

What Lies Beneath These Creatures of the State: Understanding the Death of Specialised Governments in the U.S*

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Abstract After analysing 40 years of census data on U.S. local government change, this study finds that the dissolution of special districts (specialised governments) or “exits” in U.S. counties are largely unrelated to demand factors. Using fixed effects regression specified at the urban county level, we find that restrictions on the fiscal autonomy of cities are associated with decreases in the special district exit rate and count. There is also evidence that state grants of “broad” or “limited” functional home rule to cities increase special district dissolutions. These results largely disappear when examining subgroups of districts classified by their asset specificity. The findings are consistent with the circumvention argument made in the local autonomy literature and may indicate some service consolidation, albeit from a different perspective.

Keywords special districts, dissolution, local autonomy, boundary change

Introduction

The number, size, and form of local governments are everchanging, particularly for special districts that are typically for a single-purpose unlike their general purpose counterparts. New governments form while others dissolve. Although somewhat rarer than special district creation, district dissolution does occur. Studying the dynamics of why a government would dissolve poses interesting challenges to the field of public administration and political science surrounding who holds the power to shape future service delivery arrangements. Studying and measuring subnational dynamics also allows scholars and practitioners to understand the demand for the decentralisation of local government instead of a more centralised system and explore the value they add to service delivery. Fragmentation, instead of consolidation, has proved to be the most common way to organise governments in a metropolitan area in the United States and is further evidenced by special districts’ proliferation. However, this fragmentation and the somewhat temporary nature of special districts compared to general purpose governments increases the likelihood that these governments are abandoned. These changes are often less visible to the public than changes to broader more generalised governments. This research aims to shed light on the dynamics of hidden yet important mechanism of service delivery.

Tiebout (1956) developed one of the earliest theories about why metropolitan areas fragmented based on rational choice theory and residents “voting with their feet.” Scholars such as Burns (1994) and Foster (1997) have paved the way in developing theories of local government growth and the creation of special districts based on this seminal work. In addition, several studies have explored their work further by examining both the creation and dissolution of special districts (Bollens 1957; Leigland 1994; Bauroth 2010; Shi 2017; Goodman and Leland 2019; Moldogaziev, Scott, and Greer 2019; Zhang 2019). This study builds upon this body of literature using 40 years of empirical data paired with dissolution or “exit” metrics derived from the industrial

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organisation's literature (Goodman 2020). Fundamentally, we ask if the dissolution process is merely district creation in reverse—are the same factors important in creating a special district just as important in dissolution?

Special districts that provide critical public services, such as transportation, water management, business development and housing. Many public programs and infrastructure depend on their existence (Eger III 2005). Such governments now constitute over forty per cent of all U.S. jurisdictions (Berman and West 2012; Maynard 2013; Shi 2018). This form of local government is the largest single form of local government in the United States, with just over 38,000 units and growing (Goodman 2019). The numbers have exploded, and this form of local government has grown much larger than any other, doubling in numbers since 1952 (Goodman and Leland 2019; Shi 2018). The number of special districts is roughly twelve times larger than the number of counties and twice as large as the number of municipalities or towns/townships. Additionally, the growth over time in the number of special districts has been much higher than in other forms of local government. The growth in new special districts has slowed somewhat in recent years (since 2000) but shows little signs of abating. Or is there more to this story of growth? In any given 5-year period between 1977 and 2017, approximately 6 percent of all special districts in the U.S. and 7 percent of special districts in urban counties were dissolved, consolidated, or otherwise disappeared on average. This trend is compared against 17 to 20 per cent growth in new special districts, respectively, in any given 5-year period over the time period.¹

The sizable historical growth in special districts paired with consistent yet lower levels of dissolution suggest a churn in the market for special districts. The dissolution could reflect economic decline where fewer services are needed (Zhang 2019), especially in rural areas. This means possible changes in the demand for policy solutions or signals a need for reform and consolidation. This potential process suggests several factors that may be relevant in explaining the rate of special district dissolution in a particular area. Demand for services, state rules affecting local autonomy, and boundary change entrepreneurs are likely all influential in understanding if special districts are dissolved.

Previous research on special district dissolution can be organised into two distinct camps. The first closely aligns with the organisational mortality literature (Hannan and Freeman 1977). Individual organisational dissolutions are examined as a process of both internal and external constraints. Younger special districts are more susceptible to dissolution (Bauroth 2010; Moldogaziev, Scott, and Greer 2019). Larger jurisdictions may be able to stave off dissolution (Moldogaziev, Scott, and Greer 2019), as well as those with elected boards (Bauroth 2010). External rules forbidding the dissolution of districts with outstanding debt help to prolong their lives (Moldogaziev, Scott, and Greer 2019). More generally, governments with more resources and greater population density are less susceptible to dissolution (Zhang 2019). The second camp, closely aligned with the following analysis, examines special districts dissolution as a system-level phenomenon with largely external processes, private interests, or the influence of entrepreneurs leading to more or fewer dissolutions in a particular geographic aggregation. What little research exists in this particular literature focuses mainly on local demand, state rules, and the existence of boundary change entrepreneurs as important (Bauroth 2010). In general, all three factors are statistically associated with dissolution but in vastly different ways.

This analysis adds to the literature in several ways. First, a new means of measuring special district dissolution is introduced. Using techniques from the industrial organisations' literature, relative measures of dissolution based on the number of districts "at risk" are used based on Goodman's previous estimation model in 2020. Second, the long panel nature of the data allows for more robust tests of causal effects than previous cross-sectional literature. Finally, state restrictions on county governments are incorporated. Previous literature has examined the role of state restrictions on cities; however, county governments have been shown to be important in the creation of special districts (Farmer 2010). It is plausible that because counties are often administrative arms of the state (Benton 2002), state restrictions on counties are important in the dissolution of special districts.

The analysis proceeds as follows. First, the previous literature and theory about special districts are examined, with special attention paid to dissolution. Next, the data and empirical methodology are explained. Results are presented, and implications for future research are discussed.

Previous Research

Institutional Context

The most common and nationally representative data on special districts comes from the *Census of Governments*. The U.S. Census Bureau defines a special district as governments that "are independent, special purpose governmental units that exist as separate entities with substantial administrative and fiscal independence from general purpose local governments" (U.S. Census Bureau 2019).² Their key characteristics are administrative and fiscal independence. *Fiscal independence* is achieved through the power to

1. Author's calculation from the U.S. Census of Governments (various years).

2. This definition applies to independent school districts as well, but the Census Bureau accounts for these districts differently as they are more visible in the local community.

determine a budget, levy taxes, charge user fees, or issue debt without a review from another governmental entity. *Administrative independence* is achieved through fiscal independence plus having 1) an independently elected governing body, 2) a governing body representing two or more state or local governments, or 3) an appointed board with functions different from the appointing government. This definition excludes entities when fiscal or administrative independence is violated. Typically, administrative independence is violated through the composition of the governing body. The entity is classified as “dependent” in these cases, and its financial and employment data is added to the sponsoring government’s information. Even with this limited definition, the Census of Governments data provide the best and most comprehensive data on special district activities in the United States.

The boundaries of local government are continually revisited and revised (Feiock and Carr 2001). Special districts’ territorial flexibility is an important and unique characteristic (Bollens 1957; Olberding 2002; Mullin 2007; Bauroth 2010). Unlike cities or some towns, special districts may take on nearly any shape and may overlap other forms of local government, including other special districts. This allows special districts to take on near-infinite spatial arrangements and reflect reform. Additionally, territorial flexibility allows the collection of special districts serving any area to change rapidly over short distances. Two parcels located next to each other may enjoy vastly different public services at differing costs solely because of their inclusion (or exclusion) from various special districts. Special districts are also often free from many legal restrictions imposed on general-purpose local governments.³ Special districts can typically be created to cover any land area without consideration of assessed value, population, or territorial size (Bollens 1957). Special district elections are exempt from the one person/one vote requirement (Briffault 1993; Burns 1994).⁴ As a result, voting rights can be apportioned based on various factors, with owning property within the district being particularly popular (See Bauroth (2005) for a richer discussion on the uniqueness of special district elections).

Why Do Special Districts Dissolve?

On an individual level, there are several reasons why a special district might dissolve. Moldogaziev, Scott, and Greer (2019) explain that “liabilities” threaten organisations. Prior research on private and non-profit firms suggests newer firms are more susceptible to organisational mortality, also known as the liability of newness. Moldogaziev, Scott, and Greer (2019) find this result for special-purpose water districts, a highly capital-intensive service in Texas. The second liability is the liability of smallness or organisational size. Smaller organisations are more susceptible to organisational mortality because they may face limitations in attracting new customers or gathering the necessary financial resources to stave off eventual dissolution (Hager, Galaskiewicz, and Larson 2004). Initial founding conditions, particularly those that constrain an organisation, can hamper growth and increase the potential for failure (Mellahi and Wilkinson 2004; Moldogaziev, Scott, and Greer 2019). However, if these initial conditions provide for more autonomy, it is plausible that these conditions can provide the flexibility necessary to gather enough resources to stave off failure. Finally, the competitive landscape is seen to be important. As competition rises, the potential for organisational mortality increases as more organisations compete for a relatively constant set of resources (Moldogaziev, Scott, and Greer 2019); however, they find little evidence for this assertion in the realm of water district dissolutions.

At a more systemic level, Bauroth (2010) suggests three primary reasons why special districts might dissolve. First, if there is demand for the public services that are currently being provided, there is less incentive to dissolve a special district. This can be further generalised to all public services. Increased demand for public services can be met by creating new local governments (general or specialised), or the demand can be met by existing governments. This would suggest that a special district that may have been declining could see a resurgence if demand is strong enough, staving off dissolution.

Second, if special districts are a clever means to avoid state-imposed restrictions on general-purpose governments, we should expect the dissolution of special districts to be lower in places with more restrictions. There is a robust debate about whether special districts operate as a circumvention mechanism (see Shi (2017), Goodman (2018), and Goodman and Leland (2019) for more recent analyses); however, if districts work in this manner, there should be less incentive on the part of local politicians to reduce their option to attempt to circumvent these restrictions.⁵ All else equal, imposing new state-level restrictions should lower the exit rate.

Finally, the existence of boundary change entrepreneurs may disrupt the dissolution of special districts (both blocking dissolution from the agenda and blocking the formal dissolution). As Schneider, Teske, and Mintrom (1995) explain, the benefits of engaging in public entrepreneurship must outweigh the costs of doing so. If boundary entrepreneurs perceive a significant financial benefit from the continued existence of special districts, they may choose to allocate their resources to support the cause. Feiock and Carr (2001) outline three groups of potential boundary actors: public officials, businesses, and residents/citizens organisations. We focus on businesses as boundary entrepreneurs. These actors often successfully influence local boundary change

3. Cities and towns/townships.

4. *Salyer Land Co v. Tulare Basin Water Storage District*, 410 U.S. 719 (1973) and *Ball v. James*, 451 U.S. 355 (1981).

5. This may especially be the case for highly asset specific functions (see Park and Park (2021) for an analysis on special district creation). We discuss this further in the next section.

(see Burns (1994) for an example, albeit framed differently). Businesses (specifically developers and other real estate-associated industries) benefit financially from the continued existence of special districts, both as a service provider (infrastructure) and from what often comes along with special district development, real estate development.

Service-specific characteristics may interact with the three factors discussed above. Highly asset-specific services, those requiring specialised investments that are costly to adapt to other service functions (Brown and Potoski 2003), may dissolve at different rates in the face of these three factors. Park and Park (2021) argue that special districts can be a tool to provide highly asset-specific service functions to areas willing to bear the high upfront costs and minimise any potential free riding of non-contributors. This assertion suggests that high asset-specific special districts should dissolve less often in the face of high service demand. Similarly, Brown and Potoski (2003) find highly asset-specific services tend to be delegated from general-purpose governments to other kinds of local governments as a mechanism to reduce costs. This also suggests that highly asset-specific districts should dissolve less often. Park and Park (2021) argue that when faced with state fiscal restrictions, general-purpose governments may prefer using special districts for highly asset-specific functions because such districts allow the general-purpose governments to push the high upfront costs off onto an unrestricted (or less restricted) government. This assertion suggests that highly asset-specific special districts will dissolve less often in states with fiscal restrictions on general-purpose local governments. Greer and Scott (2020) assert that more asset-specific districts have more autonomy, and this monopolistic position likely protects such districts from outside competition, thus reducing the likelihood of external or demand factors leading to dissolution. Less asset-specific services require less specific location, up-front investment costs, specialised human capital, or some combination of the three (Williamson 1981). As such, they are likely easier to unwind—whether that is to privatise or transfer to another government fully. Overall, the prior literature suggests that highly asset-specific districts should dissolve more often than less asset-specific districts.

Data Sources, Variables & Empirical Strategy

Data Sources & Variables

The *Census of Governments* is the largest and most comprehensive database of information on special districts. Conducted every five years in years ending in “2” and “7” by the U.S. Census Bureau, the Census of Governments collects organisational, financial, and employment information on all local governments in the United States. While there are numerous potential issues with the Census of Governments data as it pertains to special districts (see Leigland (1990b), Sacks (1990), and Leigland (1990a) for an overview of this debate), the Census Bureau imposes several constraints on the definition of a special district that allows for comparison across time and space. As mentioned previously, all organisations in the Census of Governments beyond dependent school districts must have administrative and financial independence from other public organisations. This definitional requirement allows an “apples-to-apples” comparison of districts across states that may have vastly different state-specific definitions of a special district. Relatedly, the Census Bureau is transparent about its process of delineating administrative and financial independence (See U.S. Census Bureau (2019) for the most recent iteration of this reporting). The combination of these two factors makes the Census of Governments data attractive for cross-state, time-series analyses, even with the deficiencies in the data.⁶

Following Goodman (2020), the *Census Government Integrated Directory* is the basis for whether a special district has been created or dissolved. The directory is continuously updated and allows for tracking public organisations across time, even if their names change. A special district is registered as “created” the first year it appears in the GID. In actuality, a special district may be created at any point between two Census of Governments, but it is registered at the end of the period. A special district is registered as “dissolved” if it fails to show up in the Census of Governments data for more than one consecutive round of data collection. The Census Bureau make a significant effort to clean the Census of Governments data and eliminate non-response, resulting in a cleaner estimation of exits.

Historically, the literature on special districts has not incorporated the concept of measurement of change and instead relies on count data. Using count data does not necessarily give enough detail about the nature of dissolution’s impact on the local government landscape. A single dissolution in a county with numerous special districts may not be very disruptive. In contrast, a single dissolution in a county with only 2 or 3 districts may lead to significantly more disruption. A measure is necessary to enumerate the number of dissolved districts as a function of the total number of districts “at risk” of dissolution at any given time. Goodman (2020) constructs special district creation and dissolution measures based on the industrial organisations’ liter-

6. The every five-year structure of these data necessarily eliminates some variation in the time series. Districts may dissolve in a year ending in “3” (or any interim period) and not be captured until the “7” census. Our long time series somewhat lessens this concern; however, this is a limitation of any analysis that relies on the Census of Government data.

ature on firm entry and exit (Dunne, Roberts, and Samuelson 1988). The following components are derived from the Census of Government data outlined above.

NX_{it-1}	=	number of special districts dissolved in county i between census years $t - 1$ and t
NT_{it}	=	total number of special districts in county i between census years $t - 1$ and t

These components are used to make the final measures of exit. They are based on the number of special districts dissolved and total number of districts.

$$XR_{it-1} = \frac{NX_{it-1}}{NT_{it-1}} \quad (1)$$

The exit rate (XR) is specified with the total number of special districts in the previous period. This represents the total pool of districts that could potentially exit in the following period. We also use the count of exits (NX_{it-1}) as a dependent variable for comparison purposes. In addition to the overall rate or count, exiting districts are broken down by asset specificity.⁷ Consistent with the theoretical discussion above, we expect high asset-specific special districts to have a lower exit rate in the face of increased service demand. Their high investment costs make their dissolution in the face of continuing demand for services costly. Second, we expect high asset-specific special districts to have a lower exit rate in the face of increased fiscal restrictions on general-purpose governments.

Table 2: Data Sources & Variables

Variable	Source	Definition
Exit rate	COG	See equation Equation 1
Exit count	COG	NX , see equation Equation 1
Mun. TEL	MW	Potentially binding tax and expenditure limitation imposed on municipalities, 1 if yes.
Cnt. TEL	MW	Potentially binding tax and expenditure limitation imposed on counties, 1 if yes.
Mun. debt limit	ACIR	Local debt limit as a function of assessed value imposed on municipalities, 1 if yes.
Cnt. debt limit	ACIR	Local debt limit as a function of assessed value imposed on counties, 1 if yes.
Mun. functional home rule	KRH	A state grants municipalities the power to exercise local self government in a broad or limited manner, 1 if yes.
Cnt. functional home rule	KRH	A state grants counties the power to exercise local self government in a broad or limited manner, 1 if yes.
Location quotient, NAICS 236	CBP	See equation Equation 2.
Location quotient, NAICS 237	CBP	See equation Equation 2.
Location quotient, NAICS 238	CBP	See equation Equation 2.
Location quotient, NAICS 531	CBP	See equation Equation 2.
Personal income, per capita	REIS	Personal income (1,000s) divided by population.
Population (1000s)	REIS	Population estimate.

7. District functions are matched to the services enumerated by Brown and Potoski (2003). High asset specificity districts rank greater than 3 in their ranking. For those functions that cannot be matched, the authors have determined whether they are high or low. The matches and rankings are available in appendix A.

Table 2: Data Sources & Variables

Variable	Source	Definition
Population density	Census	Population divided by county land area.
Jobs, per capita	REIS	Non-farm employment divided by population.
Age Index	SEER	A Leik (1966) index of age, 17 5-year categories plus age 0 and age 85+.
Race Index	SEER	A Leik (1966) index of race, 3 categories (white, Black, other).
Use of towns	COG	State uses the township form of local government, 1 if yes.
Chg. in cities	COG	Difference in the number of cities in a county, $t - 1$ to t .

As explained above, three forces potentially lead to special district dissolution or exits: demands for special district services, state institutional arrangements, and boundary change entrepreneurs. Consistent with Goodman and Leland (2019) and Goodman (2018), nine variables form the group of special district demand-related variables (see table Table 2 for data sources and complete definitions). These include population, per capita personal income, population density, population growth, job per capita, and measures of heterogeneity of age and race. These are all standard variables to measure the demand for local public services. Increases in any of these variables should be associated with increased demand for special district services, lowering the exit rate.

Hypothesis 1: Increased demand for special districts leads to fewer special district dissolutions.

The final two variables, the usage of townships and the change in the number of cities, operationalise alternatives to special districts. Townships are a more limited form of local government, often without the full powers of a municipality. Previous research has suggested that special districts can complement townships, filling service delivery gaps created by their more limited powers (Carr 2006; Goodman 2018). As such, the usage of townships should be associated with a lower special district exit rate. Finally, new municipalities may serve as replacements for a collection of special districts, particularly on the urban fringe. If this is correct, an increase in the number of municipalities should be associated with an increase in the exit rate of special districts.

Hypothesis 2a: An increase in townships leads to a reduction in special district dissolution.

Hypothesis 2b: An increase in municipalities leads to an increase in special district dissolution.

To operationalise the state-level institutions that grant or restrict powers of general-purpose local governments, three variables representing grants (positive or increasing local autonomy or negative, reducing local autonomy) of fiscal or functional autonomy are presented. These data are primarily from the now-defunct Advisory Commission on Intergovernmental Relations (ACIR). The first is negative grants of fiscal autonomy, which are operationalised as potentially binding tax and expenditure limitations (TELS) imposed on cities or counties (Mullins and Wallin 2004). As not all TELS have the potential to alter the behaviour of local government materially, the focus is on only the TELS (or combination of TELS) that potentially bind, altering city or county behaviour relative to special districts. As Mullins and Wallin (2004) explain, general revenue or expenditure limits, property tax levy limits, or the combination of any overall or specific limit and an assessment limit are all potentially binding. The data on TELS presented by Mullins and Wallin (2004) is updated to 2017 using the Lincoln Institute for Land Policy's Significant Features of the Property Tax data. The second negative grant of fiscal autonomy is operationalised as state-imposed local debt limits originally sourced from Advisory Commission on Intergovernmental Relations (1993) and heavily updated by Goodman (2018) and Goodman and Leland (2019).⁸ A local debt limit is indicated if the state limits city or county bonded debt as a function of assessed value. The final institution is grants of functional autonomy to cities or counties. The presence of functional autonomy for cities or counties is indicated if a state grants local governments the power to exercise local self-government (i.e. choose the services they wish to provide) in a broad or limited manner and is sourced from Krane, Rigos, and Hill (2001). As explained above, the extant literature generally hypothesises that reducing local autonomy is associated with increased creation/usage of special districts as a circumvention mechanism. This may be especially so for highly asset-specific districts. If special district

8. Data available at <https://github.com/cbgoodman/localdebtlimits/>

dissolution is special district creation in reverse, these reductions of autonomy should stave off dissolutions as the usefulness of special districts as circumvention mechanisms remain. Therefore, it is hypothesised that reductions of local autonomy⁹ be associated with a lower special district exit rate, all else equal.

Hypothesis 3: Increases in local autonomy leads to more special district dissolutions.

To operationalise the importance of boundary change entrepreneurs in a county, the location quotient (LQ) is used, a common technique in the economic development and regional science literatures to measure a region’s industrial specialisation relative to the national economy. It is commonly defined as the ratio of industry employment to total employment in an area divided by the ratio of total industry employment to total employment (Isserman 1977). In this analysis, the LQ is used to measure whether specific industries are more prevalent in a county than the average county in the U.S. Consistent with Burns’ (1994) finding that “developers” are often important entrepreneurs in the special district creation process, four 3-digit NAICS industry subsectors¹⁰ are chosen to represent the concentration of such entrepreneurs in a county. They are Construction of Buildings (NAICS 236), Heavy and Civil Engineering Construction (NAICS 237), Specialty Trade Contractors (NAICS 238), and Real Estate (NAICS 531) subsectors. The first three are the components of the NAICS 23 Construction sector. The final subsector comprises those firms/employees engaged in selling or leasing real estate. All four subsectors stand to financially benefit from the existence of special districts, either directly through their employment in infrastructure-related projects or indirectly through the potential increase in real estate values derived from higher infrastructure or service provision. We speculate that the likelihood of boundary change entrepreneurship is higher in counties with an over-representation of these industries, and, therefore, these individuals are better situated (i.e., they are more abundant than is typical) to fend off dissolutions. When these industries are underrepresented, the likelihood of boundary change entrepreneurs is lower, and, similarly, they are less well-situated to defend against dissolutions.

Hypothesis 4: More prevalence of potential boundary change entrepreneurs leads to fewer special district dissolutions.

The location quotient (LQ) is defined as follows.

$$LQ_{jk} = \frac{E_{jk}}{E_j} \bigg/ \frac{E_k}{E} \tag{2}$$

Where the E_{jk}/E_j is the ratio of employment in industry subsector k to total employment in county j and E_k/E is the ratio of total urban employment in industry k to all urban employment (E). A value of $LQ = 1$ indicates the concentration of the industry k in county j is the same as the national urban concentration (i.e., industry k is no more or less important to the local economy than it is for the average urban county). A value of $LQ > 1$ indicates a higher concentration of industry k in county j relative to urban concentration, suggesting that industry k is more important to the local economy than in the national economy. A value of $LQ < 1$ indicates a lower concentration in industry k in county j relative to the urban economy.

Sample Construction

The primary sample for this analysis is a panel of all urban counties in the United States. “Urban” is defined as a county belonging to a primary metropolitan statistical area using OMB’s 1999 definition. As Goodman and Leland (2019) explain, special districts in urban counties tend to compete with general-purpose local governments and provide a broad array of public services. These two considerations make urban districts distinct from rural districts. The sample consists of 712 counties with an unbalanced panel of 6,386 observations and is inclusive of all seven Census of Governments from 1977 to 2017.

Table 3: Summary Statistics

	Mean	SD
Exit rate	0.070	0.127
Exit rate, high asset specificity	0.087	0.345
Exit rate, low asset specificity	0.031	0.216

9. The imposition of TELs or debt limits or the restriction of functional autonomy.

10. There are two important complications to this method. First is the transition from the Standard Industrial Classification (SIC) system to North American Industry Classification System (NAICS) in 1997 that altered the classifications of industry. Second, small industries in small areas are often not reported for data privacy reasons. I use the method outlined in Eckert et al. (2020) to impute the missing industry data where applicable and to harmonize the pre-1997 County Business Patterns data to NAICS.

Exits (count)	1.114	3.034
Exits (count), high asset specificity	0.395	1.140
Exits (count), low asset specificity	0.057	0.316
<i>Local autonomy</i>		
Municipal TEL	0.552	0.497
County TEL	0.548	0.498
Municipal debt limit	0.839	0.368
County debt limit	0.749	0.434
Municipal functional home rule	0.751	0.433
County functional home rule	0.409	0.492
<i>Boundary change entrepreneurs</i>		
Location quotient, NAICS 236	1.204	0.907
Location quotient, NAICS 237	1.286	1.918
Location quotient, NAICS 238	1.131	0.643
Location quotient, NAICS 531	0.682	0.619
<i>Controls</i>		
Personal income, per capita	36.130	11.047
Population (1000s)	223.504	376.815
Population density	734.430	3305.144
Jobs, per capita	0.490	0.156
Age index	0.412	0.029
Race index	0.147	0.130
Change in cities	0.078	0.582
Use of towns (1=yes)	0.384	0.486

NAICS 236 = Construction of Buildings; NAICS 237 = Heavy and Civil Engineering Construction; NAICS 238 = Specialty Trade Contractors; NAICS 531 = Real Estate.

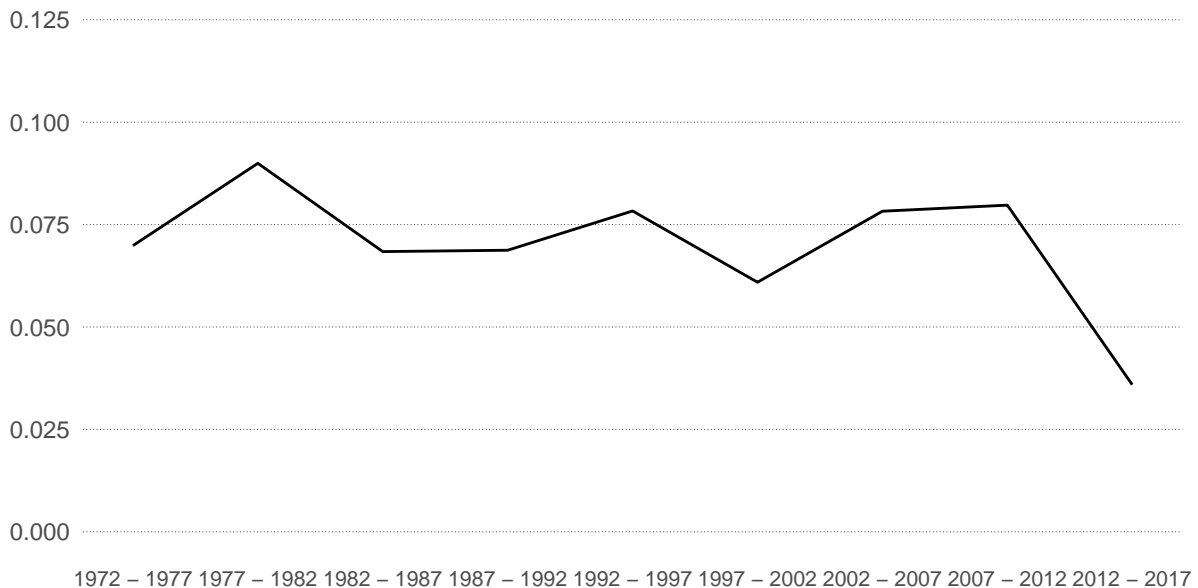


Figure 1: Urban Special District Dissolution Rate, 1977 - 2017

Table 3 provides descriptive statistics. Across all periods from 1977 to 2017, the mean exit rate (counts in parentheses) for urban counties is 7.0 per cent (1.1). Figure 1 demonstrates the mean exit rate across time. The trend is stable, with a slight downward

trend in recent periods. Interestingly, the exit rates (counts) of highly asset-specific districts are larger than those with less asset specificity, going against the assertions in the literature suggesting that highly asset-specific districts may be more durable than other districts. The exact reason or mechanism for this unexpected finding is unclear. On average, 8.7 per cent (0.4) of highly asset-specific districts exit in any given year compared to 3.2 per cent (0.06) of less asset-specific districts.

Cities and counties face similar levels of potentially binding TELs (approximately 55 per cent) and similar limitations on bonded debt (84 and 75 per cent, respectively). Municipalities have more functional home rule than counties. This trend has been well documented (Benton 2002); however, counties have gained autonomy as they modernise (Benton 2005). The average urban county has about 82 per cent higher concentration than the national concentration of construction of buildings trades, 91 per cent higher concentration in heavy and civil engineering, 80 per cent higher concentration in speciality trades, and 51 per cent lower concentration in real estate.

Empirical Strategy

We first estimate a model of the urban special district exit rate (or count) as a function of demands for special district services, state-level institutions, and boundary entrepreneurs, including county and year fixed effects. This is most like Bauroth (2010) on the dissolution side and Goodman and Leland (2019) on the creation side.

$$XR_{it} = \alpha + \beta X_{it} + \delta I_{it} + \gamma E_{it} + \phi_i + \tau_t + \varepsilon_{it} \quad (3)$$

Equation 3 has the exit rate (or count) as a function of demands for special district services (X_{it}), institutions (I_{it}), and the concentration of boundary change entrepreneurs (E_{it}). County (ϕ_i) and time (τ_t) fixed effects are included; therefore, identification comes from within-county changes over time. The construction of the sample and specifications likely bias normally calculated standard errors. For Equation 3, standard errors are clustered on the state. This is to adjust the downward bias in standard errors due to serial autocorrelation in the special district exit rate and local autonomy being constant within each state. Rate based models are estimated using OLS, while count-based models are estimated using negative binomial regression.^{11,12}

Results

Table 4 reports the findings for two equations specified above, both overall and disaggregated by asset specificity for exit rates and counts.¹³ Like Bauroth's (2010) count-based findings, there is some evidence of a systematic relationship between demand-related variables and the rate of special district exit. Higher levels of personal income and population are associated with higher exit rates, and more jobs per capita are associated with lower exit rates. More jobs per capita are also associated with lower expected exit counts. However, the results change once the sample is disaggregated by asset specificity, with the previous demand-related findings largely disappearing and new variables becoming statistically significant. Greater variation in race in a county is associated with an increase in the exit rate for both asset-specific district types. There is no relationship between race and expected counts. These results suggest that more racially diverse counties experience higher rates of special district dissolutions but not necessarily fewer counts. These results suggest that more racially diverse counties experience higher rates of special district dissolutions but not necessarily fewer counts. These results may relate to the ethnic divisions and public goods provision literature (Alesina, Baqir, and Easterly 1999). As the level of ethnic diversity rises, intergroup conflict over the appropriate level of public goods provision also rises. In the context of special districts, this may point to a lack of unified support for service provision by special districts, leading to dissolutions. More research is necessary on the exact mechanisms at play.

The usage of townships is associated with the special district exit counts. In counties where the township form of local government is used, the special district exits are approximately 76 per cent lower than in counties/states that do not authorise townships; however, this result is confined only to the disaggregated results, with the largest effect size in low asset-specific districts. This conclusion is mirrored by Carr (2006) and Goodman (2018), who find that the usage of townships is a positive predictor of special district reliance. Paired together, urban counties with township governments rely more heavily on special districts, and

11. Among the standard count models, Poisson regression assumes the mean and variance of the distribution are equal, while negative binomial regression does not and explicitly estimates dispersion. The Poisson assumptions about dispersion do not hold for our data; therefore, we prefer negative binomial regression.

12. The subgroup analysis for the count models suffers from quasi-complete separation. Many binary, state-specific variables perfectly or substantially identify large groups of outcomes (typically, a single dissolution). This problem artificially inflates the coefficients and renders the standard Wald test of significance for these variables useless. Importantly, it does not bias the other estimands. We implement the recommendations of Rainey (2024) as follows. The offending coefficients are removed from Table 3 and replaced with $\infty/-\infty$ depending on the sign of the coefficient, the standard errors are removed, and the Wald test is removed in favor of a likelihood ratio test. In all instances, we fail to reject the null hypothesis and conclude the true value of these variables is no different than zero.

13. Coefficients from the negative binomial regressions are presented at incident rate ratios.

the probability of dissolution is lower. These results reinforce that special districts can complement townships in the local intergovernmental service delivery arena. The change in the number of cities in a county positively predicts the count of highly asset-specific districts, though this result is not mirrored in the rate estimates. This result suggests that as new municipalities incorporate, they assume the assets and duties of the districts, and the districts dissolve. No other demand-related variables are statistically associated with the urban county special district exit rate or counts.

Table 4: Influences on special district exit rate, urban counties

	All		High Asset Specificity		Low Asset Specificity	
	Rate	Count	Rate	Count	Rate	Count
Local autonomy						
Municipal TEL	-0.050** (0.016)	0.376** (0.068)	-0.077 (0.042)	1.132 (0.792)	-0.051 (0.029)	∞
County TEL	0.012 (0.018)	1.782** (0.356)	0.064 (0.043)	0.701 (0.509)	0.045 (0.032)	-∞
Municipal debt limit	0.023 (0.031)	1.767 (0.718)	0.031 (0.026)	2.389** (0.223)	-0.012 (0.015)	1.622 (0.402)
County debt limit	-0.004 (0.019)	1.197 (0.499)	0.025 (0.021)	0.775 (0.140)	0.029 (0.022)	∞
Municipal functional home rule	0.073* (0.029)	2.460** (0.715)	-0.019 (0.032)	∞	-0.024 (0.016)	
County functional home rule	0.008 (0.013)	1.488 (0.337)	0.060* (0.029)	1.087 (0.233)	-0.004 (0.018)	
Boundary change entrepreneurs						
Location quotient, NAICS 236	0.001 (0.002)	0.994 (0.034)	0.001 (0.005)	0.947 (0.067)	0.001 (0.003)	0.994 (0.174)
Location quotient, NAICS 237	-0.001 (0.001)	0.962 (0.020)	-0.004 (0.002)	0.946 (0.039)	-0.004** (0.001)	0.894 (0.101)
Location quotient, NAICS 238	0.005 (0.003)	0.926 (0.072)	-0.002 (0.009)	0.973 (0.103)	0.000 (0.005)	1.089 (0.377)
Location quotient, NAICS 531	0.005 (0.004)	1.102 (0.068)	0.012 (0.012)	1.124 (0.144)	0.003 (0.005)	1.461 (0.414)
Controls						
Personal income, per capita	0.001* (0.001)	1.006 (0.007)	0.000 (0.001)	0.995 (0.011)	0.000 (0.001)	0.972 (0.026)
Population (1000s)	0.000* (0.000)	1.000 (0.001)	0.000 (0.000)	1.000 (0.000)	0.000 (0.000)	1.003* (0.001)
Population density	0.000 (0.000)	1.000 (0.000)	0.000 (0.000)	1.000 (0.000)	0.000 (0.000)	0.998** (0.001)
Employment ratio	-0.117* (0.045)	0.094** (0.066)	-0.100 (0.122)	0.172 (0.233)	-0.042 (0.111)	0.024 (0.068)
Age index	-0.325 (0.402)	0.053 (0.270)	0.751 (0.510)	∞	-0.211 (0.262)	6.379 (62.543)
Race index	0.093 (0.057)	1.034 (0.722)	0.330* (0.125)	4.322 (8.945)	0.126 (0.073)	1.381 (2.952)
Change in cities	0.007 (0.003)	1.057 (0.044)	-0.021 (0.018)	1.181** (0.039)	0.005 (0.007)	0.957 (0.104)
Use of towns (1=yes)	-0.021 (0.028)	0.371 (0.222)	-0.252 (0.179)	0.239** (0.052)	-0.369 (0.356)	0.000** (0.000)
County fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Year fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Method	OLS	Neg. Bin.	OLS	Neg. Bin.	OLS	Neg. Bin.

N	6386	5884	6386	4568	6386	1594
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* $p < 0.05$, ** $p < 0.01$

Standard errors are clustered on the state

NAICS 236 = Construction of Buildings; NAICS 237 = Heavy and Civil Engineering Construction; NAICS 238 = Specialty Trade Contractors; NAICS 531 = Real Estate. All count model coefficients presented as Incident Rate Ratios (IRR).

Potentially binding tax and expenditure limits focused on municipalities are associated with a five percentage point reduction in the special district exit rate. Once broken down by asset specificity, these results disappear. The same variable is associated with a 62 per cent decrease in the number of expected exit counts. As municipalities become more restricted, the usefulness of special districts as a mechanism to circumvent these restrictions rises and leads to fewer dissolutions. These results are similar to Bauroth's (2010) and broadly consistent with Park and Park's (2021) argument that special districts can be a means to circumvent state restrictions. Potentially binding TELs imposed on county governments are statistically related to district exit counts overall; however, the coefficient is positive, suggesting these restrictions lead to an acceleration of district exits. This finding is the opposite of what was hypothesised and related to a finding by Goodman (2018). Goodman (2018) suggested that limitations of fiscal autonomy on counties may impose needed fiscal discipline for these less professionalised governments (relative to municipalities, see Benton (2002)) and, therefore, negate the need for special districts. Like the findings on townships presented above, the findings support Goodman (2018), albeit in the expected opposite direction.

Debt limits imposed on municipalities are positively associated with the expected count of dissolutions but only for counts of highly asset-specific districts. Similar to Goodman's (2018) finding related to county governments, debt limits may spur a necessary level of fiscal discipline on municipalities, negating the need for special districts to supplement service provision. In a transaction cost framework, debt limits may help municipalities better control their costs, lessening the need to seek alternate service providers for highly asset-specific services, lowering the needs for special districts, and thus increasing exits. This is an unexpected finding, given the common but not universal finding that debt limits lead to new special districts (McCabe 2000); therefore, if dissolution is merely creation in reverse, one should expect a negative relationship. Unlike Goodman (2018), we find limited evidence of any relationship between county debt limits and special district exits.

Our results suggest that granting municipalities broad functional home rule status increases the likelihood of special district exits (both for rates and counts). This finding disappears when the sample is disaggregated into high asset-specific types for rates. When municipalities can provide more services, the need for specialised service delivery declines and districts exit. This finding supports the hypothesis that circumventing state-imposed restrictions drives special district growth. Absent such restrictions, special districts exit the local governance market.

The final group of variables related to the prevalence and actions of boundary change entrepreneurs. There is little evidence of a connection between the prevalence of boundary change entrepreneurs and the special district exit rate or count. An exception to this is the concentration of Heavy and Civil Engineering Construction employees for low asset-specific districts. A 0.1 unit increase in the NAICS 237 (implying a 10 per cent increase in industry concentration) is associated with a 0.04 percentage point decrease in low asset-specific special district exit rate. This finding is consistent with the argument that interest groups who stand to benefit from district provision of infrastructure lobby to keep such districts around. However, no overwhelming evidence suggests boundary change entrepreneurs are influential in the special district dissolution process.

Discussion & Conclusion

This analysis aims to examine the dynamics underlying fragmentation in U.S. local governments and special districts in particular. Specifically, we examine whether special district dissolution is special district creation in reverse. Using a new-to-the-literature measure of special district exit (and comparisons to the more traditional count measure), the results suggest a mixed answer to the question—some factors support the notion of creation in reverse, while others dispute it. Some reductions in local autonomy decrease the exit rate, which is consistent with prior results and suggests that dissolution is creation in reverse. Boundary change entrepreneurs can be influential, but the results appear context-specific and somewhat limited. Finally, demand-related variables are mainly unrelated to special district exits. The demand-related findings provide evidence that dissolution is not creation in reverse. Recent analyses of special district creation suggest a credible link between service demand and special district creation, both for rates and counts (Goodman and Leland 2019; Park and Park 2021). This analysis also has its limitations. As is typical with much work on state-imposed limitations on local government, measuring these factors is somewhat blunt. Currently, more nuanced measures of local autonomy do not exist; however, their development and incorporation would significantly strengthen many analyses, including this one.

As Moldogaziev, Scott, and Greer (2019, p. 546) note, special district exits can be disruptive to the local public sector and understanding the factors associated with special district exit can help to provide critical information to policymakers and prac-

tioners about how to “ensure the continuation of core governance tasks.” This analysis suggests that some state-imposed rules on local governments are associated with special district exits. State lawmakers should be sensitive to how their actions, particularly regarding municipal restrictions, may trigger local public-sector disruptions. While it may not be their intention to impact special districts when deciding whether to limit general-purpose local governments, the results presented here suggest there are secondary effects that could have consequences for service delivery.

The lack of consistent results for demand-related or boundary change entrepreneur-related variables suggests that such factors, while not important to understanding why special districts dissolve at a system level, may still be important at the individual level. Changes in demands for individual services or the actions of specific people lobbying a particular governing board are still likely important in the decision to dissolve a specific special district. Future research should examine such factors on individual decisions to dissolve. Moldogaziev, Scott, and Greer (2019) find partial support for this, finding that water districts with larger service populations are less likely to dissolve; however, there is more work needed.

We still need to improve our understanding of why a special district dissolves or merges. Future research should continue examining special district dissolution’s influence on service disruption. In particular, what does it mean for public administrators managing such changes to local government service delivery? We assume that service is transferred to another local government, either a new special district or existing general-purpose local governments through annexation or consolidation; however, based on these results, the topic needs continued exploration. Like understanding other government units, knowledge in this area will also benefit policymakers who decide which values, such as efficiency, performance, accountability, and equity, these arrangements will maximise

Appendix A

Special District Functions and Asset Specificity Assignment

High Asset Specificity

- 01 Air Transport
- 04 Correctional Institutions
- 05 Other Corrections
- 24 Fire Protection
- 32 Health
- 40 Hospitals
- 50 Housing and Community Development (author-coded)
- 51 Drainage
- 52 Libraries
- 62 Police Protection
- 63 Flood Control (author-coded)
- 64 Irrigation (author-coded)
- 77 Public Welfare Institutions
- 79 Other Public Welfare
- 80 Sewerage
- 81 Solid Waste Management
- 86 Reclamation (author-coded)
- 87 Sea and Inland Ports (author-coded)
- 91 Water Supply Utility
- 92 Electric Supply Utility
- 93 Gas Supply Utility
- 94 Public Transit

Low Asset Specificity

- 03 Misc. Commercial Activities (author-coded)
- 41 Industrial Development (author-coded)
- 42 Mortgage Credit (author-coded)

- 44 Regular Highways
- 45 Toll Highways
- 59 Other Natural Resources (author-coded)
- 60 Parking Facilities
- 61 Parks and Recreations
- 88 Soil and Water Conservation (author-coded)

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