municipalities, more specifically cities and villages, that received greater per capita shared revenue payments also had higher per capita expenditures (Deller and Maher, 2005, 2006; Deller, Maher and Lledo, 2007). The conclusion from these studies was that there was only a partial substitution effect; aid payments partially reduced taxes and partially led to greater spending.

As is the nature of most research this study raises more questions than answers for both academics and policymakers. As argued by Cigler (1995), simply coding county organizational structure on the basis of reformed (elected executive, manager or administrator) vs. un-reformed (full or part-time coordinator) does not go deep enough in helping to understand the relationship between form of governance and policy outcomes. Additional work is also needed on the impacts of different types of TELs, as well as the relationship between fiscal structures and policy outcomes. Beyond the obvious need to extend the analysis beyond one state, an interesting question to consider is whether the structure of aid payments and design of TELs varies by type of government (municipal vs. county). This study supplies one more piece of a complex puzzle, but we maintain that the final picture of that complex puzzle is taking shape.
REFERENCES


History and Background.” Fact Sheet, Number 19, March.