State Restrictions on Local Governments and Reliance on Special Districts: Assessing the Contingent Effects of Fiscal Limitations on Municipal and County Governments

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Nearly two decades ago Nancy Burns (1994) proposed the political-economic framework that has become the dominant explanation for understanding the formation of local governments. The logic underlying her framework is that people form new governments in order to gain access to the powers attached to these units and that the choice between a municipal and special district government hinges on whether or not its proponents seek zoning powers. The power to exclude people or activities from the jurisdiction through zoning policies is virtually the only power remaining exclusive to general-purpose local governments and Burns concluded that when this power was desired, forming a municipal government was the logical choice. This rationale is compelling for explaining why proponents of a new government would choose to form a municipal government instead of a special district when exclusion powers are sought, but it is less useful for explaining the more general case where the powers sought are available from both forms. For instance, what is the logic underlying this choice in the most general case, when the objective is to gain access to public services?

This work is largely directed at this latter question. Where local actors seek to gain or enhance service delivery, how this is achieved depends on the extent to which state legislatures empower (or restrict) the ability of existing general-purpose governments to meet these demands. Special districts, along with counties and municipal governments (which may include villages and/or towns, and in several states, townships), operate as a system of local government. Historically, these different types of government functioned as complementary elements within this system. However, over time state legislatures have created an environment in which local governments are empowered to act as service delivery competitors, where demands for expanded

services may be met by county, municipal, township, and special district governments (Carr, 2004; Stephens and Wikstrom, 1998). Given this, restrictions on any one type of local government likely affect its attractiveness relative to available substitutes for these services and, consequently, the general-special-purpose government choice.[1] Local government scholars have long suspected that home rule provisions have impacts far beyond their basic role of defining the powers permitted to particular types of local government (Bollens, 1986; Feiock and Carr, 2001; Miller, 1981), and the notion that these provisions may have important implications for a state's local government structure is fast approaching conventional wisdom (Lewis, 2000). This outcome has been termed the "unintended consequences" of restricting local government autonomy (Bowler and Donovan, 2004).

In the period since Burns published her framework, others have used her ideas to examine the link between the autonomy provided to local general-purpose governments and the formation of special district governments (e.g., Foster, 1997; McCabe 1997, 2000; Carr, 2006). These works generally share a "circumvention" thesis that explains reliance on special district governments as, at least in past, a means to circumvent restrictions on municipal governments. In these works, general-purpose provision is presumed to be the default position and locals turn to special districts when this option becomes less attractive for meeting service demands. The explanation follows this logic: Local actors make demands for public services that can be met in several different ways. Locals have a choice because the rules of the game in the form of the state laws and constitutional provisions defining home rule for municipal and county governments and the many laws enabling special districts often create an environment that permits actors to choose the local government option that best suits their needs and resources. The powers authorized to municipal and county governments and the ease by which these basic

powers may be expanded or restricted are an important basis for choosing between these general-purpose governments. Likewise, the many enabling laws establishing the powers, decision-making structure, and formation process for different types of special districts governments greatly affect the costs and benefits of this option. Local government officials, property owners, and the general public react to the incentives in these laws to initiate and approve these changes to the local government landscape.

Kathryn Foster's study, *The Political Economy of Special Purpose Government*, is the best known of this work. The conceptual framework she developed in this book has become the dominant framework for thinking about the interaction of local politics, general-purpose government autonomy, and special-purpose government boundaries.[2] In this work, she articulated a set of motivations for why locals opt for services through special districts that move us far beyond simple discussions of meeting services demands. She proposed that special districts of differing geographic subtypes may also be vehicles for targeting benefits to specific parties (subcounty), for political and fiscal capitalizing (municipal- and county-coterminous), and for collaborating on services with scale economies and on activities affecting multiple jurisdictions (multi-county).[3]

With this study, we offer two fundamental improvements over previous efforts. First, most of this work has used states (e.g., McCabe, 1997, 2000; Carr, 2006) or metropolitan areas (Foster, 1997) as the unit of analysis. We examine this topic using counties as the unit of analysis. This topic is often examined at the state level because the researcher is interested in understanding how state grants of autonomy to municipal and county governments have shaped the incentives for local actors to use special district governments for the provision of public services and public and private infrastructure. A substate analysis more effectively controls for

variations in key service demand indicators that have localized effects, such as population

change, economic growth, and per capita income.[4] For factors such as these, statewide averages

are not particularly informative for understanding the choice locals make between general and

special-purpose governments in communities throughout the state.

Second, we examine the effects of these state-imposed fiscal restrictions on both county

and municipal governments. With the exception of McCabe (2000), past studies have overlooked

the role played by the autonomy states permit to county governments in decisions to form special

district governments. This omission excludes the effects of limitations on one of the most

important service providers in the region. Also, focusing solely on municipal autonomy (or even

just county autonomy) ignores the likely contingent effects of these limits on the other.

Understanding how these limits interact is important to assessing the circumvention arguments

underling much of the literature on this topic.

The next section briefly reviews the literature examining how variations in grants of

fiscal autonomy to local general-purpose governments are expected to affect the incentives local

actors face for choosing special district governments. The subsequent section presents an

empirical analysis of the link between indices of tax, expenditure, and debt limits and the

number of district governments in 500 randomly selected counties. We follow Foster's approach

to categorizing district governments into four distinct geographic subtypes and estimate separate

models for each subtype. The analysis provides strong support for the proposition that the level

of autonomy states provide general-purpose governments is linked to the number of special

district governments in their counties. It also provides strong evidence for the contingent effects

of fiscal home rule. Limits on the fiscal autonomy of one type of these two forms of general-

purpose government affects the relationship between the severity of fiscal restraints and the use

of districts of the other form of government. The findings reveal a more complex circumvention story than is generally understood.

Fiscal Restrictions on G-P Governments and Special Districts

Efforts to examine the linkage of fiscal limits to the formation of new district governments really began with Susan MacManus's (1981) analysis of tax and borrowing restrictions on local governments on the increase of property-tax-based districts in the south. Analyzing the increase in property-tax-based special district formations in ten southern states, she found that both property tax and borrowing restrictions were positively correlated with increases in the numbers of these districts. These bivariate correlations provided early, albeit weak, evidence for the argument that local governments use special districts as a way to circumvent these restrictions. Similarly, the most recent work on this topic also concluded that special district governments are a means to circumvent fiscal constraints. Bowler and Donovan (2004) found that those states adopting tax and expenditure limitations relied more heavily on special districts than those states without these restrictions, but only if the state permitted ballot initiatives that were relatively easy to use. They concluded that the credible threat of anti-tax groups being able to put limitations on the ballot gives states an incentive to adopt a wider range of fiscal innovations. Among the innovations states might consider are various types of special district governments, home rule charters permitting more fiscal autonomy, and the removal of barriers to services contracting.

In the most comprehensive study of special district formation to date, Foster (1997) examined the role of several different measures of municipal autonomy in stimulating the creation of these governments. Her analysis examined counts of special districts in metropolitan

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areas. Like MacManus, she found that those states imposing debt limits also had a greater

reliance on special district governments. However, in contrast to MacManus she found that

heavy property tax limits on municipal governments reduced metropolitan reliance on special

district governments. She largely attributed this result to a recognition by local government

officials that those tax limits placed on municipal governments are generally reflective of an

anti-tax sentiment for all types of local governments, a conclusion that is somewhat at odds with

Bowler and Donovan's contention about anti-tax sentiments encouraging the participants to seek

out fiscal innovations, such as special district governments.

     McCabe (1997, 2000) has conducted the broadest examination of fiscal home rule and

special district formations, going beyond property tax and debt constraints to include expenditure

limits and sales and income tax measures. Her work has lent additional support to the notion that

special districts are vehicles to circumvent fiscal constraints. She confirmed the earlier findings

that debt limits generally increased the likelihood that more special district governments are

formed in a state. Also, she found that those states imposing tax and expenditures limitations on

municipal governments were more likely to experience special district government formations.

Yet McCabe's most important contribution to this literature was her inclusion of measures of

county autonomy in her model. Despite the obvious role played by county services in the

general-special-purpose government decision, measures of county autonomy have been absent in

previous works. McCabe included a broad measure of county home rule and two measures of

county fiscal autonomy, whether or not county governments were empowered to enact income

and sales taxes, in her model. Her findings suggest an important role for county powers in

explaining district formations. She showed that states permitting county home rule were less

likely to see districts formed. States permitting counties, but not municipalities, to impose sales

and income taxes were also less likely to form new districts. Yet where these same taxing powers were provided only to municipal governments, or to both municipal and county governments, the probability that special district governments were formed increased.

Paul Lewis (2000) provides a contrasting view on the role of fiscal restrictions in encouraging reliance on special district government. He examined the effect of California's property tax limitation Proposition 13 on local government structure in the state, finding that Proposition 13 did not alter existing patterns of growth in municipal and special district governments. He concluded that California's local government structure had been remarkably stable over time and suggested this was because local governments are often able to adapt to changes in their fiscal environment without resorting to the creation of new local governments.

Hypotheses, Data, and Method of Analysis

This study examines two sets of questions. The first is the most straightforward extension of previous efforts. What is the relationship between limits on fiscal autonomy for county and municipal governments and the use of special-purpose governments? The literature is somewhat mixed on this question, but we presume that restrictions on local fiscal autonomy are expected to be associated with a greater reliance on special district governments, as public officials, property owners and local residents turn to special districts to circumvent these limitations. The second set of hypotheses focuses on the combined effects of municipal and county home rule on the use of special district governments. We propose that counties in states with more restrictive TELs and debt limits will have greater numbers district governments than those counties with less restrictive policies. However, an open question is what is seen when the fiscal restrictions on counties and municipal governments are examined simultaneously. What happens under

differing combinations of levels of these two forms of restrictions? For example, do highly

restrictive fiscal limitations on both cities and counties encourage circumvention behavior or do

they instead interact to reduce reliance on special district governments? These questions have not

been adequately addressed in previous works.[5]

Model and Data

We examine these questions through an analysis of the number of special district governments

within 500 randomly selected counties in 2002.[6] Following Foster, five different measures of the

number of special district governments in each county are used: special district governments of

all geographic types, subcounty districts not coterminous with a municipal government, districts

coterminous with an underlying municipal or county government, and district governments

spanning areas in multiple counties.[7] We do not offer specific propositions for how fiscal

restrictions relate to specific subtypes. We simply assume that Foster is correct and that the

different geographic subtypes are both instruments for meeting service demands when general-

purpose avenues are limited and for providing other kinds of benefits to those who seek their

creation.

Each model includes three groups of explanatory variables: The first group is comprised

of measures of state-imposed fiscal restrictions on county and municipal governments. These

indices measure the restrictiveness of (1) tax and expenditure and (2) debt limitations imposed

on county and municipal governments by the state constitution or statute. The second group is a

pair of interaction terms examining the combined effects of the fiscal autonomy permitted to

municipal and county governments in the state. The multiplicative interaction terms permit an

important, yet typically overlooked, aspect of the circumvention question and are necessary to

identify the effect of limitation on one type of local general-purpose government on the "circumvention" potential of the restrictions on the other type of government. Finally, the models include several control variables to capture variations in state laws that affect the range of service delivery alternatives available to local actors, local demographics, and other factors. Table 1 presents the specific variables included in the analysis and describes the coding and source(s) for each.

Insert Table 1 about here.

The relationship between the level of fiscal constraints imposed on general-purpose governments and reliance on special district governments is analyzed using count models. Each model was initially estimated assuming a Poisson distribution. For some of the models, however, overdispersion in the dependent variable indicated that the data were a better fit to a negative binomial distribution (Long and Freese, 2006).[8] Additionally, several of the dependent variables are characterized by relatively large numbers of counties with zero districts. To account for these "excessive" zeros, these models are estimated using zero-inflated count models (Long and Freese, 2006). Counts of districts in different counties within the same state are not completely independent due to the effects of a shared state statutory environment. Given this, the standard errors in each model are clustered by state and robust standards errors are used.

Discussion and Analysis

The analysis is presented in two parts. First, we discuss the findings of the baseline models presented in tables 2 and 3. Next, we discuss the findings of the contingent models presented in

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tables 2 and 3 through an analysis of the figures presenting the marginal effects of our four key

theoretical variables. The marginal effects plots are presented in figures 1-20 because the

coefficients for the interaction terms shown in tables 2 and 3 do not convey marginal effects over

a substantively meaningful range of the contingent variables (Brambor, Clark, and Golder,

2005). The dashed lines in the figures indicate significant contingent effects at the 90 percent

confidence level.

Baseline Models

The purpose of the baseline models is to illustrate the unconditional marginal effects of the

measures of state-imposed fiscal limitations on county and municipal governments on the

number of special district governments in the counties in our analysis. Excluding the interaction

terms from the models enables us to assess the strength of this relationship for our four key

variables of interest (Brambor et al, 2005).

The models show a generally consistent pattern of relationships among the key variables

across the five models. More restrictive TELS on county governments are statistically related to

the number of specific district governments in the counties studied, regardless of the specific

geographic subtypes. Thus, the counties in states with more restrictive TELs have greater

numbers of special districts than the counties in states with less restrictive policies. In contrast,

more restrictive TELS placed on municipal governments are linked to fewer specific district

governments in the county. This relationship is negative and statistically significant in the case

of three of the models (all subtypes, countywide, and municipal coterminous) and negative, but

not significant for the other two models (subcounty and multicounty).

The findings provide less evidence that the two debt limit indices are statistically related

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to the number of district governments in the counties. Both measures are statistically related to the number of special districts in the county for only two subtypes. More restrictive limits on the use of debt by county governments are associated with greater numbers of countywide districts and fewer numbers of subcounty districts. In contrast, more restrictions on the debt of municipal governments are associated with fewer numbers of countywide districts and greater numbers of subcounty districts.

As a group, these models provide strong support for the proposition that counts of special districts can be linked the fiscal autonomy states provide to their municipal and county governments. The findings for the two indices of state-imposed TELS consistently show this link. The findings for the two debt limit measures are less consistent, but the measures are statistically related to the two subtypes (countywide and subcounty) Foster would expect to be related to restrictions on county and municipal debt limits.

The remaining variables serve as controls in the models and we do not provide interpretations of the findings. However, we note that in the case of functional home rule, this analysis provides little support for the proposition that functional home rule is related to the use of special district governments. This finding is in contrast to much of the theorizing on this topic and also to much of the empirical works on this topic (e.g., Foster, 1997).

Models Examining Contingent Effects

The analysis of the contingent effects of increases in these county and municipal fiscal limits on the numbers of the five measures of special district governments is provided in figures 1-20. The plots are produced using the GRINTER routine created for Stata by Frederick Boehmke.[9] The plots illustrate the marginal effects of a one-unit increase in X (index of fiscal restrictions on one

of the types of G-P governments) on Y (counts of special districts in the county) as Z (the index

of limits on the other type of government) is increased from its minimum to maximum value. All

other continuous variables in the model are held constant at their mean value and dichotomous

variables are set at one.

All District Governments

The first set of figures examines the contingent effects of these fiscal constraints on the use of

special district governments when all the different geographic subtypes are combined into a

single measure. Figure 1 illustrates the relationship between the county TEL index and special

districts when the county index is increased by one and the municipal TEL index is varied across

its entire range. The finding shows that increasing the restrictiveness of TELs on the county

government is associated with an increase in use of district governments. This basic relationship

holds regardless of the restrictiveness of the TELs on the municipal governments in the county.

As the TELS imposed on municipal governments increase in restrictiveness, the stimulative

effect of the TEL on the county government is reduced.

Insert figures 1-4 about here

Figure 2 examines this question from the perspective of the potential contingent effect of

TELs on the county government on the relationship between municipal TELs and the number of

special district governments in the county. The plot shows that counties that have more

restrictive TELs on the municipal governments also have fewer district governments. However,

the figure shows the importance of examining the contingent effect of the level of TELs on the

county government on this relationship. As the restrictiveness of the TELs imposed on the county government moves from low to high, the effect of the municipal government TELs is more restrictive.

Figures 3 and 4 show a similar analysis for the indices of debt restrictions on the county and its municipal governments. In both cases, the analysis does not provide evidence of a contingent effect of the debt limits placed on one type of government on the relationship between the restrictions on debt used by the other and the number of special districts in the county. The marginal effects plot is relatively flat and is statistically insignificant across the entire range of the debt measure serving as the conditional factor.

Insert figures 5-8 about here

Contingent Effects of TELs on Municipal and County Governments

The remaining analyses focus on examining the relationships among the three factors within the different geographic subtypes identified by Kathryn Foster. Figures 5-8 show the marginal effect of a one-unit increase in the county TELs index on the number of special districts of each subtype in the county as the municipal TELs index is increased from its minimum to maximum value. The patterns are largely the same for each of the four different geographic subtypes. For each group, the relationship between the tax and expenditure limits states impose on county governments and the number of special districts in the county depends upon the tax and expenditure limits the state has imposed on its municipal governments. In each case, the contingent effect of increasing the strength of the limits on municipal governments is to reduce

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the stimulative effect of the county limits on the number of district in the county. This basic

finding holds regardless of the specific subtype examined.

Figures 9-12 assess the contingent effects of TELs on county governments on the

relationship between municipal TELs and the counts of district governments. This set of plots

shows a generally similar finding, but the confidence intervals around the estimates of marginal

effects are much wider and therefore our confidence in the estimates is lower. The strongest

evidence is for the contingent effects of county TELs on the relationship between municipal

TELS and the number of countywide district governments. For this group, county TELs exerts a

reductive effect on the relationship between municipal TELs and the number of countywide

districts across the entire range of the county TELs measure. However, the evidence for a similar

contingent effect in the case of municipal coterminous and subcounty districts is weaker. Figures

10 and 11 reveal that the county TELs has a significant contingent effect only in the upper end of

the measure. This contingent effect increases the reductive effect of municipal TELS on the

number of municipal coterminous and subcounty districts in the county, but only for those

counties in states imposing highly restrictive TELs on it county governments. Finally, the

multicounty category is the only group to show statistically insignificant contingent effects from

the county TELs across the entire range of the index.

Insert figures 9-12 about here

Contingent Effects of Debt Limits on Municipal and County Governments

The last two sets of figures examine the contingent relationship of the debt limits on county and

municipal governments on the use of special districts in these counties. Figures 13-16 show the

findings for the proposed contingent effect of restrictions placed on municipal debt on the relationship between county debt limits and the use of special districts are more varied than the findings shown for the TELs. Also, Figure 3 showed a null finding for this proposition when the four subtypes were examined as a group, but examining the subtypes separately shows something quite different. The only null finding in this group of figures is for districts that have borders coterminous with municipal governments. In the other three models, the findings show some evidence that the relationship between county debts limits and the use of subcounty, countywide, and multicounty special districts is contingent upon the severity of the restrictions placed on municipal governments. The findings for the models examining subcounty and multicounty districts are very similar. The contingent effect of increasing the severity of restrictions on municipal governments increases the reductive effect on the numbers of these two types of districts of the debt restrictions imposed on the county government, but only at the upper end of the index. The finding for the analysis examining countywide governments is substantially different and the most consistent with the circumvention thesis advanced by Foster. Here, the contingent effect of more restrictive debt limits on municipal governments is to enhance the stimulative effect of debt restrictions on county governments.

Insert figures 13-16 about here

Finally, figures 17-20 show the analysis of the proposed contingent effects of county debt restrictions on the relationship between restrictions on municipal debt and the number of these four types of district governments in the county. Once again, the only null finding in this group is for the case of districts that have borders coterminous with municipal governments. Also, once

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again, the findings for the analyses of subcounty and multicounty districts are very similar. The

contingent effect of increasing the severity of restrictions on the county government reduced the

stimulative effect on the numbers of these two types of districts from increasing the severity of

the debt restrictions imposed on the county's municipal governments. The findings for

countywide districts show a very different relationship between the three variables. Here, the

contingent effect of more restrictive debt limits on the county governments is to offset the

stimulative effect of the debt restrictions on the county's municipal governments.

Insert figures 17-20 about here

Conclusion

The literature focusing on the link between the autonomy states permit to their local

governments and reliance on special district governments in these states has yet to develop

consensus around some very basic questions. Hopefully, this research will begin to resolve some

of these fundamental questions. Our findings show strong and consistent links between the level

of fiscal restrictions states impose on their municipal and county governments and the numbers

of special district governments in counties. This work also confirms the importance of

recognizing the interaction of limits placed on these two types of general-purpose governments.

Examining the contingent effects of the limits on county and municipal governments adds

important additional information to analyses of the unconditional relationships studies in

previous works.

This research is still a work in progress. We will continue to improve our models,

particularly in terms of developing even more precise information about the fiscal limitations

placed on these governments in the counties we examined. Our data currently measure limitations imposed by the state government or through a public process at the state level that affects all municipal, county or both types of units, in the state. However, many local governments are subject to limitations in their fiscal autonomy that are imposed through changes to their charter or through local ordinances, and are not currently captured by the statewide measures of limits on taxes, expenditures, and debt used in this research.

Finally, this research confirms the importance of building on Kathryn Foster's insights about the significance of decisions made with regard to financing and geographic scope of special districts into our empirical models. Our findings show important differences between the models aggregating all the geographic subtypes into a single measure and the models examining the distinct subtypes. Analysts should refrain from studies that conceptualize special districts governments as a singular form of local government, because these studies mask importance differences among district governments.

Notes

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[1] This is a fairly general statement with some limitations in practice. In some instances, several types of governments may be sufficiently empowered to act as service delivery competitors, but in a specific circumstance, one or more options may be unfeasible or impossible. For example, a special district may be formed on property too far from an existing municipality to be annexed, or on a parcel too small (in land area or population) to support a new municipal government. Another example is that certain functions, such as seaports or airports, may have only a single possible local provider. In cases such as this, a regional special district–and not county or municipal provision–may be the only feasible (or legal) avenue.

[2] We note that Foster's theoretical framework is powerful and compelling, but it remains largely untested. Her framework posits an important role in the decisions local make to motivations based on benefits arising from the particularizing, capitalizing, and regionalizing characteristics of sub county, municipal-coterminous, county-coterminous, and multi-county districts, but her empirical models do not include measures of these benefits. Instead, her models include the more conventional measures of legal factors and services demand.

[3] However, if particularizing, capitalizing, or regionalizing objectives motivate district formation, the autonomy provided to general-purpose governments may be of less consequence. Instead of circumvention activities driving the decision, local politics and the cost characteristics of the services in question may be far more important to understanding the choices locals make. In meeting the kind of objectives suggested by Foster, local actors may opt for special district provision even when the municipal or county government has sufficient autonomy to provide the desired services. At a minimum, Kathryn Foster's framework suggests that local government autonomy is only part of the story of why locals might choose district provision of services. She argued that legal explanations are necessary, but not sufficient predictors of local government structure: [L]egal structures, although clearly consequential, do not alone drive the institutional choices of public officials, residents, or developers. State-based legal attributes cannot explain intrastate differences in the distribution of districts. Faced with an identical set of legal parameters, government actors within the same state may make different choices about local-government structure and the implementation of public services (p. 143).

[4] A state level analysis is also unable to effectively capture key differences in autonomy provided to local governments of the same type within states.

[5] Carr (2006) is the only previous work to examine these questions. However, this study is limited in a couple of key ways. It uses states as the unit of analysis. Also, this study makes several errors in estimating and interpreting the effects of the interaction terms in the model.

[6] The sample of 500 counties is drawn from a universe of 3034 counties stratified by the following population groupings: Under 10,000 (47 of 91); 10,000 to 24,999 (86 of 869); 25,000 to 49,999 (83 of 638); 50,000 to 99,999 (77 of 383); 100,000 to 249,000 (71 of 272); 250,000 to 499,999 (51 of 110); and Over 500,000 (47 of 91).

[7] Analyses focusing on Foster's second dimension, modes of financing district activities, are not included because the Census of Governments did not report this information in 1997 and 2002.

[8] The event count models were estimated using STATA 10.0. See Long and Freese (2006) for an excellent discussion of the range of the issues encountered in analyses of count data.

[9] Grinter is available at http://www.fredboehmke.net.

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Table 1: Description of Variables, Measures, and Sources of Data

	Mean	Variance	Min.	Max	Variable Description	Data Source
Dependent Variables						
All special districts	17.14	810.65	0	430	Number of independent special district governments of all geographic subtypes in county.	U.S. Census Bureau, 2002
Countywide districts	1.97	2.8	0	10	Number of independent special district governments in county with boundaries coterminous with the county government.	U.S. Census Bureau, 2002
Municipal coterminous districts	2.49	20.82	0	49	Number of independent special district governments in county with boundaries coterminous with a municipal government.	U.S. Census Bureau, 2002
Subcounty districts	10.28	572.44	0	408	Number of independent sub-county special districts in county. Subcounty districts are not coterminous with municipal governments.	U.S. Census Bureau, 2002
Multicounty districts	2.27	13.01	0	38	Number of independent special districts in county spanning across more than one county.	U.S. Census Bureau, 2002
State Fiscal Constraints						
County TELS (tax and expenditure limitations) index	5.37	5.76	0	11	Additive index capturing binding county TELS. This variable starts out at zero and gains two points for each potentially non-binding constraint and three for each potentially binding constraint (eleven indicates most binding). Categories include overall property tax limit, specific tax limit, property tax revenue limit, assessment limit, general revenue and expenditure limits, and full disclosure.	Mullins and Wallin, 2004.

Municipal TELS (tax and expenditure limitations) index	5.17	7.02	0	11	Additive variable capturing binding municipal TELS. This variable starts out at zero and gains two points for each potentially non-binding constraint and three for each potentially binding constraint (eleven indicates most binding). Categories include overall property tax limit, specific tax limit, property tax revenue limit, assessment limit, general revenue and expenditure limits, and full disclosure.	Mullins and Wallin, 2004.
County debt limits index	2.41	0.564	1	4	Additive variable capturing binding county debt restrictions. This variable starts out at one for least binding and gains a point for each additional constraint (four indicates the most binding). Categories include millage rate limits, referendum limits, general obligation bond limits, and purpose debt limits.	ACIR, 1993
Municipal debt limits index	2.3	0.616	1	4	Additive variable capturing binding municipal debt restrictions. This variable starts out at one for least binding and gains a point for each additional constraint (four indicates the most binding). Categories include millage rate limits, referendum limits, general obligation bond limits, and purpose debt limits.	ACIR, 1993
Interaction of county and municipal TELS indices	33.87	809.3	1	121	Multiplicative interaction term capturing joint effects of municipal and county TELS indices.	Mullins and Wallin, 2004.
Interaction of county and municipal debt indices	6.09	13.99	1	16	Multiplicative interaction term capturing joint effects of county and municipal debt restriction indices.	ACIR, 1993

Controls						
County HR levels	1.72	0.387	1	3	Indexed variable capturing county functional home rule. Indexed none (1), limited (2) and broad (3).	Krane et. al, 2000.
Municipal HR levels	1.98	0.247	1	3	Indexed variable capturing municipal functional home rule. Indexed none (1), limited (2) and broad (3).	Krane et. al, 2000.
Special district enabling laws	1.28	0.047	0	1.64	Logged number of general enabling laws for special district governments in a state.	U.S. Census Bureau, 2002
Municipalities in county	0.34	0.048	0	1	The ratio of municipal governments to other governments within a county.	U.S. Census Bureau, 2002
County uses townships	0.363	0.231	0	1	Dichotomous variable indicating whether county uses township governments.	U.S. Census Bureau, 2002
County revenue from state per capita	0.316	0.18	0	4.85	Total county revenue per capita received from state sources.	U.S. Census Bureau, 2002
County revenue from county taxes per capita	0.363	0.363	0.008	3.4	Total county revenue per capita received from own taxing sources.	U.S. Census Bureau, 2002
County expenditures per capita	1.04	1.17	0.008	13.02	Total county expenditures per capita.	U.S. Census Bureau, 2002
Median household income	10.52	0.067	9.78	11.45	Logged median household income within county.	U.S. Census Bureau, 2000.
Logged county population 2000	4.48	1.56	0	6.53	Logged county census population.	U.S. Census Bureau, 2000.
Logged county population urban	3.84	3.49	0	6.52	Logged county census population urbanized.	U.S. Census Bureau, 2000.

Table 2: Linking TELS to Use of all Geographic Subtypes, Countywide, and Municipal Coterminous Districts

	All Subtypes		Countywide		Municipal Coterminous	
Fiscal Constraints	*Unconditional*	*Conditional*	*Unconditional*	*Conditional*	*Unconditional*	*Conditional*
Cnty TELS Index	.231 (.065)***	.268 (.068)***	.193 (.083)**	.359 (.067)***	.141 (.050)***	.214 (.060)***
Mun TELS Index	-.158 (.065)**	-.135 (.089)	-.199 (.080)**	-.078 (.086)	-.117 (.038)***	-.042 (.116)
Cnty Debt Limit Index	.015 (.241)	-.051 (.318)	.556 (.182)***	.225 (.212)	-.113 (.370)	-.284 (.659)
Mun Debt Limit Index	.148 (.257)	.120 (.283)	-.519 (.185)***	-.692 (.239)***	.325 (.378)	.217 (.357)
Cnty*Mun TELS Indices	----------	-.005 (.007)	----------	-.024 (.008)***	----------	-.013 (.013)
Cnty*Mun Debt Indices	----------	.016 (.069)	----------	.092 (.076)	----------	.048 (.138)
Control Variables						
Cnty Functional HR Index	.297 (.184)	.284 (.194)	.249 (.139)*	.196 (.109)*	.371 (.273)	.332 (.338)
Mun Functional HR Index	.085 (.196)	.061 (.197)	-.281 (.106)***	-.349 (.116)***	.264 (.270)	.201 (.262)
Nbr of SD Enabling Laws	.617 (.348)*	.577 (.341)*	1.37 (.376)***	1.13 (.406)***	-.993 (.425)**	-1.10 (.391)***
Mun Govs in Cnty	-2.91 (.247)***	-2.96 (.243)***	-.679 (.187)***	-.886 (.186)***	-1.53 (.477)***	-1.70 (.481)***
State Uses Township Govs	.052 (.194)	.042 (.192)	.056 (.098)	.006 (.084)	.767 (.219)***	.716 (.194)***
Cnty Revs from State (Pcap)	-.241 (.125)*	-.223 (.131)*	.082 (.100)	.172 (.108)	.205 (.256)	.263 (.301)
Cnty Tax Revs (Pcap)	.156 (.137)	.135 (.141)	-.079 (.098)	-.196 (.104)*	.683 (.475)	.535 (.490)
Cnty Exps (Pcap)	-.042 (.033)	-.039 (.033)	-.041 (.025)	-.026 (.028)	-.394 (.198)**	-.383 (.210)*
Hsehold Inc (Pcap)	.198 (.195)	.225 (.198)	-.145 (.156)	-.036 (.143)	-.320 (.238)	-.193 (.239)
Cnty Pop (Logged)	1.05 (.118)***	1.04 (.115)***	.475 (.080)***	.469 (.078)***	1.17 (.128)***	1.16 (.133)***
Cnty Urban Pop (Logged)	-.111 (.042)***	-.111 (.042)***	.002 (.037)	-.005 (.035)	-.188 (.055)***	-.191 (.057)***
Constant	-5.61 (2.02)***	-5.73 (2.08)***	-1.61 (1.77)	-2.14 (1.56)	-1.08 (2.71)	-1.88 (2.81)
Model	NBR	NBR	ZIP	ZIP	ZIP	ZIP
LN Alpha	.270***	.269***	5.13e-10	1.63e-08	0.587	0.555
Observations (Zero Obs)	430 (1)	430 (1)	430 (57)	430 (57)	430 (151)	430 (151)
Clusters (states)	45	45	45	45	45	45

Zero Inflation Factors						
Nbr of SD Enabling Laws	----------	----------	-31.98 (1.24)***	-34.42 (1.25)***	-1.32 (.876)	-1.32 (.871)
State Uses Township Govs	----------	----------	-5.88 (1.43)***	-7.45 (1.39)***	-.437 (.639)	-.446 (.657)
Cnty Urban Pop (Logged)	----------	----------	-.648 (.066)***	-.578 (.052)***	-.186 (.075)**	-.183 (.077)**
Constant	----------	----------	16.77 (1.05)***	17.85 (1.07)***	1.29 (1.25)	1.27 (1.23)
Model Fit/Diagnostics						
Vuong statistic	0.19	0.1	1.38*	1.38*	3.69***	3.46***
McFadden's R-square	0.166	0.167	0.15	0.161	0.308	0.311
Log likelihood	-1,415.71	-1,415.07	-668.25	-659.31	-870.05	-866.44
LR chi-square (df)	564.15 (15)***	565.41 (17)***	235.13 (18)***	253.02 (20)***	776.06 (18)***	783.27 (20)***

*p < .1, **p < .05, ***p <.01 for two-tailed tests of significance. Robust standard error is in parentheses.

Models used: NBR (Negative Binomial Regression); ZIP (Zero-Inflated Poisson Regression). Counts were estimated using a negative binomial regression analysis where the alpha parameter generated significance, a Poisson regression analysis was used otherwise. Zero inflation factors were used where the Vuong test produced statistical significance, which indicated that a standard count model was less appropriate.

Table 3: Linking TELS to Use of Subcounty and Multicounty Districts

	Subcounty		Multicounty	
State Fiscal Constraints	*Unconditional*	*Conditional*	*Unconditional*	*Conditional*
Cnty TELS Index	.230 (.076)***	.271 (.073)***	.163 (.086)*	.213 (.108)**
Mun TELS Index	-.123 (.076)	-.073 (.104)	-.087 (.072)	-.022 (.102)
Cnty Debt Limits Index	-.535 (.272)**	-.410 (.390)	-.471 (.295)	-.415 (.567)
Mun Debt Limits Index	.681 (.227)***	.727 (.312)**	.611 (.282)	.689 (.395)*
Cnty*Mun TELS Indices	----------	-.007 (.007)	----------	-.010 (.011)
Cnty*Mun Debt Indices	----------	-.037 (.094)	----------	-.031 (.148)
Control Variables				
Cnty Functional HR Index	.214 (.198)	.181 (.214)	.307 (.193)	.277 (.202)
Mun Functional HR Index	.337 (.218)	.301 (.218)	.385 (.209)*	.351 (.203)*
Nbr of SD Enabling Laws	.306 (.401)	.272 (.384)	.575 (.425)	.479 (.408)
Mun Govs in Cnty	-4.44 (.652)***	-4.47 (.647)***	-2.12 (.338)***	-2.16 (.346)***
State uses Township Govs	.012 (.195)	.004 (.191)	-.001 (.190)	-.018 (.187)
Cnty Revs from State (Pcap)	-.613 (.226)***	-.584 (.237)**	.252 (.182)	.294 (.190)
Cnty Tax Revs (Pcap)	.427 (.182)**	.414 (.199)**	-.196 (.221)	-.219 (.227)
Cnty Exps (Pcap)	-.014 (.033)	-.016 (.034)	-.245 (.095)**	-.247 (.097)**
Mdn Hsehold Inc (Pcap)	.254 (.229)	.284 (.232)	.335 (.314)	.367 (.303)
Cnty Pop (Logged)	1.28 (.229)***	1.28 (.223)***	.742 (.148)***	.744 (.145)***
Cnty Urban Pop (Logged)	-.143 (.085)*	-.146 (.084)*	-.145 (.053)***	-.146 (.052)***
Constant	-.7.53 (2.81)***	-8.05 (2.91)***	-7.95 (3.02)***	-8.42 (2.97)***
Model	ZIP	ZIP	ZINBR	ZINBR
LN Alpha	0.683	0.671	.263**	.258**
Observations (Zero Obs)	430 (64)	430 (64)	430 (122)	430 (122)
Clusters (states)	45	45	45	45

Zero Inflation Factors				
Nbr of SD Enabling Laws	-1.01 (.812)	-.992 (.821)	-1.81e+2 (1.07e+3)	-1.04e+2 (1.57e+2)
State Uses Township Govs	-.250 (.751)	-.236 (.755)	-27.22 (2.35e+2)	-10.69 (34.35)
Cnty Urban Pop (Logged)	-.285 (.114)	-.286 (.114)**	8.43 (46.32)	5.21 (6.80)
Constant	.053 (1.15)	.027 (1.17)	1.16e+2 (7.78e+2)	60.15 (1.15e+2)
Model Fit/Diagnostics				
Vuong statistic	3.08***	3.16***	1.51*	1.45*
McFadden's R-square	0.62	0.621	0.162	0.162
Log likelihood	-1,850.05	-1,845.34	-751.71	-750.89
LR chi-square (df)	6,044.88 (18)***	6,054.29 (20)***	289.59 (18)***	291.24 (20)***

*p < .1, **p < .05, ***p <.01 for two-tailed tests of significance. Robust standard error is in parentheses.

Models used: ZINBR (Negative Binomial Regression); ZIP (Zero-Inflated Poisson Regression). Counts were estimated using a negative binomial regression analysis where the alpha parameter generated significance, a Poisson regression analysis was used otherwise. Zero inflation factors were used where the Vuong test produced statistical significance, which indicated that a standard count model was less appropriate.

Figures 1-4:
Special Districts of all Geographic Subtypes

Figure 1: CNTY TELS & ALL SDS (Z= MUN TELS)

Dashed lines give 90% confidence interval.
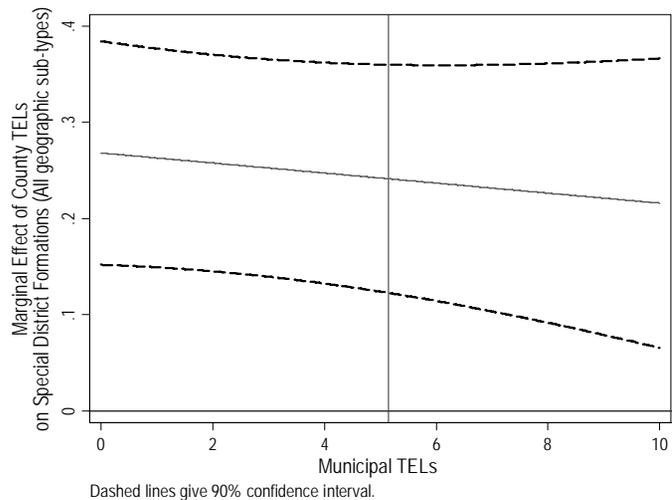
Figure 2: MUN TELS & ALL SDS (Z=CNTY TELS)

Dashed lines give 90% confidence interval.
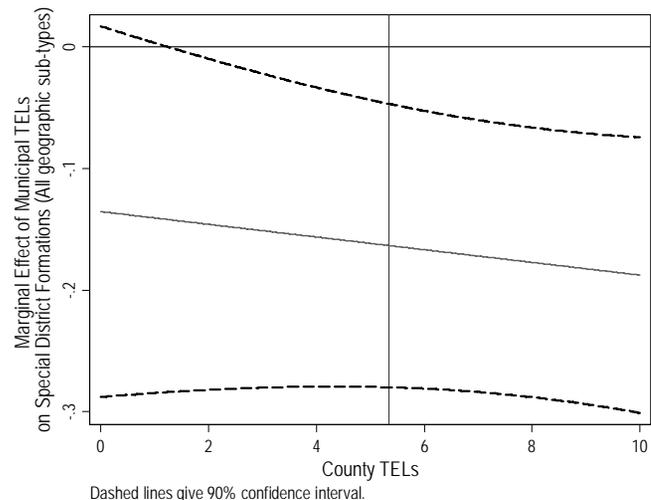
Figure 3: CNTY DEBT & ALL SDS (Z=MUN DEBT LIMS)

Dashed lines give 90% confidence interval.
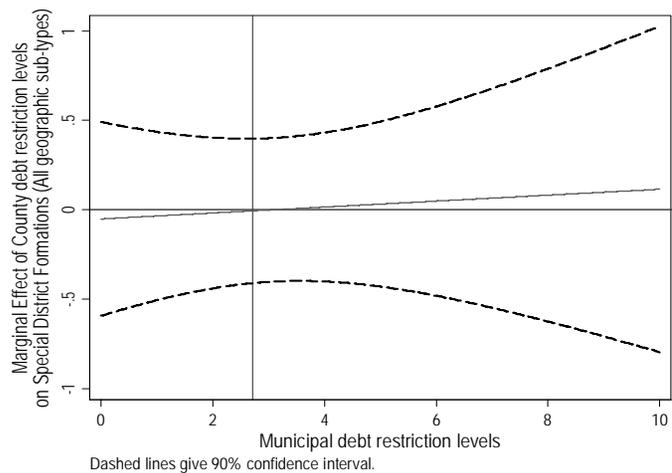
Figure 4: MUN DEBT & ALL SDS (Z=CNTY DEBT LIMS)

Dashed lines give 90% confidence interval.
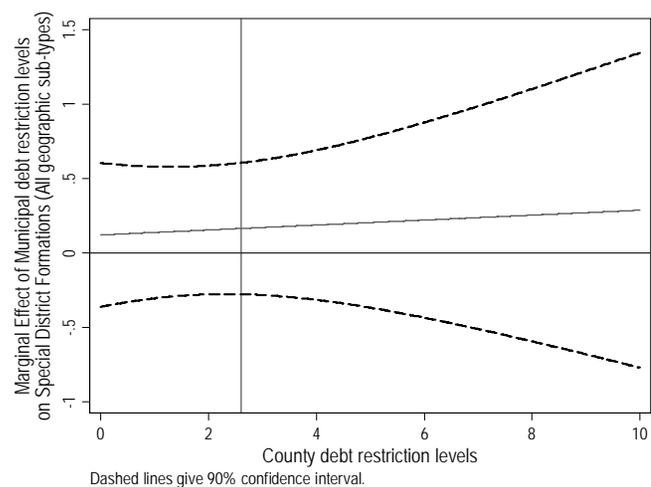
Figures 5-8:
CNTY TELS AND USE OF SPECIFIC DISTRICT SUBTYPES (Z= MUN TELS)

Figure 5: Countywide Districts

Dashed lines give 90% confidence interval.

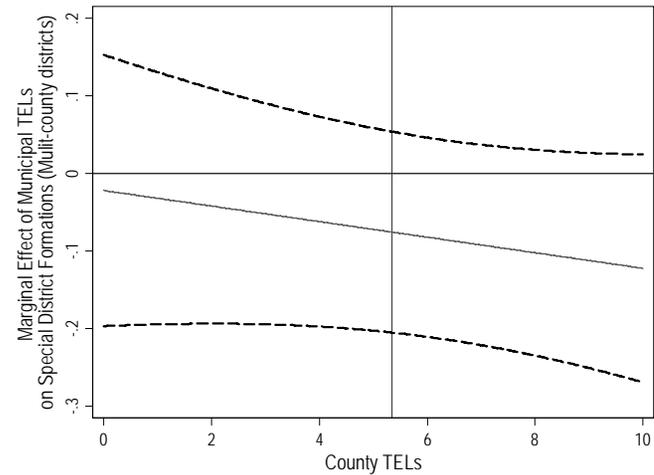### Figure 6: Muncipal Coterminous Districts
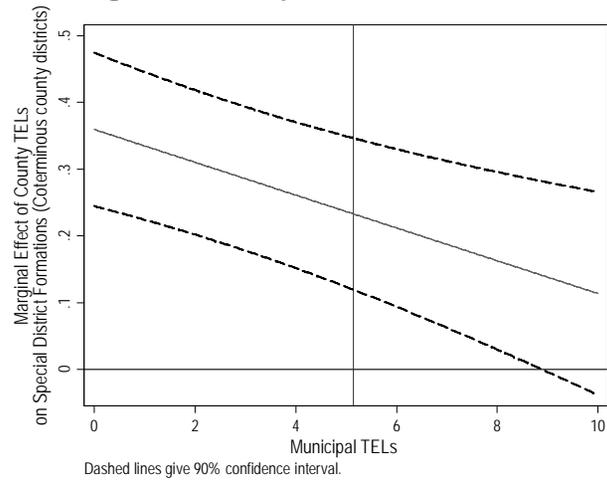
Dashed lines give 90% confidence interval.
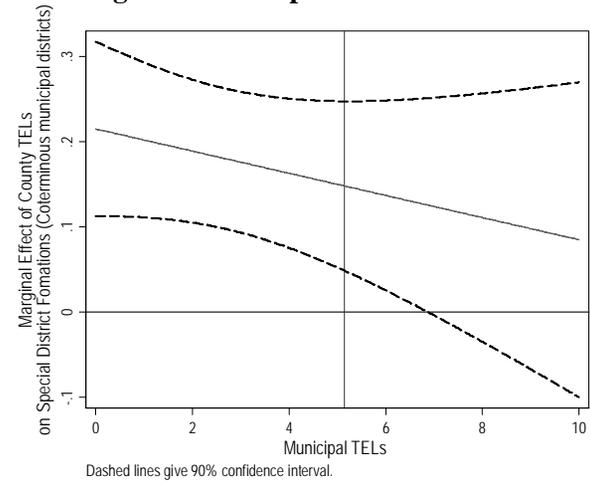
Figure 7: Subcounty Districts

Dashed lines give 90% confidence interval.
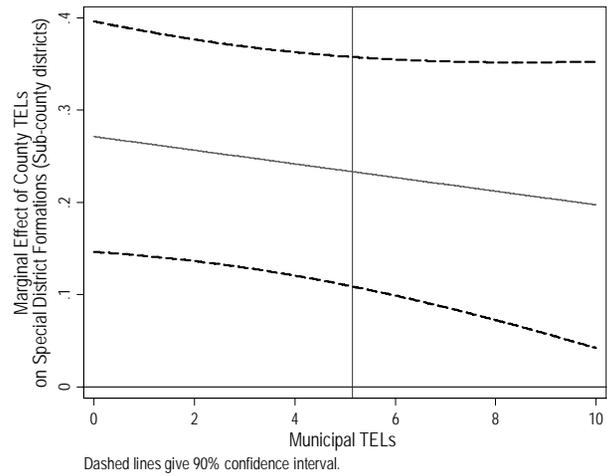
Figure 8: Multicounty Districts

Dashed lines give 90% confidence interval.
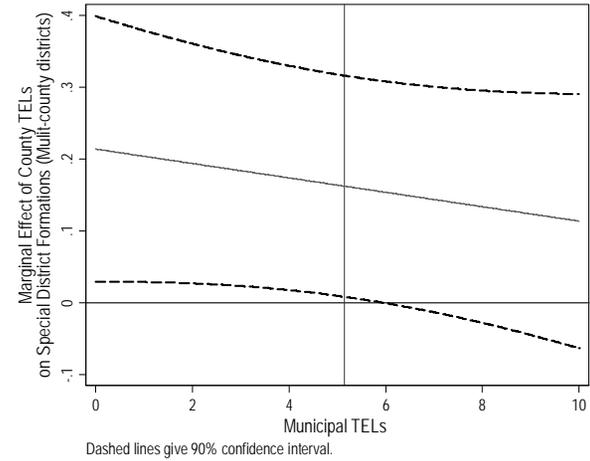
Figures 9-12:
MUN TELS AND USE OF SPECIFIC DISTRICT SUBTYPES (Z= CNTY TELS)
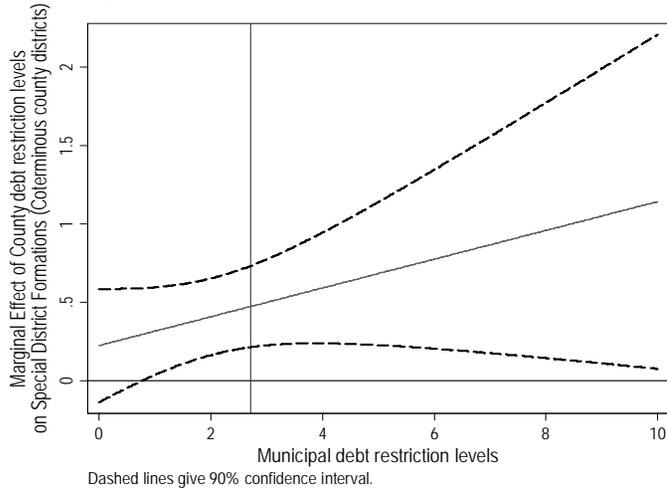
Figure 9: Countywide Districts
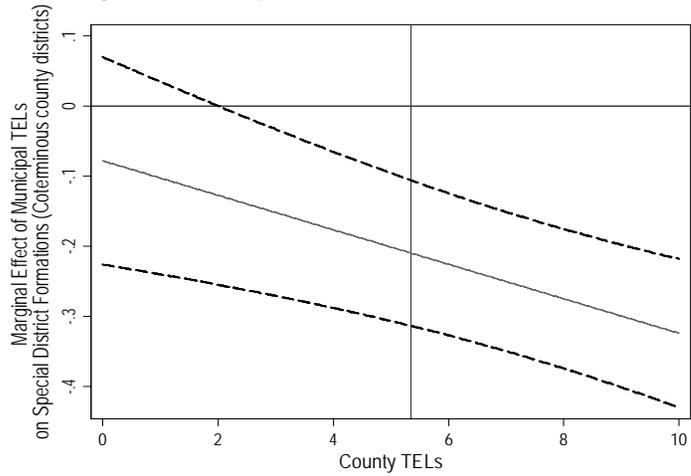
Dashed lines give 90% confidence interval.

Figure 10: Muncipal Coterminous Districts
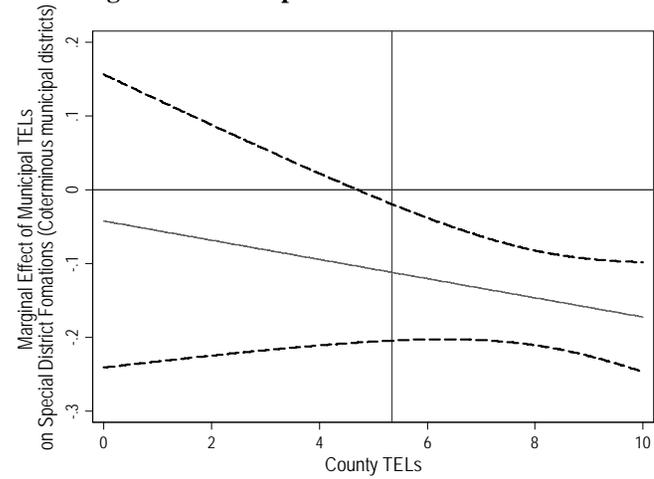
Dashed lines give 90% confidence interval.

Figure 11: Subcounty Districts
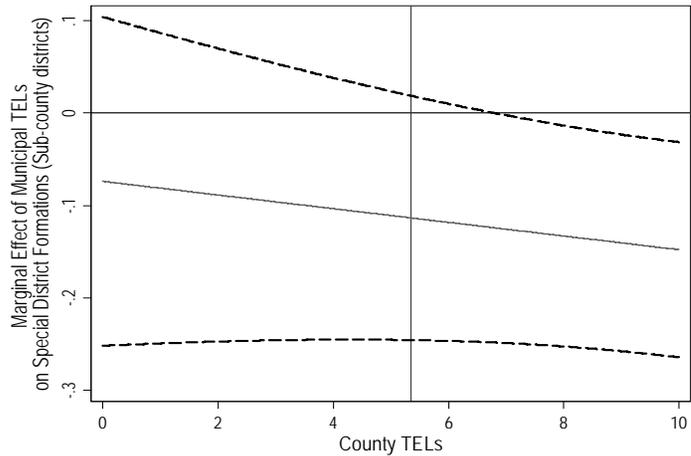
Dashed lines give 90% confidence interval.

Figure 12: Multicounty Districts

Dashed lines give 90% confidence interval.

Figures 13-16:
CNTY DEBT LIMITS AND USE OF SPECIFIC DISTRICT SUBTYPES (Z= MUN DEBT LIMITS)

Figure 13: Countywide Districts)

Dashed lines give 90% confidence interval.

Figure 14: Muncipal Coterminous Districts

Dashed lines give 90% confidence interval.
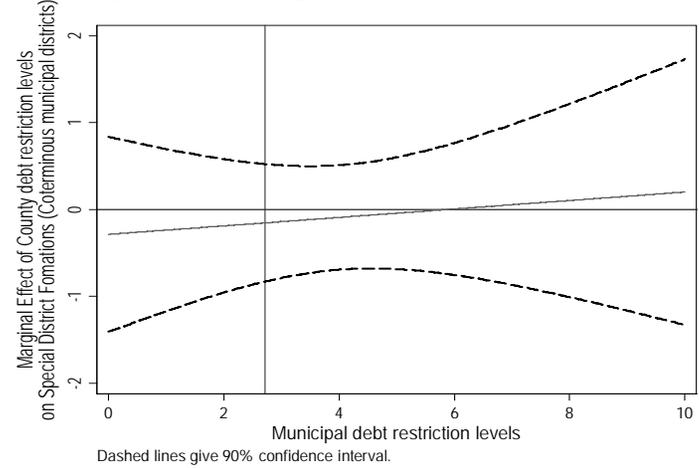
Figure 15: Subcounty Districts

Dashed lines give 90% confidence interval.
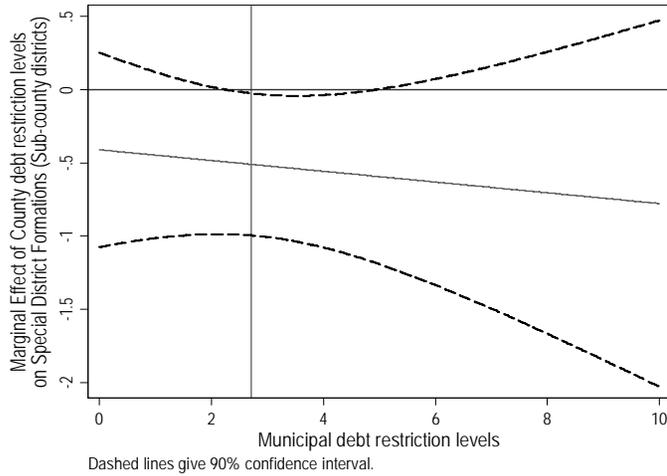
Figure 16: Multicounty Districts

Dashed lines give 90% confidence interval.
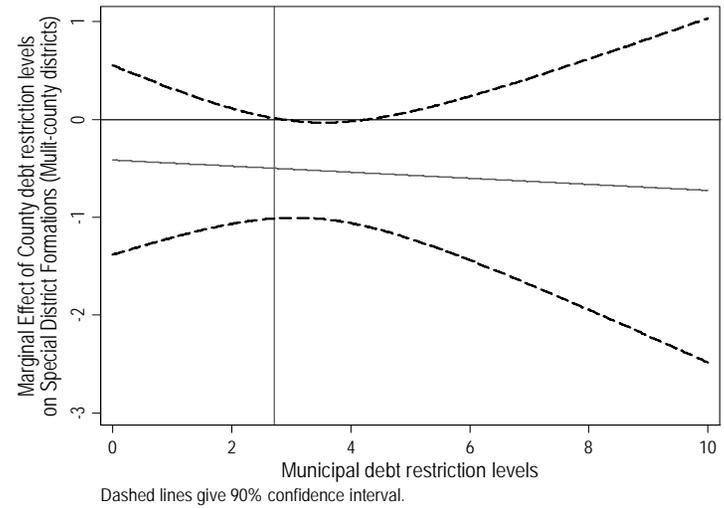
Figures 17-20:
MUN DEBT LIMITS AND USE OF SPECIFIC DISTRICT SUBTYPES (Z= CNTY DEBT LIMITS)

Figure 17: Countywide Districts

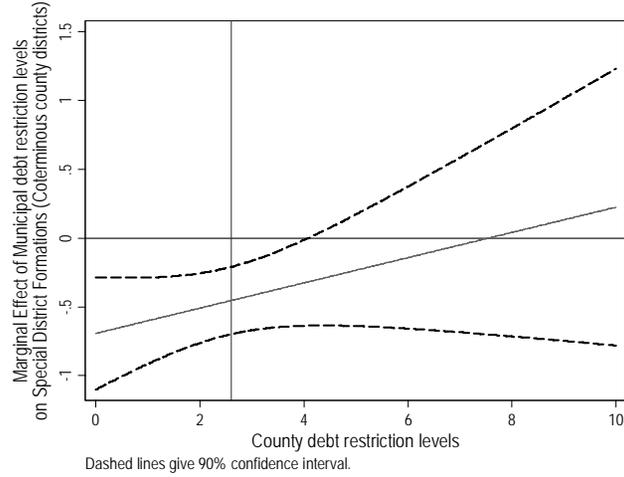Dashed lines give 90% confidence interval.

Figure 18: Muncipal Coterminous Districts

Dashed lines give 90% confidence interval.
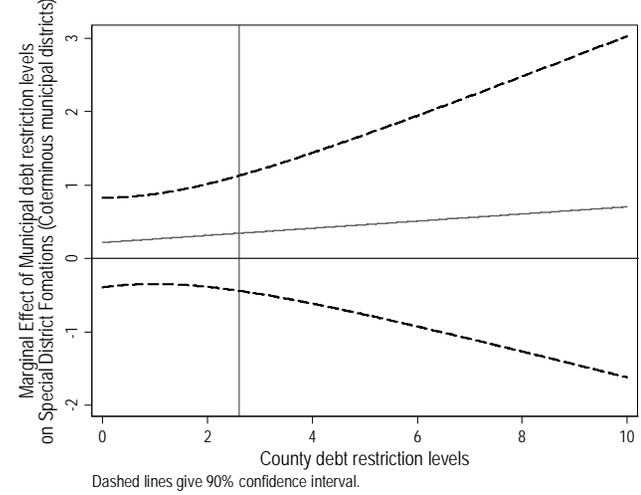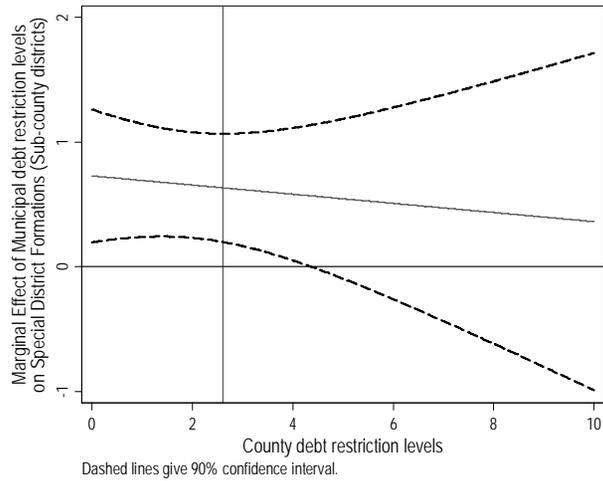
Figure 19: Subcounty Districts

Dashed lines give 90% confidence interval.

Figure 20: Multicounty Districts

Dashed lines give 90% confidence interval.