

# Responsiveness in the Patchwork of Local Government \*

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## Abstract

Given a patchwork system of overlapping local institutions, can residents direct public policy? Current approaches to representation, at this level, may provide a distorted view of how democracy operates because they fail to account for the overlapping nature of institutions. To fill this gap, I first implement a framework that takes into account multiple overlapping governing institutions: cities, counties, school districts, and special districts. Second, using over 500,000 survey respondents, I estimate a novel measure of local ideological preferences for cities over time. Lastly, to assess the impact of ideology on public policy outcomes, I use a Bayesian within-between random effects model. I have three major findings: First, cross-sectional responsiveness exists. Second, I find evidence for dynamic responsiveness in spending, but inconclusive evidence for taxation. Third, I provide descriptive evidence that consolidated governance fosters greater responsiveness. I reframe the responsiveness discussion from a single governing unit to a holistic system of overlapping institutions, and provide the strongest evidence to date that local governments respond dynamically to the ideology of citizens.

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Broadly defined, a responsive government is one that follows the will of the public (Dahl, 1971). Representation in local government has risen in saliency over the last few years with the rise of Black Lives Matter's fighting to defund the police and the conflict over local governments' COVID-19 policies with mask mandates and stay-at-home orders. These episodes have centered around whether local governing institutions can represent the will of the public. Overall, the true nature of representation at the local level is hidden because of complex institutions not fully understood or appreciated. Cities, counties, school districts, and special districts all interact to provide local public goods to individuals. Moreover, these governing institutions have varying levels of accountability, funding streams, and jurisdictional mandates. What representation means in the local context must take a holistic view that appreciates this complexity and how citizens receive their package of local goods and services.

Overlapping jurisdictions are widespread in the United States' governing structure. While we have well-developed and widely discussed theories of federalism – the existence and interaction between national and state governments – the patchwork of local governing institutions is understudied in terms of ideological representation. The patchwork of local government contributes to the ongoing debate about whether representation exists at the local level as overlapping governments may both enhance representation by providing additional avenues for a hyper-localized public to receive specialized services, or impede representation by adding complexity to a system that already lacks clear lines of accountability.

On the one hand, the *limited city* paradigm suggests we should not expect responsiveness in municipal government because they are overwhelmingly constrained by their position in the federal hierarchy and the mobility of their residents (Gerber and Hopkins, 2011; Rae, 2003; Peterson, 1981; Tiebout, 1956). Furthermore, cities widely lack competitive elections, residents lack sufficient political knowledge about local issues, and the lack of partisan labels in some cities makes it difficult for residents to use easy heuristics. In addition,

overlapping governing units – cities, counties, schools, and special districts – lead to economic inefficiencies, duplication, over-taxation, and complications which makes accountability and thus responsiveness unlikely (Berry, 2008, 2009; Bollens, 1957).

On the other hand, these constraints do not release municipalities of the electoral pressures found at other levels of government. In spite of the low turnout and unfavorable institutions (e.g., non-partisan elections) we are able to find a correspondence between public preferences and local policy both for cities and county governments (Einstein and Kogan, 2016; Sances, 2019; Tausanovitch and Warshaw, 2014).

In this paper, I take seriously the inherent patchwork nature of local governments in the US context to re-examine a basic question of democratic governance. Adopting this perspective offers two distinct advantages: one empirical and one theoretical.

First, moving away from the study of individual municipal governments to the broader set of institutions involved in taxing and spending in a geographic region, we gain a clearer view of the nature of responsiveness at the local level. Specifically, my analysis provides concrete evidence that local governments are indeed responsive to the policy preferences of constituents cross-sectionally. I find dynamic responsiveness for spending, but inconclusive evidence for taxation.

Second, this theory suggests that democratic accountability at the local level is still possible in spite of fragmentation. Just as it is hard for scholars to understand the delivery of goods at the local level in this patchwork system, so too is it more difficult for voters to understand where services and taxes originate and which officials to hold accountable. Thus, an important implication of this research is that local governments – in the aggregate – will be far more responsive when taxing and spending power is concentrated into fewer overlapping institutions.

# 1 Background: Overlapping Governing Institutions

Local governance in the United States is a patchwork of overlapping and competing jurisdictions which generate revenue and provide a menu of local public goods and services. As of the latest count by the U.S. Census, there are over 90,000 local governments including cities, counties, school districts, and special districts.<sup>1</sup> Figure 1 shows the increase of local governments over time, which is tracked by U.S. Census of Governments every five years. While there was an increase of 5,000 local governments between 1992 and 2007, the number of governments have remained relatively constant between 2012 and 2017. Most of the variation comes from special purpose governments.

Special purpose governments or special districts are governing units which provide an assortment of public goods and services to a specified geographic area such as water, sewage, fire protection, libraries or parks. These special districts are important insofar as they constitute a largely hidden – in terms of public knowledge and accountability – governing structure which taxes and spends on behalf of residents. Also, as Berry (2009) notes, “[t]erritorially overlapping, single-function jurisdictions, including 35,000 special districts and 13,500 school districts, today constitute the majority of local governments.” (Berry, 2009, p. 1). These local governments have their own funding streams, either through property tax assessments, fees, or sales taxes, have their own governing bodies, and have their own goods and services they provide to residents. Residents and property owners in these jurisdictions receive a menu/bundle of local public goods, not from a single governing entity, but by multiple overlapping jurisdictions.

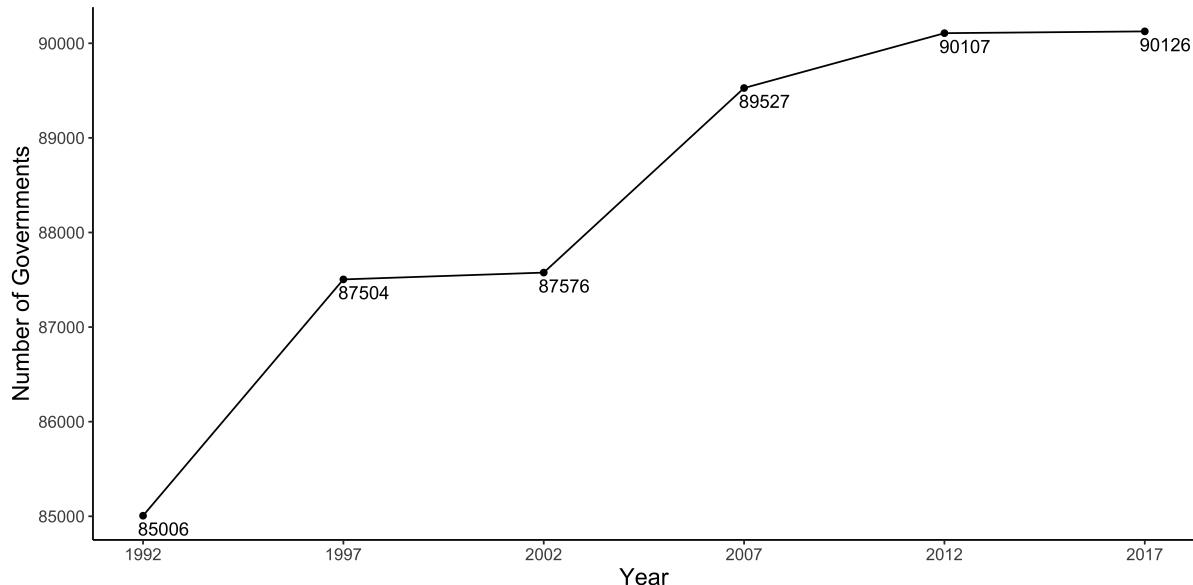
Take the City of Chicago, Illinois for example. Residents of Chicago pay local taxes to the city, the county (Cook County), and the Cook County Forest Preserve District.<sup>2</sup> The Cook

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<sup>1</sup>Summary Report from the U.S. Census of Governments in the United States 2017: [https://www.census.gov/content/dam/Census/library/visualizations/2019/econ/from\\_municipalities\\_to\\_special\\_districts\\_america\\_counts\\_october\\_2019.pdf](https://www.census.gov/content/dam/Census/library/visualizations/2019/econ/from_municipalities_to_special_districts_america_counts_october_2019.pdf)

<sup>2</sup> Cook County Forest Preserve is one of many special districts that serve residents in the Greater Chicago area.

Figure 1: Number of Governments



Notes: Depicts the number of governments over time. Data is from the U.S. Census of Governments, which is collected every five years on years the end in 2 or 7.

County Forest Preserve District is a special district that stretches across Cook County which has the ability to manage public monies from a property tax assessment to maintain and build forests and natural trails within the county.<sup>3</sup> Furthermore, some residents even fall into special districts within the city itself, such as the Northwest Home Equity Commission. The Northwest Home Equity program is classified as a special district that was created with wide electoral support to levy a special tax assessment on residential properties in Northwest Chicago to provide homeowners with an assurance that their property values would not decrease in spite of property value fluctuation and urban degradation.<sup>4</sup> For example, if the home was appraised for 200,000 but the only offer is 180,000, the commission will cover the difference to make sure the homeowner does not lose money. These specialized governments can be found across the United States with varying authority and policy mandates.

<sup>3</sup>More information about the Cook County Forest Preservation District can be found here: <https://fpdcc.com/about/>

<sup>4</sup>More information about the Northwest Home Equity Program can be found here: <https://nwheap.com/about/>

The growth and sheer number of local governments is both under-theorized and overlooked in current studies about ideological responsiveness at this level. This article seeks to re-examine the responsiveness question in light of overlapping governing institutions. In the following section, I discuss the existing debate of whether local governments are responsive to the views of their constituents. In particular, I reframe the debate to include the existence and proliferation of overlapping governing institutions.

## 2 The Responsiveness Debate in Local Government

### 2.1 The Limited City Paradigm

Paul Peterson, in *City Limits*, argues that cities are constrained by economic pressures to address the interests of business and secure economic growth. The goal of cities are to keep and attract businesses to sustain economic growth. Thus, providing certain social services – such as increased welfare – will lead to higher taxes for the wealthy and increases the probability for them to move out of the city. Given these incentives, cities are limited in their ability to pursue policies the public wants. As Peterson stated, these incentives lead to “[a] lack of ... partisan impact on local policy outcomes” (Peterson, 1981, p. 174). Arguments in this vein are part of the limited city paradigm.

The implications from the limited city paradigm holds that cities are unable to meet the definition of responsive government. That is to say, cities are limited in their actions by incentives in the political, social, and economic environment. Many early scholars found that cities are mostly unresponsive to constituents (Morgan and Watson, 1995; Peterson, 1981; Ruhil, 2003). For example, this view suggests that competition between cities (Peterson, 1981) and the primacy of higher-levels of government (Derthick, 1970; Ladd and Yinger, 1989) limit municipal government to a subservient role, leaving them unable to effectively respond to the will of the public.

Furthermore, turnout in local elections is low (Bullock III, 1990; Caren, 2007; Holbrook and Weinschenk, 2014). Caren (2007), for example, finds an average turnout rate of 21% in a sample of 38 large cities over 25 years. Similarly, Holbrook and Weinschenk (2014) find that the average turnout across 144 cities between 1996 to 2011 to be 25.8%. These numbers are low relative to federal and state elections. Moreover, Progressive Era reforms – like non-partisan elections and a professional administrator implementing policies (i.e., council-manager systems)– deprive residents of a useful heuristics to gather information about candidates and add an unelected layer between the people and the administration of policy (Marschall, 2010).

Beyond the constraints and limits found for individual cities, overlapping jurisdictions provide additional reasons why we should not expect responsiveness. In terms of goods and services, overlapping jurisdictions are seen as wasteful, duplicative, and inefficient (Bollens, 1957). Alongside the concerns about the provision of goods and services, these overlapping institutions – especially special districts – have low visibility which reduces the extent to which we should expect accountability (Burns, 1994; Wood, 1961). Indeed, some have suggested that overlapping institutions were *intended* to obscure accountability to allow governments to run more like a “business” (Walsh, 1978).

Moreover, as Berry (2008, 2009) finds, residents are stuck in a common-pool resource problem where their incomes are being taxed by multiple overlapping local government. The ability for any one governing unit to fully feel the pressure of their decision is unlikely because all of the other units feel the effects. In other words, if one governing unit – say a special district – over-taxes residents and residents either voice their disagreement (“voice”) or move (“exit”), the other governments – like the city – is likely to get punished. Also, the fact that citizens are rarely able to distinguish the lines of accountability provides additional complications for responsiveness in local government given the existence of overlapping jurisdictions.

Institutional reformers of the twentieth century saw the increase of local governments as a danger to democracy because they create additional hurdles for democratic accountability (*The Challenge of Local Government Reorganization*, 1974; Burns, 1994; Wood, 1961). Thus, they advocated for a larger, single governing institution over the increasingly fragmented nature local government.<sup>5</sup>

Taken together, much of the literature would suggest that responsiveness in local government should not and does not exist given the overwhelming constraints on their ability change or implement policies, the lack of institutions that easily facilitate accountability from the residents, and the existence of multiple overlapping institutions. While the limited city paradigm may raise valid concerns about the future of representation in local governments, there are reasons to believe the link between the people and policy should still exist.

## 2.2 Local Governments as Small-Scale Democracies

In contrast to the limited city paradigm, there are a few theoretical reasons to think that local governments are small-scale democracies. First, there exists a demand for uniquely local goods and services. Second, there exists a supply – in terms of government’s ability to enact policy at the margins – of these goods and services. Third, given a political market exists that aligns preferences from right to left, the median voter theorem would suggest that elected officials have the incentive to follow the will of their constituents due to elections. Lastly, scholars of the public choice school of economics have consistently argued that fragmentation and overlapping governance can lead to greater responsiveness by providing additional avenues for citizens to get what they want in terms of public goods.

First, Americans demand services that governments on the local level provide. Americans want good schools, safe environments, and their trash picked up on time (Capps, 2014). According to the Atlantic Media/Siemens State of the City poll, a majority of respondents

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<sup>5</sup>See Goodman (2019) for a review of local government fragmentation in the United States.

indicated that they are happy with the services their local government provides, like roads, education, and police protection.<sup>6</sup> A majority even believed the services are an excellent or good value for their local taxes. Furthermore, according to Gallup Poll Social Series, Americans have higher confidence and trust in the local government than state governments (McCarthy, 2018). As one observer put it, “Americans trust their local governments because they are tasked with doing things we want: keeping us safe, educating our children, cleaning the streets” (Hendrix, 2019). Local governments must have power to provide the services their constituents trust them to deliver.

Second, local governments also have some power to shape local public policy in their community to match their residents’ will (Sances, 2019; Tausanovitch and Warshaw, 2014). I do not mean to suggest that cities have the *unconstrained* ability to adjust policies in the direction that their constituents want. Indeed, some local governments (i.e., counties) are effectively constrained by the state government in spending on health, hospitals and education (Sances, 2019).<sup>7</sup> I simply mean that local governments generally have *sufficient* control over their own resources to enact policies in the direction their constituents want on a broad set of issues. Liberal cities spend and tax more (Tausanovitch and Warshaw, 2014). Similarly, counties have the ability to changes their tax revenue with the changing partisan composition of the voters (Sances, 2019).

One concern is the absence of their capacity to control their own policies. But, local governments also alter the administration of state and federal policies to accomplish their goals (Rosenfeld, 1979). The federal government routinely devolves the power of implementing national policies to the local level through grant programs, like the Department of Housing and Urban Development’s Community Development Block Grant (CDBG).<sup>8</sup> Through this

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<sup>6</sup>The Atlantic Media/Siemens State of the City Poll (Capps, 2014) question wording: When you think about the public services where you live, like roads, education, and police, do you think these services are an excellent value for the local taxes you pay, a good value, a poor value, or a very poor value for your local taxes?

<sup>7</sup>Furthermore, cities have been effectively constrained in their ability to implement certain policies, such as minimum wage ordinances.

<sup>8</sup>HUD’s Community Development Block Grant: [https://www.hud.gov/program\\_offices/comm\\_](https://www.hud.gov/program_offices/comm_)

program, the federal government gives local governments money to address issues of poverty, housing, and infrastructure with few regulatory restrictions. Rosenfeld et al. (1995) discuss this level of discretion in their analysis of CDBG funds:

“Ultimately, CDBG delegates partial decision making responsibility to local political and administrative officials. These individuals have the opportunity to define local community development programs within broad or narrow federal parameters. The extent to which they exercise this opportunity and do so without abuses to the legislation will vary, not only with federal policies, but also with local economic, political, and administrative characteristics” (Rosenfeld et al., 1995, p. 57)

As with other federal government grant programs, local governments strategically apply for money and use the funds for geographic and political reasons (Rosenfeld et al., 1995; Rosenfeld, 1979). For example, Rosenfeld et al. (1995) argue that the political environment can shift the use of CDBG finds towards social service provision and limit spending on economic development in the short term. Thus, local governments have the relative autonomy to change public policy on the margin to respond to the will of the public.

Third, given a political market exist and preferences can be aligned on a left-right scale, an electoral incentive exists – through elections – for officials to follow the will of the public (Mayhew, 1974). This process may occur through adaption or selection.<sup>9</sup> When elected officials pursue policies incongruent with the will of their constituents, voters can sanction the incumbent by selecting an opposing candidate on election day (Ansolabehere, Snyder and Stewart, 2001; Lee, Moretti and Butler, 2004; Poole, 2007).

Elected officials, while in office, are continually under pressure to adapt to the will of the public out of fear of voter sanctioning (Caughey and Warshaw, 2018; Erikson and Wright,

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#### planning/communitydevelopment

<sup>9</sup> While I argue that both – adaptation and selection – may occur, I am agnostic as to which mechanism is operating at the municipal level. Future research can explore which mechanism is at work. Caughey and Warshaw (2018) finds that dynamic responsiveness operating through adaptation on the state level. As they note in their paper, this goes against the majority of the research in the Congressional literature which suggests selection as the main contributor to responsiveness (Ansolabehere, Snyder and Stewart, 2001; Poole, 2007).

2000). For example, Kousser, Lewis and Masket (2007) find that a Republican surge in California led to experienced Democrats moderating their voting record in the state legislature out of fear of losing their re-call election. Similarly, Caughey and Warshaw (2018) find evidence that policy changes occur even when the partisan composition of the state does not. In other words, “the evidence supports the hypothesis that the adaptation of reelection-motivated incumbents to shifts in public sentiment is an important, and perhaps the dominant, mechanism of responsiveness” (Caughey and Warshaw, 2018, p. 261).

Lastly, scholars of public choice theory and advocates of polycentricity argue that the multiplicity of overlapping institutions may lead to greater responsiveness (Ostrom, 2010; Ostrom, Tiebout and Warren, 1961; Ostrom and Whitaker, 1999; Tiebout, 1956). Polycentricity is a “social system of many decision centers having limited and autonomous prerogatives and operating under an overarching set of rules” (Aligica and Tarko, 2012, pg. 237). The patchwork of local governments or metropolitan governance is traditionally seen as a polycentric system since there exists a multiplicity of decision centers that are semi-autonomous that compete, cooperate or interact both vertically and horizontally.

Overlapping governance creates hyper-local avenues for which residents may get their voices heard, and creates the opportunity to tailor policies towards localized residents. For example, early work on polycentricity and overlapping governance finds that creating neighborhood-sized governments within cities – which, for example, places the control of police into resident’s hands – could increase responsiveness relative to larger and consolidated districts (Ostrom and Whitaker, 1999). As the authors note, this was of particular importance given the greater diversity in American cities and the general dissatisfaction black Americans face being governed by larger unrepresentative institutions.

Moreover, Tiebout (1956) provides a model that does not rely on the direct connection between citizens, elected officials, and policy through representative institutions. The Tiebout model suggests that residents only need to know the level of public goods a par-

ticular set of governments are providing, and that residents register their satisfaction by moving or staying. As some researchers point out, “one implication of a Tiebout type model is that representative institutions may not matter very much. Elected politicians are incentivized to pursue policies that retain and attract like-minded citizens[...]" (Tausanovitch and Warshaw, 2014, pg. 606). Furthermore, the Tiebout model and the lesser importance of traditional electoral institutions provide great insight into how responsiveness in a patchwork of overlapping governments may operate.

The discussion above suggests that there exists reasons we may or may not expect responsiveness at the local level. Given the competing arguments and the insight into overlapping governance, I ask three questions:

**RQ1:** Given overlapping governance, does cross-sectional responsiveness exist?

**RQ2:** Given overlapping governance, does dynamic responsiveness exist?

**RQ3:** Does consolidated governance modify the effect of public opinion on policy outcomes?

## 3 Data

### 3.1 Fiscally Standardized Cities as the Unit of Analysis

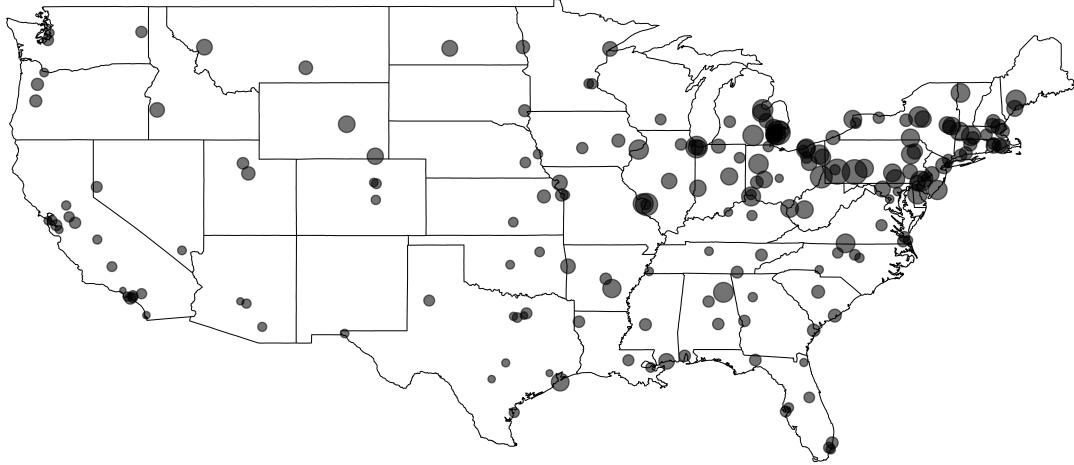
To examine the relationship between local ideological preferences and local public policy, I analyze data from the Lincoln Land Institute’s Fiscally Standardized Cities (FiSC) dataset (Langley, 2013).<sup>10</sup> This data contains annual finances for over 200 cities between 1977 to 2017. For the purpose of this article, I use the ten years between 2007 and 2016.<sup>11</sup> As shown in Figure 2, the cities contained in the sample stretch across the United States. A list of cities in the sample can be found in Appendix A.

The FiSC database provides two unique advantages to studying representation at this

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<sup>10</sup>The Lincoln Institute of Land Policy’s Fiscally Standardized Cities Database can be accessed at the following website: <https://www.lincolninst.edu/research-data/data-toolkits/>

Figure 2: Map of Cities in Sample



Notes: Depicts a map of the United States where each point is a city contained in my sample. The size of each point is apportioned by the population size in 2016. I do not show two cities in Alaska: Anchorage and Fairbanks.

level. First, it allows comparisons between city budgets (the traditional measure used by researchers) and the fiscally standardized city (the measure I use). Fiscally standardized cities' measure of revenue and expenditures capture all good, services, and revenue generation from all local governing units within a geographic city. These units not only include the general purpose municipality, but also the wide range of special governing units which have the ability to tax and spend on behalf of their residents.<sup>12</sup> This aggregation occurs by apportioning spending and taxation by population. For example, if a county contains one million residents and the principal city (municipality) contains half a million residents. Half of the county's expenditures and taxation is assumed to be distributed to the city. If, for example, a school district stretches across multiple cities, its expenditures and tax revenue

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**fiscally-standardized-cities/search-database**

<sup>11</sup>I choose these years because of data available in estimating ideological preferences.

<sup>12</sup> While most of the current work does not consider this complexity, Christopher Berry's book, *Imperfect Union*, addresses how representation is inhibited by the multitude of special-purpose governments like school districts, fire districts, and special business authorities (Berry, 2008, 2009). Stone (2014) also accounts for overlapping jurisdictions to provide a measure of public good provision for the Dallas-Fort Worth-Arlington metropolitan statistical area using geographic information systems (GIS).

are divided by the population covered by the school district.

For a visual representation, examine Figures 3 and 4. I plot the over time trends in expenditures and tax revenue per capita by layer of local government for the City of Cincinnati, Ohio. Across both figures, Plot A represents the municipality or the traditional measure used by researchers to examine budgets and policy outcomes. Plots B-D represent county, school, and special district level expenditures or tax revenue per capita apportioned to the city. Plot E represents the culmination of taxation and spending. For purpose of this project, I use the Fiscally Standardized Cities' measure of public good provision.

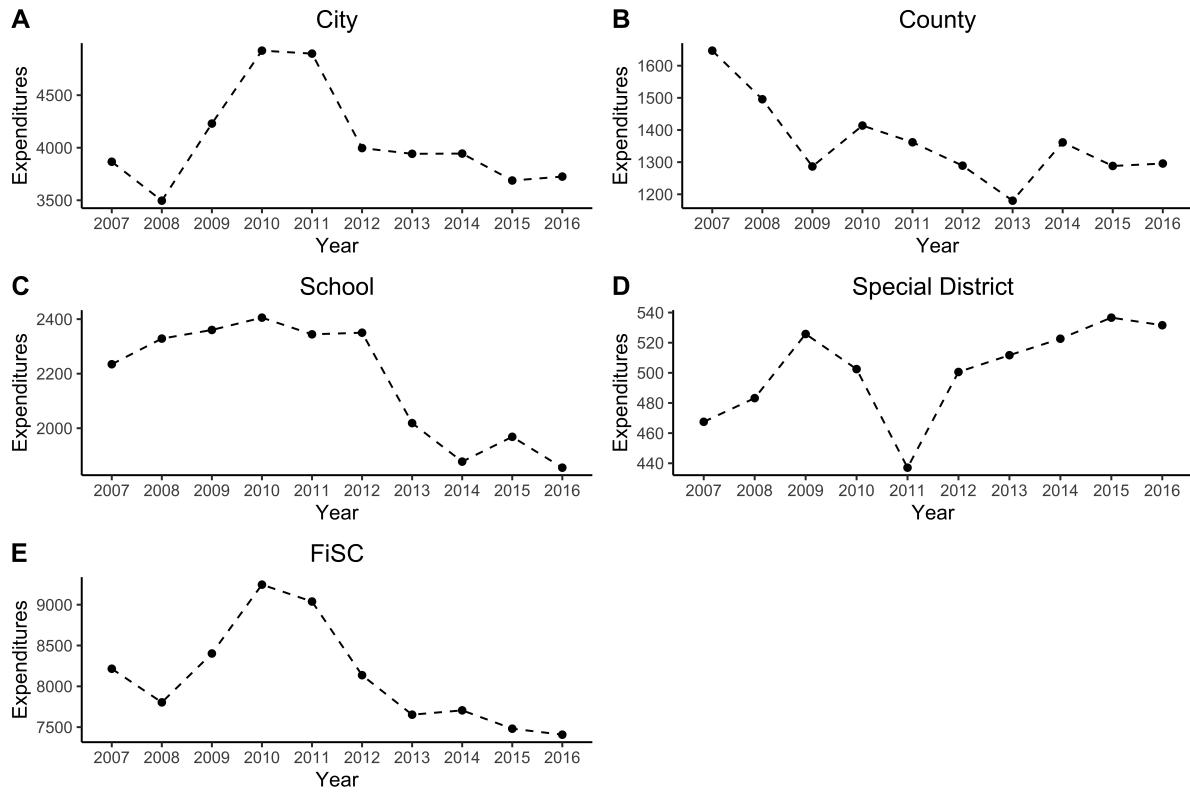
Using the culmination of expenditures and taxation is important for the study of representation in local politics. First, it is possible for responsiveness to exists at one level and not the other. For instance, imagine a city that becomes more conservative and reduces spending on affordable housing. This would be seen as a responsive city. However, imagine that same city reduces their spending on affordable housing but the county government begins to spend more on affordable housing that serve the same residents. It would be hard to suggest that the resident live under a responsive regime. As such, the fiscally standardized city is a better description of the world.

This is not the first time someone has considered reframing the unit of analysis. Stone (2014) argued in favor of shifting the provision of local public goods towards the overlapping government combination as the unit of analysis. In examining the Dallas-Fort Worth-Arlington consolidated metropolitan statistical area, he finds that overlapping government combinations are distinct from their constitutive components, but also a better, more accurate description of property tax rates.<sup>13</sup>

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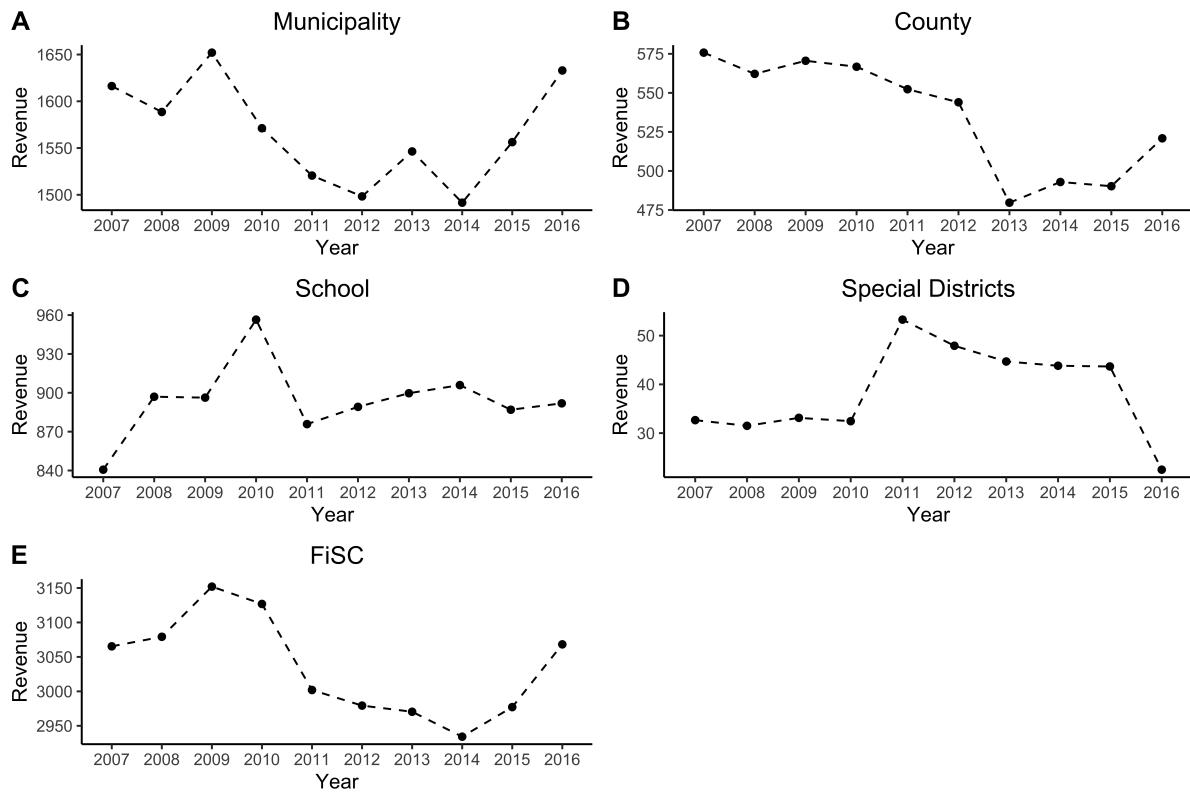
<sup>13</sup>While there are many similarities in my and Stone's approach, I depart from his analysis in a few ways. First, I evaluate responsiveness cross-sectionally and over time for over 200 cities, while he explores the public goods provision – proxied by an ad valorem property tax rate – in a metropolitan area in a single time period. Second, the fiscally standardized cities I use simplify the aggregation of public good provision (taxation and spending) by weighting by population, while Stone uses geographic information systems to stack the layers of government. I argue that my approach is better for the questions I seek to answers because the data contains a multitude of cities across time (ten year) and space (across the United States as opposed to in a single state), which will make my conclusions more generalizable.

Figure 3: Cincinnati, OH: Expenditures by Layer of Government



Notes: Depicts expenditures per capita in Cincinnati, Ohio. Plot A represents the municipality only spending, while Plots B-D represent county, school, and special district level spending apportioned to the city. Plot E is the culmination of spending from the overlapping entities. Or simply put, the summation of city, county, school, and special district spending apportioned to the city.

Figure 4: Cincinnati, OH: Taxation by Layer of Government

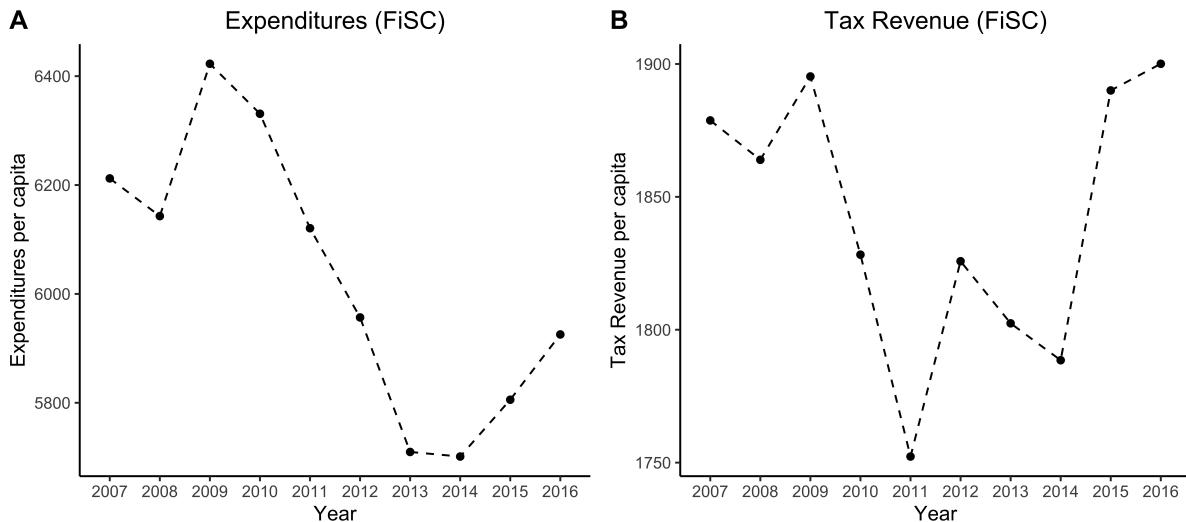


Notes: Depicts taxes per capita in Cincinnati, Ohio. Plot A represents the municipality only tax revenue, while Plots B-D represent county, school, and special district level of taxation apportioned to the city. Plot E is the culmination of taxation from the overlapping entities. Or simply put, the summation of city, county, school, and special district tax revenue apportioned to the city.

### 3.2 Outcome: Local Government Finances

I use two measures of policy output: *tax revenue* and *expenditures* per capita. Figure 5 depict the median tax revenue and expenditures per capita for the cities in my sample. Tax revenue usually comes from sales and property taxation. In my sample, the median tax revenue ranges from \$1,752 to \$1,900. Expenditures can be classified into eight categories: education services, social serves and income maintenance, transportation, public safety, environment and housing, government administration, interest on general debt, and miscellaneous activities. The median expenditures range from \$5,701 to \$6,422 per capita.

Figure 5: Median of Dependent Variables



Notes: Depicts the two dependent variables used for the main analysis. Panel A shows the median expenditures per capita for fiscally standardized cities, while Panel B shows the median revenue generated per capita.

### 3.3 Ideological Preferences

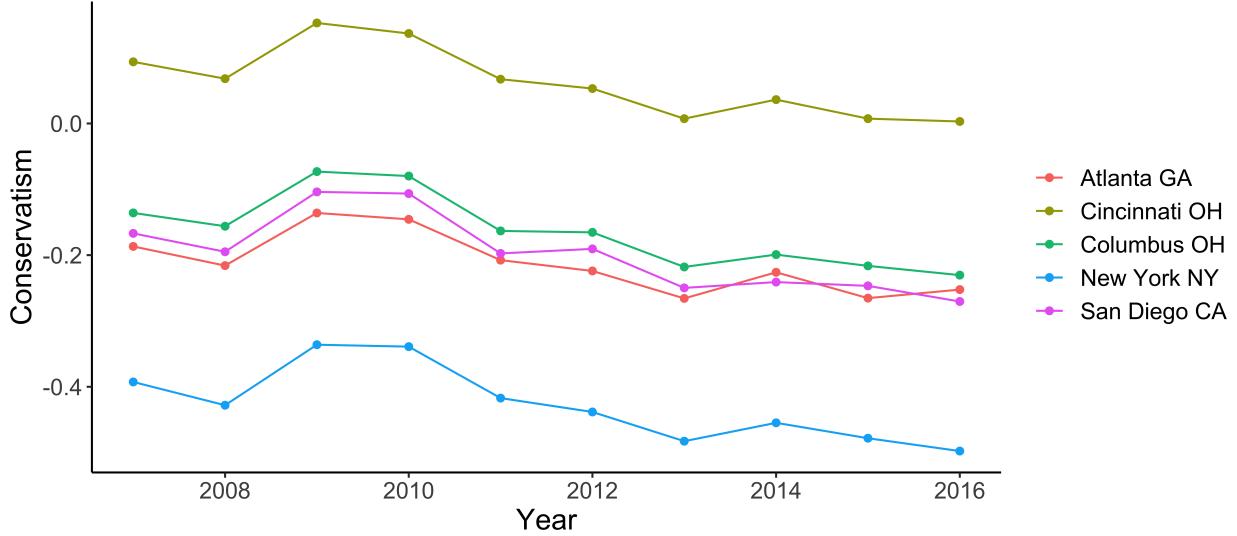
In order to examine cross-sectional and dynamic responsiveness at this level, I create a novel measure of local ideological preferences. First I compile a *super survey* of over 500,000 respondents from the Cooperative Congressional Election Surveys, Gallup Poll Social Series, and the Annenberg Election Surveys. Second, I isolate the key ideological measure (self-placement ideology) and key demographic variables (i.e., race, age, gender, education) from the surveys. Third, I estimate ideological preferences as a function of the demographic variables using Gelman et al. (n.d.) dynamic multilevel regression and post-stratification or MRT. The MRT model is similar to the traditional MRP models with the inclusion of time smoothing parameters ( $\gamma$ ) and time intercepts. As shown below, I include demographic intercepts with interactions to improve the performance of the model.

$$x_{it} = \gamma_1 \text{year std} + \gamma_2 \text{year std sq} + \alpha_{r[i]}^{\text{race3}} + \alpha_{e[i]}^{\text{education3}} + \alpha_{g[i]}^{\text{gender2}} + \alpha_{l[i]}^{\text{location}} \\ + \alpha_{t[i]}^{\text{year}} + \alpha_{r[i],t[i]}^{\text{race3,year}} + \alpha_{e[i],t[i]}^{\text{education3,year}} + \alpha_{g[i],t[i]}^{\text{gender2,year}} + \alpha_{l[i],t[i]}^{\text{location,year}} + \epsilon_{it} \quad (1)$$

In Appendix B, I provide additional information on the estimation of local political preferences and the model specification. In Appendix C, I provide evidence that the cross-sectional and the dynamic variation of the measure validates with vote share across three presidential cycles and other measures of ideology.

The measure of ideology empirically ranges from -0.7 (Oakland, CA in 2016) to 0.52 (Colorado Springs in 2009). The average city in the dataset has a conservatism score of 0.055 (Tampa, FL in 2008). To visual the measure over time, Figure 6 depicts conservatism for five cities: Atlanta, Georgia; Cincinnati, Ohio; New York, New York; and San Diego, California.

Figure 6: Ideology Between 2007-2016: Five Select Cities



Notes: Depicts conservatism over time for five cities: Atlanta, Georgia; Cincinnati, Ohio; New York, New York; and San Diego, California.

### 3.4 Modeling Strategy

I follow Achen's (1978) conception of responsiveness, where responsiveness is the difference between the average opinion of citizens and policy output. In a statistical model, this is represented by the coefficient on the public opinion variable. This approach has been used by many other researchers of responsiveness (Tausanovitch and Warshaw, 2014; Caughey and Warshaw, 2018; Stimson, MacKuen and Erikson, 1995).

While fixed effects models are the typical estimators used by political scientists to analyze panel data, I use a Bayesian Within-Between Random Effects Model. The within-between random effects model estimates both the within and between effects of explanatory variables simultaneously by separating higher-level variances (between cities) and lower level variances (within city) (See Mundlak, 1978; Bell and Jones, 2015).

The argument for using fixed effects over random effects has centered around the random effects assumption that predictors in the model do not correlate with unobserved time-constant heterogeneity. Thus practitioners have gravitated towards using the Hausman test

to examine whether the random effects modeling assumptions are violated (Greene, 2012). Recent studies have questioned the usefulness of the Hausman test because it only test whether the between and within effects are different and doesn't evaluate whether the researcher should make a bias-variance tradeoff (Bell and Jones, 2015; Clark and Linzer, 2015).

More importantly, the debate between fixed effects estimation and random effects is largely “imaginary” (Mundlak, 1978). By directly modeling the time-invariant heterogeneity by including group-level means, the within effects of random effects model becomes equivalent to coefficients of the fixed effects models. In Appendix D, I verify that my within-between effects estimates are equivalent using a two-way fixed effects models and a pooled cross-sectional linear regression.

Using the within-between random effects models comes with a few advantages. First, I am able to model the dynamic and cross-sectional variation in a single approach. Second, I am able to interpret the between effects of time-varying variables. For instance, the group-level mean for ideology tells us the cross-sectional relationship between ideology and policy. Third, I am able to interpret time-invariant variables. For example, I am able to assess whether places with consolidated cities spend more or less on average. In general, this random effects approach tries to provide a “richer description of the relationship under scrutiny” while fixed effects model attempt to cut out context (Subramanian et al., 2009, p. 373).

For a better understanding of the model, see the equation below:

$$y_{jt} = \beta_0 + \beta_1(x_{jt} - \bar{x}_j) + \beta_2\bar{x}_j + \beta_3z_j + (\mu_j + \epsilon_{jt}) \quad (2)$$

subscript  $j$  denotes cities,  $t$  denotes time (year),  $y_{jt}$  are the policy outcomes by the government (*taxes per capita* and *total expenditures per capita*),  $x_{it}$  are time-varying independent variables,  $\bar{x}_j$  are averages of time-varying variables, and  $z_i$  are time-constant independent variables. Thus,  $\beta_1$  represents mean centered time-variant variables (ideology) and the within unit effects.  $\beta_2$  represents the between-unit effects or cross-sectional responsiveness.  $\beta_3$  represents the effect of time-constant independent variables such as consolidated city. The two

error components ( $\mu_j$  and  $\epsilon_{jt}$ ) represent the aggregated unobserved group-level effect and the unobserved level 1 effect, respectively.

I include the following time-varying variables in the models I present in the main text: population (logged), median household income, share of black residents, and income inequality. Like conservatism, these time-varying variables also have an invariant (or between-effect) portion that correspond to group-means. For example, these group-mean represent the time-constant effect of being a city with high income as opposed to low income. I also include consolidated government as a time-constant indicator. Consolidated government exists where the city and county are merged or the city functions as an administrative unit of the state (like counties).

## 4 Results

I separate the results into three parts. First, I visually examine the bivariate relationship between ideology and policy cross-sectionally and dynamically. Second, I report my main results of ideology on public policy using between-within random effects models with covariates. Finally, I explore the extent to which consolidated governance either fosters or inhibits responsiveness.

### 4.1 Preliminary Analysis

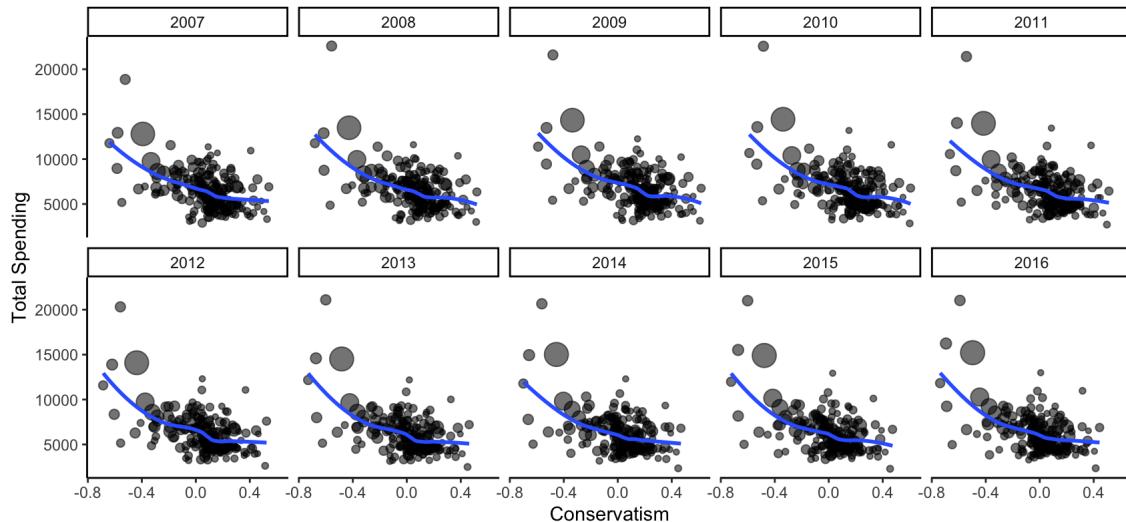
Figures 7 and 8, show the cross-sectional relationship between conservatism and policy over time. In each year, a negative relationship exist. Indeed, geographic-cities that contain residents who are more conservative tend to tax and spend less. While the correlations between conservatism and expenditures range from -0.45 to -0.49, the correlations for taxes range from -0.42 to -0.49. Figure 9, however, shows a less clear relationship dynamically.

In Figure 9 I show the relationship between ideology and policy, where each line is a

city. If all cities were responsive, we would expect each grey line to point in the negative direction. As we can see, some cities are responsive – in the sense that the relationship between ideology and policy is negative – while others are actually positive. At the same time, many cities tend to have a relatively small slope across the ten years in my sample.

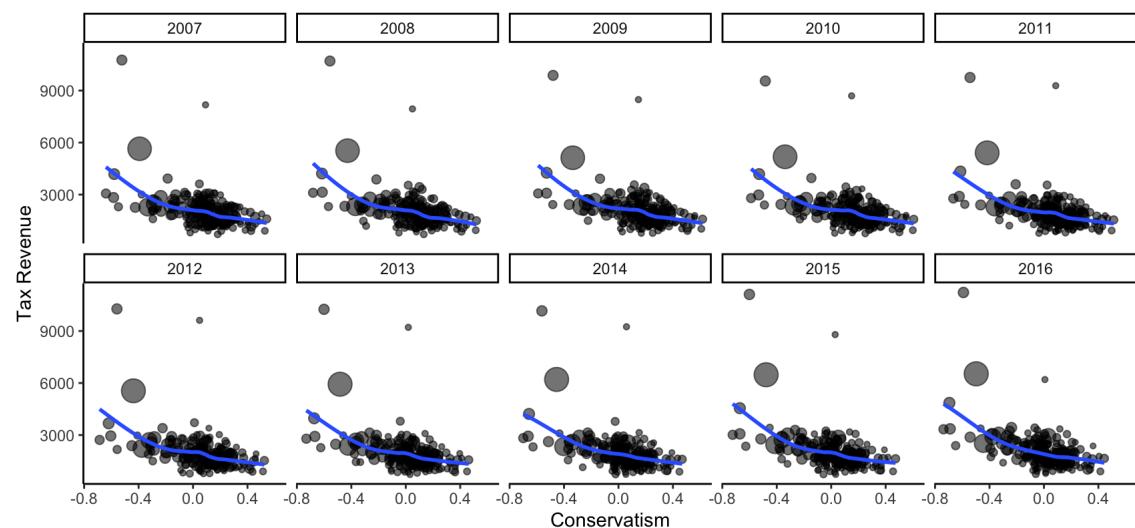
The main takeaways from this preliminary visual analysis suggest that while cross-sectional representation may exists in a robust fashion, dynamic responsiveness may be less clear. In the main results section I examine whether these bivariate results hold up under further analysis.

Figure 7: Bivariate: Total Spending and Ideology 2007-2016



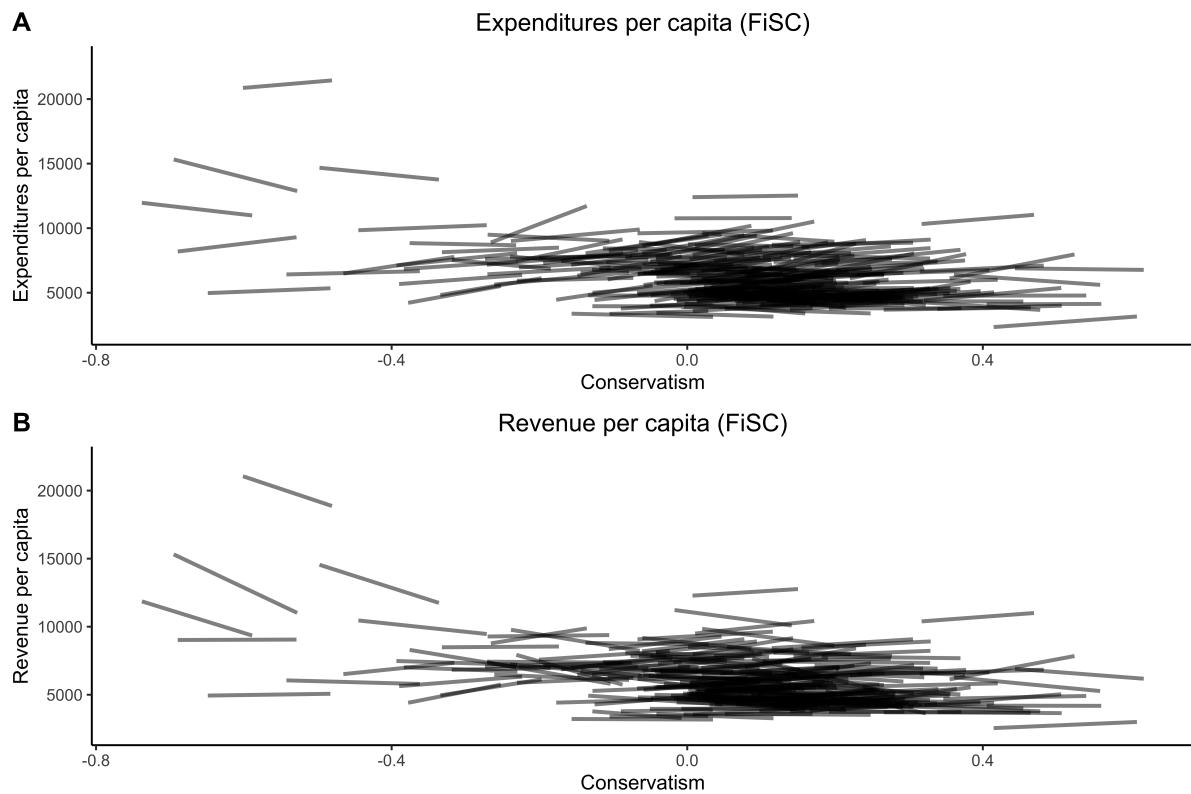
Notes: Depicts the bivariate cross-sectional relationship between conservatism and total spending per capita by year. Each dot is a city. Size indicates population. As shown, there is a negative relationship in every year which suggests that cities that are conservative tend to spend less than liberal cities.

Figure 8: Bivariate: Tax Revenue and Ideology 2007-2016



Notes: Depicts the bivariate cross-sectional relationship between conservatism and tax revenue per capita by year. Each dot is a city. Size indicates population. As shown, there is a negative relationship in every year which suggests that cities that are conservative tend to generate less revenue than liberal cities.

Figure 9: Bivariate: Conservatism and Policy Outcomes



Notes: Depicts the bivariate relationship between ideology and policy. Each line shows the relationship within a city.

## 4.2 Main Results: Ideology's Impact on Public Policy

Table 1 summarizes the results for conservatism's impact on expenditures per capita and taxes per capita. All models include the same control variables: population (logged), median household income, share of black residents, income inequality, and consolidated government. Given that the results are from a Bayesian Within-Between model, I show the lower and upper 95% credible intervals in brackets, and split the table into two panels: between unit effects (Panel A) and within unit effects (Panel B). Panel A or the between effects estimates are equivalent to the coefficients in a pooled cross-section model. Panel B assesses whether cities dynamically respond to the changes in ideology within a city. For simplicity, if the credible intervals do not contain 0, I highlight the coefficient with an asterisk mark (eg. \*).

Table 1: Results: Ideology on Expenditures and Taxation

	Expenditures	Taxation
<b>A. Between Unit Effects</b>		
Intercept	-2747.91 [-7587.77, 2205.63]	-3470.26* [-5629.74, -1288.07]
Ave. Conservatism (Cross-sectional)	-3273.69* [-4808.82, -1742.47]	-1125.86* [-1805.18, -423.13]
<b>B. Within Unit Effects</b>		
Conservatism (Dynamic)	-3293.64* [-5256.02, -1340.93]	-254.64 [-970.36, 455.89]

I find evidence that cross-sectional responsiveness exists in both expenditures and tax revenue. Cities with conservative residents tend to spend \$3,300 less per capita and collect \$1,100 less per capita in revenue. These estimates, however, are not a plausible counterfactual for the observed changes in the independent variable. Following the recommendations of Mummolo and Peterson (2018), I isolate the relevant between-unit change of ideology and compute the standard deviation which provides me with a typical between-unit variation in ideology. A revised one standard deviation increase in conservatism – or having two cities a one standard deviation away from each other – will tax and spend \$254 and \$654 less

per capita.<sup>14</sup> These results are analogous to the cross-sectional results of Tausanovitch and Warshaw (2014).

I find similar patterns for the existence of dynamic responsiveness. A city becoming a standard deviation more conservative reduces their expenditures by \$33 per capita.<sup>15</sup> While this may seem small, a reduction of \$33 per capita for a city of 400,000 is thirteen million dollars. The coefficient on tax revenue per capita is in the correct direction, however, the credible intervals are imprecise.

### 4.3 Does Consolidated Governance Foster Greater Responsiveness?

Next, I turn my analysis to how consolidated governments may increase or decrease responsiveness. Consolidated governments are ones where the city/municipality and county are merged or the municipality is an administrative unit of the state, like a county. In my sample, 32 out of the 204 cities have a consolidated government. Figure 10 shows the geographic distribution of consolidated cities in my sample. The majority of the cases are in the eastern half of the United States.

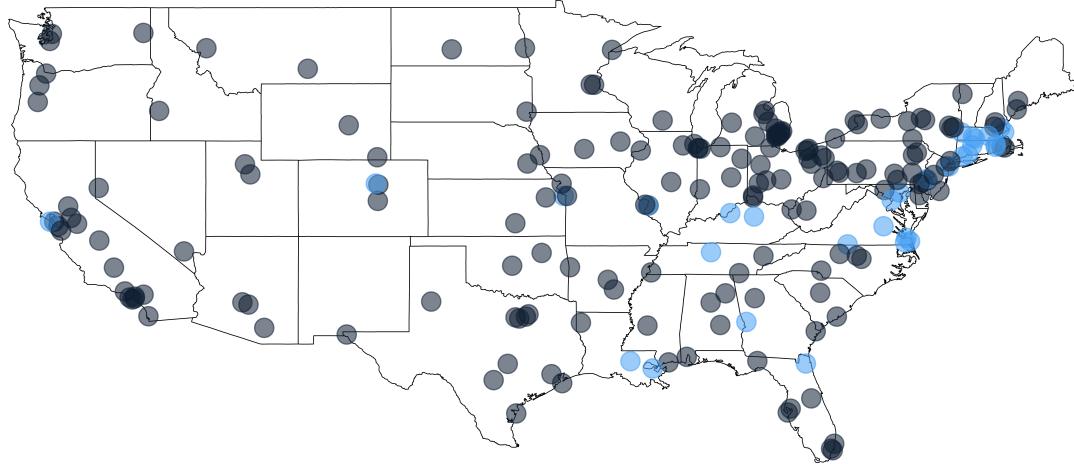
Similar to the main analysis, I use the Bayesian within-between random effects approach to model the cross-level interaction of ideology and consolidated government. Though there are competing theories about how overlapping governments may enhance or impede responsiveness, I generally find evidence that places where consolidated governments exist tend to have stronger responsiveness (See Table 2 Panel C). A direct policy implication of this finding is that we should reduce overlapping governance to increase responsiveness.

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<sup>14</sup> The standard deviation of residualized (between) ideology is 0.2. Thus,  $\$3273 \times 0.2 = \$654$ . The calculations for taxation follow the same format.

<sup>15</sup> Similar to the cross-sectional results, I compute a more reasonable counterfactual change of within-unit ideology. The standard deviation of residualized (within-unit) is 0.01.

Figure 10: Map of Consolidated Cities in Sample



Notes: Depicts a map of the United States where each point is a city contained in my sample. Blue dots are consolidated cities, while grey dots are non-consolidated cities.

Table 2: Consolidated Governance

	Expenditures	Taxation
<b>A. Between Unit Effects</b>		
Intercept	-2660.89 [-7587.77, 2205.63]	-3470.26* [-5629.74, -1288.07]
Ave. Conservatism (Cross-sectional)	-3279.37* [-4808.82, -1742.47]	-1125.86* [-1805.18, -423.13]
Consolidated Government	293.89 [-416.58, 1023.96]	183.53 [-152.88, 514.46]
<b>B. Within Unit Effects</b>		
Conservatism (Dynamic)	-3293.64* [-5256.02, -1340.93]	-254.64 [-970.36, 455.89]
<b>C. Cross-Level Interactions</b>		
Conservatism*Consolidated Gov.	-1712.52* [-2672.73, -745.11]	-657.24* [-1008.77, -301.05]

## 5 Conclusion

This paper examines the extent to which responsiveness exists at the local level. While previous studies have examined the relationship between public opinion and public policy, I bring together a new framework that takes into account overlapping governing institutions, a novel measure of ideological preferences over time, and a seldom used method to provide new evidence on this question. In doing so, I provide evidence that both cross-sectional and dynamic responsiveness exists.

Specifically, I find robust evidence of cross-sectional responsiveness. These results are consistent with the finding of other researchers (Tausanovitch and Warshaw, 2014; Einstein and Kogan, 2016). Indeed, places that contain conservative residents tend to spend and tax less on average. I also provide the strongest evidence to date that dynamic ideological responsiveness exists for expenditures. Furthermore, I find that consolidated governments modify the effect of public opinion on public policy. This is descriptive evidence that consolidated governance fosters greater responsiveness because citizens have clearer lines of accountability.

While I provide robust evidence of responsiveness in local government, there are inherent limits to the design of this project. First, causal inference remains elusive. While I take care in showing cross-sectional and dynamic results, there may be unobserved confounders that may render the relationship between public opinion and public policy spurious. Future work should find an instrumental variable or another form of exogeneity for local public preferences. Second, using the fiscally standardized approach is one of many ways to account for the overlapping nature of local governments. Berry (2008, 2009) uses a count of governments within a county, while Stone (2014) uses geographic information systems to stack overlapping government in a single metropolitan area. Lastly, none of this research is intended to say ideology is the only way of viewing responsiveness in local government. Urban politics is awash theories that may shed light on responsiveness. Specifically, urban regime theory and racial coalition building may be a better lens to view local governance (See Stone, 1989).

The broader policy implications of this research suggests that we should move towards a more consolidated local government which would provide greater lines of accountability instead of multiple overlapping governing institutions. Furthermore, we should take seriously the inherent nature of the institutions around us. As overlapping institutions are a fundamental reality of local governance in the United States, future researchers should embrace the complexity rather than ignoring it.

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# Appendices

## A Cities in Sample

Table 3: Cities in Sample

Akron OH	Albany NY	Altoona PA	Anaheim CA
Anchorage AK	Anderson IN	Arlington TX	Atlanta GA
Atlantic City NJ	Aurora CO	Aurora IL	Austin TX
Bakersfield CA	Baltimore MD	Baton Rouge LA	Bay City MI
Bayonne NJ	Billings MT	Binghamton NY	Birmingham AL
Bismarck ND	Bridgeport CT	Buffalo NY	Burlington VT
Camden NJ	Canton OH	Casper WY	Cedar Rapids IA
Charleston SC	Charleston WV	Charlotte NC	Chattanooga TN
Chesapeake VA	Chester PA	Cheyenne WY	Chicago IL
Cincinnati OH	Cleveland Heights OH	Cleveland OH	Colorado Springs CO
Columbia SC	Columbus GA	Columbus OH	Corpus Christi TX
Covington KY	Dallas TX	Danville VA	Dayton OH
Dearborn Heights MI	Dearborn MI	Decatur IL	Denver CO
Des Moines IA	Detroit MI	Dover DE	Duluth MN
Durham NC	East Chicago IN	East St. Louis IL	El Paso TX
Erie PA	Euclid OH	Eugene OR	Fairbanks AK
Fall River MA	Fargo ND	Flint MI	Frederick MD
Fremont CA	Fresno CA	Ft. Lauderdale FL	Ft. Smith AR
Ft. Wayne IN	Ft. Worth TX	Gadsden AL	Galveston TX
Garland TX	Gary IN	Grand Rapids MI	Greensboro NC
Gulfport MS	Hammond IN	Hamtramck MI	Harrisburg PA
Hartford CT	Hialeah FL	Holyoke MA	Houston TX
Huntington Beach CA	Huntington WV	Jackson MI	Jackson MS
Jacksonville FL	Johnstown PA	Kansas City KS	Kansas City MO
Knoxville TN	Las Vegas NV	Lawrence MA	Lewiston ME
Lexington KY	Lima OH	Lincoln NE	Lincoln Park MI
Little Rock AR	Long Beach CA	Los Angeles CA	Louisville KY
Lubbock TX	Lynn MA	Madison WI	Manchester NH
McKeesport PA	Memphis TN	Mesa AZ	Miami FL
Minneapolis MN	Missoula MT	Mobile AL	Modesto CA
Montgomery AL	Nampa ID	Nashua NH	Nashville TN
New Bedford MA	New Haven CT	New Orleans LA	New York NY
Niagara Falls NY	Norfolk VA	Oakland CA	Oklahoma OK
Omaha NE	Orlando FL	Philadelphia PA	Phoenix AZ
Pine Bluff AR	Pittsburgh PA	Pittsfield MA	Pontiac MI
Portland ME	Portland OR	Providence RI	Provo UT
Raleigh NC	Reading PA	Reno NV	Richmond VA
Riverside CA	Rochester NY	Rock Island IL	Rome NY
Roseville MI	Sacramento CA	Saginaw MI	Salem OR
Salt Lake City UT	San Antonio TX	San Diego CA	San Francisco CA
San Jose CA	Santa Ana CA	Savannah GA	Schenectady NY
Scranton PA	Seattle WA	Shreveport LA	Sioux Falls SD
South Bend IN	Spokane WA	Springfield MA	Springfield OH
St. Joseph MO	St. Louis MO	St. Paul MN	St. Petersburg FL
Stockton CA	Syracuse NY	Tacoma WA	Tallahassee FL
Tampa FL	Taylor MI	Terre Haute IN	Toledo OH
Topeka KS	Trenton NJ	Troy NY	Tucson AZ
Tulsa OK	University City MO	Utica NY	Virginia Beach VA
Warren MI	Warren OH	Warwick RI	Washington DC
Wheeling WV	Wichita KS	Wilkes-Barre PA	Wilmington DE
Worcester MA	Yonkers NY	York PA	Youngstown OH

## B Estimating Ideology using MRT

To estimate local ideology, I first collect national surveys that asked respondents to place themselves on an ideological scale from liberal to conservative. For these surveys to be included in my dataset, respondents must have identified a valid zipcode to help identify the

respondent's city. I collect nationally representative surveys between 2007 and 20016 from Gallup Poll Social Series, the Cooperative Congressional Election Surveys (CCES) and the Annenberg Election Surveys (NAES).

I use Gelman et. al's dynamic multilevel regression with post-stratification model to estimate ideology. I conducted multiple model specifications that varied smoothing of year and demographic information. Table 4 shows a description of the variables entering the model. I present the following model in this paper:

$$x_{it} = \gamma_1 \text{year std} + \gamma_2 \text{year std sq} + \alpha_{r[i]}^{\text{race3}} + \alpha_{e[i]}^{\text{education3}} + \alpha_{g[i]}^{\text{gender2}} + \alpha_{l[i]}^{\text{location}} \\ + \alpha_{t[i]}^{\text{year}} + \alpha_{r[i],t[i]}^{\text{race3,year}} + \alpha_{e[i],t[i]}^{\text{education3,year}} + \alpha_{g[i],t[i]}^{\text{gender2,year}} + \alpha_{l[i],t[i]}^{\text{location,year}} + \epsilon_{it} \quad (3)$$

where  $\gamma_1$  is the standardized/scaled year variable and  $\gamma_2$  is the standardized/scaled year variable squared.  $\alpha$  with subscripts  $r, e, g, l, t$  are random effects for demographics, location, and year. The remaining random effects allow demographic coefficients, like race and gender, to vary by time.

In Appendix C, I validate my dynamic measure of ideology by comparing it to changes in Democratic vote share in three presidential cycles. My findings suggest that when cities become more liberal, the two-party vote share for Democratic Presidents increase.

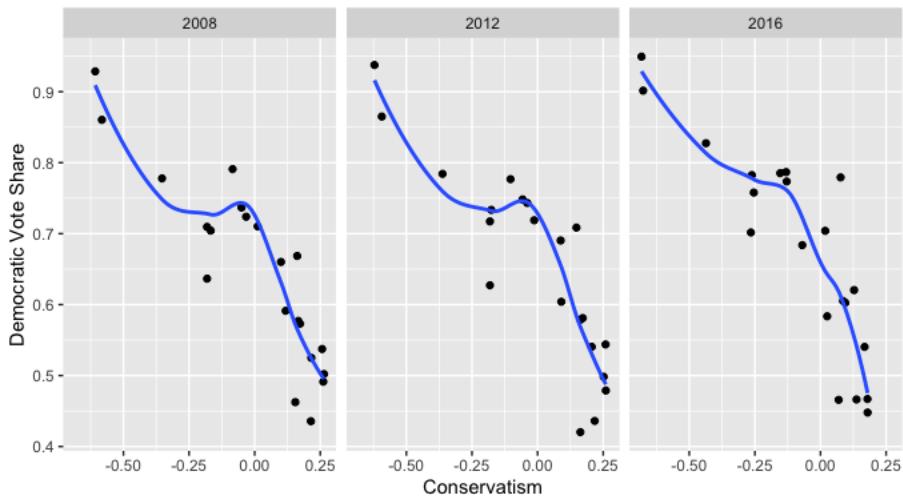
Table 4: Public Opinion, MRT Variables

Variables	Description
Ideology	Self-Placement on the ideological scale, [-2,2]
Year	Categorical year variable, 10 Levels [2006-2016]
Year Std.	Standardized/scaled year variable
Year Std. Sq.	Standardized/scaled year variable squared
Location	Categorical unique city
State	Categorical State 51 Levels [including DC]
Race3	Categorical Race Variable, 3 Levels [White, Black, Other]
Gender2	Categorical Gender Variable, 2 Levels [Male, Female]
Education3	Categorical Education Variable, 3 Levels [HS or less, Some College, BA or higher]

## C Validation of Local Ideological Preferences

In order to validate the dynamics of ideology, I collect city-level Democratic presidential vote share for 21 cities in California and Virginia across three Presidential cycles: 2008, 2012, and 2016. Figure 11 depicts the cross-sectional relationship between ideological conservatism and Democratic vote share. In all presidential years, conservatism is negatively associated with Democratic vote share.<sup>16</sup> However, this approach does not verify the existence of a dynamic relationship. As such, I model the relationship between ideology and vote share using a fixed effects model. Table 5 shows a statistically significant negative relationship between conservatism and Democratic presidential vote share. When cities become more conservative, the vote share of the Democratic Party candidate decreases.

Figure 11: Democratic Vote Share



Notes: Depicts the cross-sectional relationship between conservatism and Democratic vote share in three presidential elections. The data includes 21 cities across California and Virginia.

<sup>16</sup>The pooled correlation between conservatism and Democratic vote share is -0.87. The correlations by year are -0.88, -0.87, and -0.86, respectively.

Table 5: Ideology on Vote Share

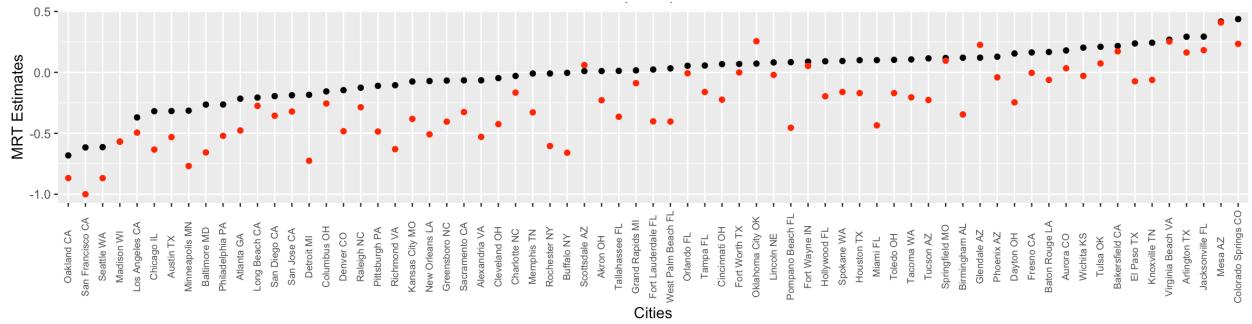
<i>Dependent variable:</i>	
D. Vote Share	
Conservatism	-1.047*** (-0.038)
Constant	0.774*** (0.008)
City FE	Yes
Year FE	Yes
Observations	63
R <sup>2</sup>	0.984
Adjusted R <sup>2</sup>	0.975
Residual Std. Error	0.022 (df = 39)
F Statistic	105.052*** (df = 23; 39)

Note:

\*p<0.1; \*\*p<0.05; \*\*\*p<0.01

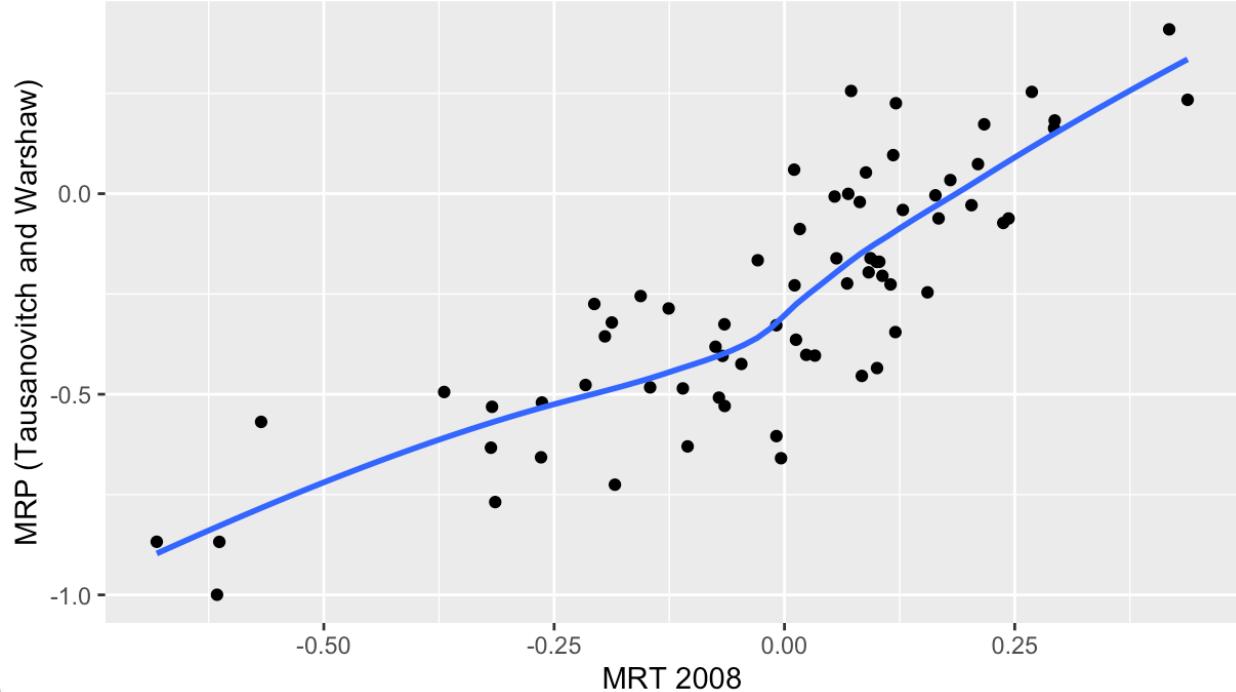
I provide evidence that my MRT-based measure of ideology is comparable to Tausanovitch and Warshaw's cross-sectional MRP-based measure. For purposes of comparison, I restrict my analysis to the year 2008. In Figure 12, I show the extent to which the MRT and MRP measures are ordered similarly. The estimates are correlated at the .83 level.

Figure 12: MRT Estimate of Conservatism (2008) vs. MRP



Note: Ordered by my MRT estimates. The red dots are the MRP estimates from Tausanovitch and Warshaw (2013, 2014).

Figure 13: MRT Estimate of Conservatism (2008) vs. MRP



Note: Depicts the cross-sectional relationship between the MRT-based estimate of conservatism for cities in 2008 and the MRP-based estimate of conservatism used by Tausanovitch and Warshaw (2013, 2014). The estimates are correlated at 0.83.

## D Comparing Pooled Cross-Sectional, Two-Way FE and Within Between Models

While not used in political science as frequently, within between models can recover the estimates as the pooled cross-sectional and two-way fixed effect estimators. As shown in Table 6, the coefficients are approximately the same. I report estimates from the frequentist variant of within-between random effects model.

Table 6: Comparing Coefficients: Expenditure

	Model Coefficient	Within-Between Model
Two-Way FE	-3,371	-3,356
Pooled Cross-Sectional	-3,231	-3,289

## E Responsiveness using Fiscally Standardized Cities vs. Municipalities

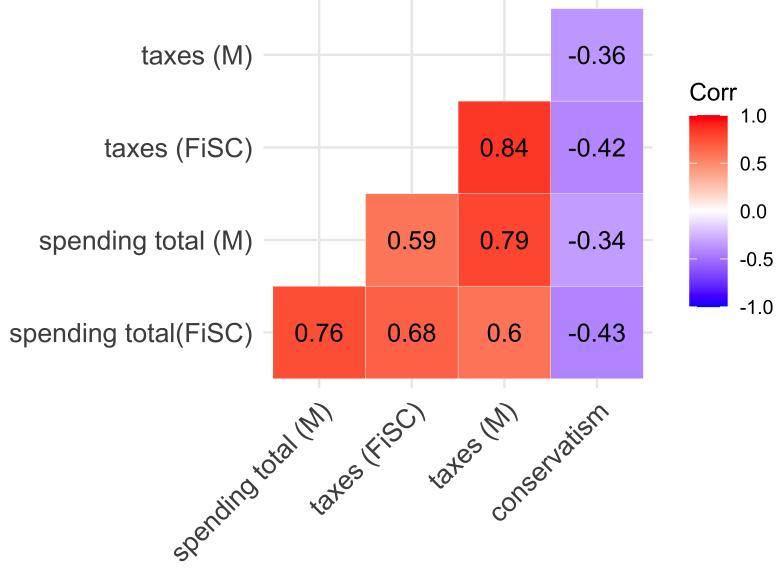
In this section, I investigate how much more we learn about representation in local government from using fiscally standardized cities versus the traditional measure of public policy. As shown in Figure 14, both measures are highly correlated. Specifically, the measure of expenditures per capita and revenue per capita are correlated at 0.76 and 0.83, respectively. Moreover, the correlation between ideology and policy take the same general pattern between the two measures through the relationship seems larger for fiscally standardized measures. This is largely beared out after running the models. I depict the results visually in Figures 15 and 16.

This association, however, do not tell the whole story. One might be interested in the extent to which one measure shows a stronger relationship with policy. Using the traditional measure may over or underestimate the extent to which representation truly exists. To evaluate this claim, I use Zellner's seemingly unrelated regressions to model the errors across the fiscally standardized and municipality models (Zellner, 1962). Following the system of equations, I test the extent to which the slopes using the fiscally standardized measures are greater than the slope of ideology using the traditional measure.<sup>17</sup> In order to make the comparisons on the same level, I scale the dependent variables such that I subtract the mean and divide by the standard deviation.

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<sup>17</sup>See Mize, Doan and Long (2019) for further discussion of testing coefficients across models using seemingly unrelated regressions.

Figure 14: Correlations



Notes: Reports the bivariate correlation matrix of the dependent variables and the explanatory variable of interest in the analysis. “FiSC” refers to fiscally standardized cities or the measure I use in the main analysis. “M” refers to municipality or the traditional measure of municipal budgets.

In the following two tables, I reproduce the coefficients from the seemingly unrelated regression and the linear hypothesis test of the coefficients across the equations. First I compare these scaled results to the main results found earlier in the paper. Second, I examine the extent to which using one set of dependent variables are able to find a stronger relationship with public opinion.

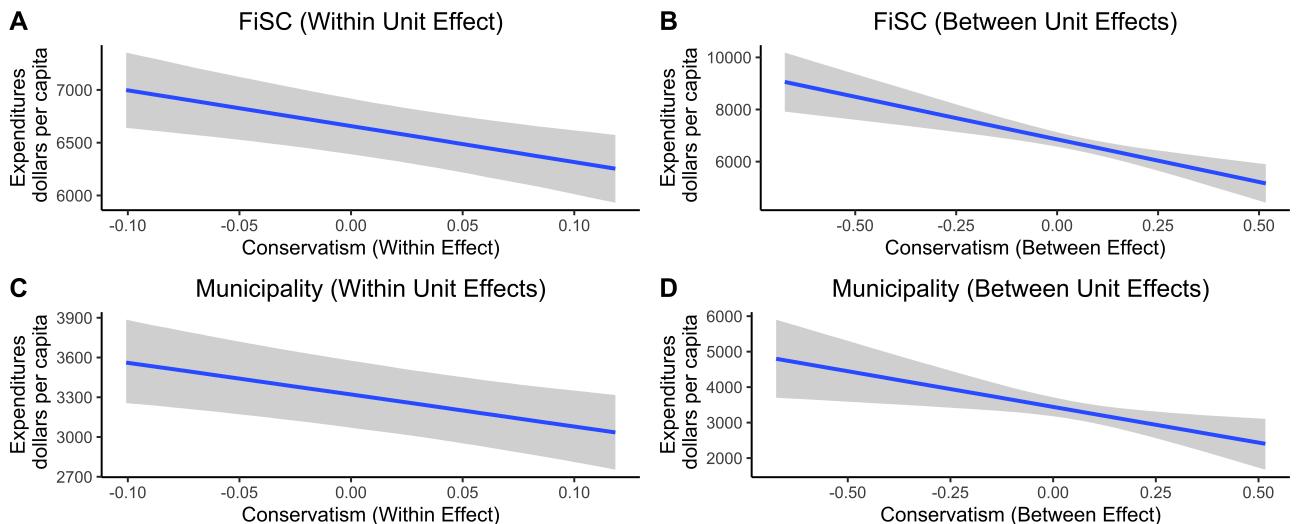
As shown in Panel A of Tables 7 and 8, all coefficients are in the expected direction. That is to say, conservatism is negatively associated with expenditures and tax revenue per capita cross-sectionally and dynamically. Unlike the main results in Table 1, I am able to find evidence of within unit effects for tax revenue dynamically in fiscally standardized cities. The only coefficient that is indistinguishable from zero is the within unit effect expenditures for municipalities.

Next, I examine whether we see greater responsiveness using fiscally standardized cities

versus municipalities. As shown in Panel B in Tables 7 and 8, I find evidence that using municipalities underestimate the extent to which responsiveness exists cross-sectionally. Similarly, I find evidence that using municipalities underestimates responsiveness expenditures dynamically (See Table 7 Panel C). The results are the opposite for revenue generation dynamically (See Table 8 Panel C).

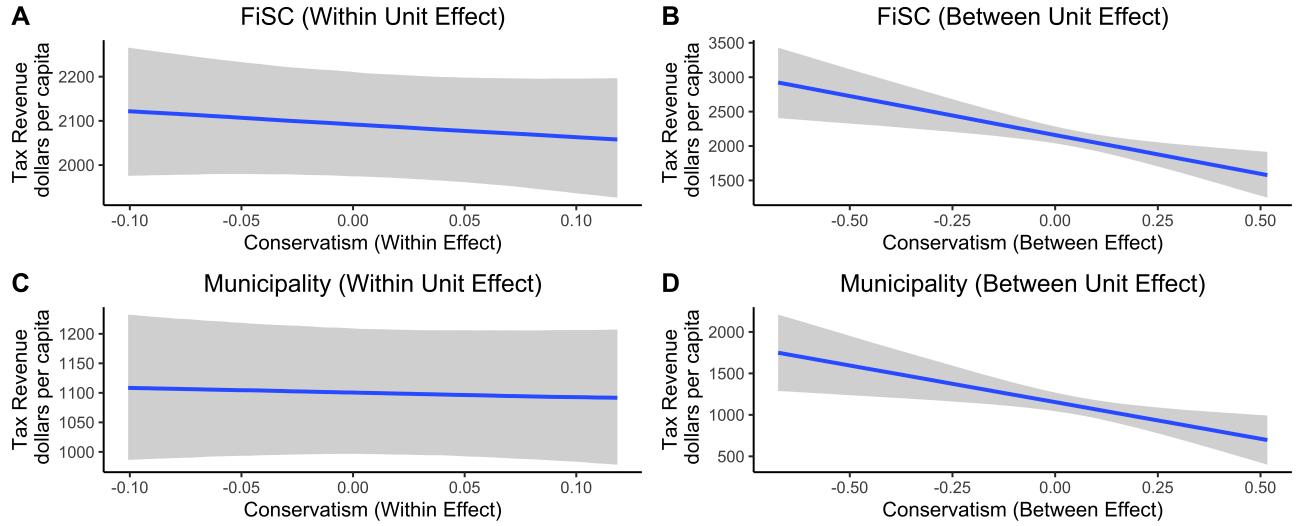
In all, I argue that measuring the provision of local public goods using fiscally standardized measures is a better representation of how local democracy is working. Using traditional measures of fiscal policy may sometimes over- or under-estimate the extent to which responsiveness exists.

Figure 15: Conditional Effects: Conservatism on Total Expenditures



Notes: Depicts the conditional effects of ideology on total expenditures per capita for standardized cities (Plots A and B) and municipalities (Plots C and D). While Plots A and C show within effects, Plots B and D show between effects. All plots depict a negative relationship, suggesting that policy moves with ideological change.

Figure 16: Conditional Effects: Conservatism on Total Taxation



Notes: Depicts the conditional effects of ideology on tax revenue per capita for standardized cities (Plots A and B) and municipalities (Plots C and D). While Plots A and C show within effects, Plots B and D show between effects. Plots B and C depict a negative relationship, suggesting that cities that are conservative tend to have low levels of taxation and spending. Plots A and C reveal a slightly negative relationship, though intervals are wide and the slope is relatively flat.

Table 7: Seemingly Unrelated Regression: Expenditures

Panel A.	SUR
FiSC Model: Conservatism (Between)	-1.99*** (.116)
FiSC Model: Conservatism (Within)	-1.38*** (.135)
Municipality Model: Conservatism (Between)	-1.61*** (.021)
Municipality Model: Conservatism (Within)	-.15 (.182)
Panel B. Between	ZScore
Linear Hypothesis With Restriction:	-3.26***
Panel C. Within	ZScore
Linear Hypothesis With Restriction:	-5.88***

\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ;  $p < 0.1$

Table 8: Seemingly Unrelated Regression: Revenue

Panel A.	SUR
Revenue (FiSC) Model: Conservatism (Between)	-2.84*** (.092)
Revenue (FiSC) Model: Conservatism (Within)	-.608*** (.099)
Revenue (M) Model: Conservatism (Between)	-1.90*** (.015)
Revenue (M) Model: Conservatism (Within)	-.96*** (.138)
Panel B. Between	<i>ZScore</i>
Linear Hypothesis With Restriction:	-10.16***
Panel C. Within	<i>ZScore</i>
Linear Hypothesis With Restriction:	2.28***

\*\*\* $p < 0.001$ ; \*\* $p < 0.01$ ; \* $p < 0.05$ ;  $p < 0.1$

## F Additional Tables

Table 9: Results: Ideology on Expenditures and Taxation

	Expend. FiSC (1)	Expend. City (2)	Taxes FiSC (3)	Taxes City (4)
<b>Within Effects</b>				
Conservatism	<b>-3356.54</b> [-5347.84, -1418.66]	<b>-2399.75</b> [-3905.96, -872.32]	-262.68 [-981.83, 437.715]	-67.47 [-558.65, 436.14]
Log(Population)	<b>-949.62</b> [-1624.13, -268.44]	<b>-1191.99</b> [-1713.72, -673.17]	-186.73 [-427.84, 57.530]	-89.19 [-254.73, 79.44]
Median Household Income	<b>0.08</b> [0.07, 0.09]	<b>0.04</b> [0.03, 0.05]	<b>0.03</b> [0.03, 0.04]	<b>0.02</b> [0.01, 0.02]
Black Share	<b>3641.03</b> [2033.02, 5223.82]	<b>1511.96</b> [252.64, 2757.69]	<b>1042.00</b> . [466.55, 1606.37]	<b>548.51</b> [140.27, 956.08]
GINI	102.90 [-2340.74, 2507.89]	942.49 [-940.46, 2809.56]	<b>1338.63</b> [457.06, 2224.36]	423.69 [-179.59, 1027.56]
<b>Between Effects</b>				
Intercept	-2802.85 [-7909.46, 2397.48]	<b>-4943.54</b> [-9418.89, -519.46]	<b>-3557.59</b> [-5758.88, -1411.16]	<b>-2177.06</b> [-4175.21, -250.01]
Ave. Conservatism	<b>-3289.59</b> [-4793.95, -1809.58]	<b>-2012.47</b> [-3467.99, -570.44]	<b>-1120.29</b> [-1818.86, -444.18]	<b>-886.92</b> [-1491.71, -286.39]
Ave. Log(Population)	150.82 [-139.14, 448.79]	30.02 [-252.53, 304.74]	-19.88 [-153.91, 115.51]	-62.15 [-181.42, 60.67]
Ave. Median Household Income	0.03 [-0.01, 0.06]	0.02 [-0.01, 0.05]	<b>0.03</b> [0.02, 0.04]	<b>0.02</b> [0.01, 0.04]
Ave. Black Share	1298.66 [-294.69, 2836.51]	584.70 [-993.28, 2079.06]	435.23 [-280.96, 1183.75]	296.76 [-358.74, 930.94]
Ave. GINI	<b>13153.16</b> [3291.63, 22862.90]	<b>13619.55</b> [5114.04, 22459.24]	<b>9539.86</b> [5390.09, 13968.08]	<b>6062.36</b> [2300.99, 9897.61]
Consolidated Govt	298.40 [-451.05, 1042.47]	<b>2865.55</b> [2168.67, 3562.59]	183.53 [-152.88, 514.46]	<b>1059.0</b> [761.77, 1357.09]
Pseudo-R <sup>2</sup> (Fixed Effects)	0.29	0.40	0.32	0.38
Pseudo-R <sup>2</sup> (Total)	0.96	0.96	0.98	0.99
Num. obs.	2031	2031	2031	2031

\* indicates that zero is not in the credible interval.

Table 10: Ideology on General Expenditures with Covariates

	<i>Dependent variable:</i>			
	Expend. FiSC	Expend City	Expend. FiSC	Expend City
	<i>2WFE</i>	<i>2WFE</i>	<i>FD</i>	<i>FD</i>
	(1)	(2)	(3)	(4)
Conservatism	-3,371.070*	-2,404.332*	-1,030.598*	-1,166.655*
	(1,645.824)	(1,184.969)	(525.451)	(550.403)
Log(Population)	-948.606	-1,191.204*	121.274	-215.474
	(715.950)	(457.237)	(361.333)	(281.149)
Median Household Income	0.080*	0.037*	0.030*	0.010
	(0.016)	(0.013)	(0.008)	(0.007)
Black Share	3,627.028*	1,521.112	742.991	418.728
	(1,409.442)	(1,008.984)	(742.732)	(785.717)
GINI	99.762	940.432	597.476	-93.110
	(2,616.679)	(1,851.809)	(1,201.118)	(955.069)
Constant	12,167.960	17,942.720*		
	(8,597.033)	(5,460.019)		
City FE	Yes	Yes	-	-
Year FE	Yes	Yes	-	-
First-Diff	-	-	Yes	Yes
Observations	2,031	2,031	1,827	1,827

\* indicates statistical significance at the 0.05 level. Errors clustered on location.

Table 11: Ideology on Tax Revenue with Covariates

	<i>Dependent variable:</i>			
	Taxes FiSC	Taxes City	Taxes FiSC	Taxes City
	<i>2WFE</i>	<i>2WFE</i>	<i>FD</i>	<i>FD</i>
	(1)	(2)	(3)	(4)
Conservatism	-266.547 (563.228)	-70.612 (364.800)	-714.932 (389.403)	-348.809 (207.489)
Log(Population)	-189.120 (200.124)	-89.053 (122.632)	71.166 (149.237)	56.285 (93.764)
Median Household Income	0.033* (0.004)	0.015* (0.003)	0.013* (0.003)	0.007* (0.002)
Black Share	1,045.648* (412.322)	547.217 (285.920)	119.812 (255.085)	147.645 (256.580)
GINI	1,340.664 (786.735)	425.069 (450.929)	424.253 (443.553)	40.268 (346.020)
Constant	1,396.719 (2,417.409)	1,786.145 (1,552.792)		
City FE	Yes	Yes	-	-
Year FE	Yes	Yes	-	-
First-Diff	-	-	Yes	Yes
Observations	2,031	2,031	1,827	1,827

\* indicates statistical significance at the 0.05 level. Errors clustered on location.

Table 12: Ideology on Public Policy (Cross-Sectional)

	<i>Dependent variable:</i>			
	Expend. FiSC	Expend. City	Taxes FiSC	Taxes City
	(1)	(2)	(3)	(4)
Conservatism	-3,257.412*	-2,086.059*	-1,144.058*	-902.055*
	(924.155)	(858.149)	(355.849)	(382.014)
Log(Population)	154.671	33.999	-16.927	-56.338
	(152.089)	(157.609)	(83.584)	(76.081)
Median Household Income	0.025	0.022	0.029*	0.022*
	(0.017)	(0.019)	(0.009)	(0.010)
Black Share	1,359.542	626.235	471.713	308.143
	(841.058)	(800.337)	(361.250)	(322.596)
GINI	11,777.250*	12,816.520*	8,738.471*	5,629.503*
	(4,301.903)	(3,671.825)	(2,543.635)	(1,899.954)
Consolidated Govt	304.504	2,877.525*	181.429	1,065.292*
	(428.360)	(467.020)	(190.560)	(210.387)
Constant	-1,949.800	-4,394.894*	-2,999.829*	-1,886.183*
	(1,987.896)	(1,881.059)	(835.641)	(804.259)
City FE	No	No	No	No
Year FE	Yes	Yes	Yes	Yes
Observations	2,031	2,031	2,031	2,031

\* indicates statistical significance at the 0.05 level. Errors clustered on location.