

# Politics in Forgotten Governments: The Partisan Composition of County Legislatures and County Fiscal Policies

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February 22, 2018

## Abstract

County governments are a crucial component of the fabric of American democracy. Yet there has been almost no previous research on the policy effects of the partisan composition of county governments. Most counties in the United States have small legislatures, usually called commissions or councils, that set their budgets and other policies. In this study, we examine whether counties with Democratic legislators spend more than counties with Republican ones. We assemble an original dataset of over 8,800 elections in approximately 290 medium and large counties over the past 25 years. Based on a regression discontinuity design, we find that electing a Democratic legislator rather than a Republican one leads the average county to increase spending by about 5%. The effects are particularly large in counties with small legislatures. Overall, our findings contribute to a growing literature on the policy consequences of partisan control of state and local government. They show that the partisan selection of county legislators has important policy effects in county governments.

Keywords: Local politics, representation, elections

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We appreciate the research assistance of Rob Pressel and Cory Maks-Solomon. We appreciate feedback on earlier versions of this manuscript from Julia Payson, Josh Clinton, Devin Caughey, and participants in the 2017 Vanderbilt Local Policy Economy and American Political Science Association conferences. We also appreciate the willingness of Jessica Trounstine and the Local Elections in America Project to share data. All mistakes, however, are our own.

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# Introduction

The longstanding wisdom in local politics research has been that local-level politics is devoid of the type of partisan conflict that dominates national policy-making. According to this line of thinking, local governments primarily deal with nonpartisan issues because there is “no Republican way to pave a street and no Democratic way to lay a sewer” (Adrian, 1952, 766). Indeed, one study describes elections in counties as “centered less on ideology than are most American electoral contests” (Cigler, 1995, 65). Taken to their logical extension, these arguments suggest that partisan control of local governments might not matter for policy.

A growing body of evidence, however, suggests that partisanship might matter in local politics in much the same way that it matters in national politics. A number of studies have found an association between public opinion and local fiscal policies in cities (Tausanovitch and Warshaw, 2014; Einstein and Kogan, 2015; Palus, 2010) and counties (Choi et al., 2010; Percival, Johnson, and Neiman, 2009; Sances, 2017; Ybarra and Krebs, 2016). While there has been an active debate about the effect of municipal officials’ partisanship on local fiscal policies (e.g., Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011), recent work shows that mayoral partisanship has an important effect on policy. Democratic mayors spend more than Republican mayors in medium and large cities, largely through increases in debt (de Benedictis-Kessner and Warshaw, 2016).

Despite this resurgence in the study of representation and elections at the local level, there has been no study of the effect of county officials’ partisanship on local policies. Counties have often been called “forgotten governments” by scholars of local politics (Marando and Thomas, 1977; Schneider and Park, 1989). The bulk of the modest prior literature on counties has been conducted by scholars of public administration (e.g., Benton, 2002, 2003). As a result, despite the fact that 48 states have county elected officials and 39 states hold partisan elections in either all or some

of their counties (National Association of Counties, 2008), we know little about the impact of public opinion, elections, and legislative partisanship on county policies and other political outcomes (Benton, 2005).

This is an important gap in our knowledge of local politics because county governments are a crucial component of the fabric of American democracy. They spend nearly 400 billion dollars each year and employ over 2.5 million people (U.S. Census of Government, 2012). Moreover, counties have continued to grow in their size — both in terms of the number of employees and their expenditures — relative to cities and townships, indicating a greater role over the last half century (Cigler, 1995; Benton, 2002). Increasingly since the 1970s, counties have taken over service delivery for citizens even in metropolitan areas with central municipalities (Benton and Rigos, 1985; Benton and Menzel, 1993). Because of the growing size of county governments and the numerous problems they must address, county politicians may have significant involvement in policy-making (Cigler, 1995).

Most counties in the United States have small legislatures, usually called commissions or councils, that set their budgets and other policies. In line with research on cities, the election of legislators to county office from one party rather than the other might have consequences for policy. However, counties face a number of constraints which could limit the impact of public opinion and elections. Like cities, counties are subordinate to states and the national government. Indeed, the conventional wisdom is that, for much of the 20th century, counties were merely agents of state governments (Benton, 2002). So the partisanship of elected officials may matter even less in counties than in municipalities.

In this paper, we conduct the first comprehensive analysis of the effect of the partisan composition of county legislatures on county fiscal policies. Focusing on counties with more than 150,000 people in 2010, we build an original dataset of 8,800 election returns in 289 counties. We then merge these data with fiscal information

from the Census of Local Governments. We use regression discontinuity models to estimate the causal effect of the partisan composition of county legislatures on county expenditures.

We find that the election of Democratic legislators rather than Republican legislators leads to about 5% larger county expenditures. We also find that it affects a variety of individual spending categories. The most robust effect is on redistribution, such as health, hospitals, housing, and welfare expenditures. More Democratic county legislatures also increase revenue relative to Republican ones. Our results indicate that although counties are constrained by higher-level governments (states) and lower-level governments (cities), these constraints still allow for partisan elections to have a meaningful impact on county policy.

This paper contributes to the growing literature on the policy effects of the partisan composition of local governments (e.g., Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011; de Benedictis-Kessner and Warshaw, 2016). However, our findings extend this literature in a number of important ways. First, they provide the first evidence that the partisan composition of *county* governments has policy effects. Future work could extend our analysis by examining the effect of the partisan composition of county governments on non-fiscal policies. Second, our paper is one of the first to examine local *legislatures* rather than executives. Future research could use a similar approach to examine the policy effects of the partisan or ideological composition of city councils, school boards, and other local legislatures.

The paper proceeds as follows. First, we discuss the previous literature on representation, elections, and partisanship in local government — and the surprising lack of research on this question at the county level. Next, we discuss our original data and research design. Then, we present our findings on the impact of partisanship in county government on county expenditures. Finally, we conclude and discuss implications for the study of representation and local politics.

## Background and Theoretical Expectations

There is a large amount of work in the public administration literature on the structure of county institutions, political leadership, and the role of counties within the federal system in the United States. Counties have been used to examine how reformed government structure affects policy (DeSantis and Renner, 1996; Menzel, 1996; Morgan and Kickham, 1999; Schneider and Park, 1989), the causes of adopting home rule charters (Martin and Nyhan, 1994; Salant, 1993), and how to improve the efficiency of service delivery when confronted with growing populations (Palumbo and Hallett, 1994; Park, 1996; Streib and Waugh Jr, 1991).

Much of this body of research has focused on the constraints that limit county government. Because a large proportion of counties' funding is provided by states and their autonomy is often restricted by statutes, scholars have argued that counties have little leeway to vary their policy (Benton, 2003; Marando and Reeves, 1991). Many states restrict local governments' ability to levy sales or property taxes. Even compared to cities, counties face significant constraints (Benton, 2003). They are much less likely than cities to have home rule charters that enable them to exercise broad powers of self-rule. One recent study found that only about 10 percent of eligible counties have adopted charters (Cowan and Salant, 1999). Counties also receive a greater share of their revenues from intergovernmental aid than municipalities. In fact, in 2012, approximately 35% of the average county's aggregate revenues came from the state and federal government (U.S. Census of Government, 2012). However, this share varies significantly and can be over 50% in many states (Benton, 2003). Via this funding, federal and state governments can exert indirect control over local policy by providing restricted grants and funding streams for specific programs. There are also a variety of state institutions that constrain local tax and revenue policies (Ladd and Yinger, 1989, Chapter 6; Mullins and Wallin, 2004). Counties also overlap with other jurisdictions and so share responsibility for providing services to citizens

with these other governments (Peterson, 1995). Finally, counties face constraints due to economic competition from other jurisdictions (Bailey and Rom, 2004; Ladd and Yinger, 1989; Peterson, 1981; Rae, 2003). All of these constraints might restrict the impact of the partisan composition of county governments on policy.

There is also significant heterogeneity in the role of counties across states. In some states, counties manage school systems, police forces, and roadways, while in other states, they do little more than run correctional facilities and issue permits. In many states, cities rather than counties dominate service delivery roles in areas such as policing, fire protection, and road maintenance, leaving few roles for county government to fill (Advisory Commission on Intergovernmental Relations, 1982).

Despite the constraints on county governments, there are an array of reasons to expect that the partisan composition of county government should affect county fiscal policies. Democrats generally prefer a greater amount of government expenditures than Republicans. A variety of research has shown that Democratic legislators have more liberal preferences than Republicans in both Congress and state legislatures (Lee, Moretti, and Butler, 2004; Shor and McCarty, 2011).<sup>1</sup> Moreover, the election of Democratic governors and state legislatures leads to more liberal state policies (Caughey, Warshaw, and Xu, 2017).<sup>2</sup> This may be especially true for redistributive policies, where Democrats at the national level are likely to prefer higher redistributive spending (Bartels, 2008).

At the local level, Einstein and Glick (2018) show that Democratic mayors tend to have more liberal preferences on fiscal issues. Other work has shown that the election of a Democratic mayor leads to greater municipal spending (de Benedictis-Kessner

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<sup>1</sup>This may similarly be true in countries other than the United States: Blais, Blake, and Dion (1993, 1996) show that left-leaning governments in liberal democracies worldwide are more likely to increase expenditures.

<sup>2</sup> Early research done on state governments tended to show very weak evidence of effects of partisan control (Gilligan and Matsusaka, 1995, 2001; Erikson, Wright, and McIver, 1993). However, polarization between the parties at the elite level has clearly grown over time. As a result, the policy effects of the partisan composition of government have also grown (Caughey, Warshaw, and Xu, 2017).

and Warsaw, 2016). We expect these same tendencies to be true at the county level. Indeed, previous research shows that politicians across levels of government form coalitions via political parties (Aldrich, 1995). As a result, we expect the election of a Democratic legislator to lead to an increase in county spending. In addition, we expect that these effects may be concentrated in some of the most contentious areas of local-level policy. In line with Einstein and Glick’s (2018) findings that Democratic mayors tend to favor more redistributive policies than Republican mayors, we expect that Democratic county politicians will be more likely to spend more on redistributive policies.

## Data and Research Design

In order to examine the policy effects of the partisan composition of county governments, we collect data on county legislative elections and fiscal policy in medium and large counties.<sup>3</sup> We then merge these data with fiscal information from the Census of Local Governments. Finally, we use regression discontinuity models to assess the causal effects of legislative partisanship on county fiscal policies.

Our target universe is medium and large counties with more than 150,000 people in 2010 in states with partisan county elections.<sup>4</sup> We focus on medium and large counties because these counties are likely to have more fiscal flexibility than smaller ones. In addition, it is much easier to collect elections data for medium and large counties than for smaller counties.<sup>5</sup> In all, there are 319 counties in our target universe, which

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<sup>3</sup> We focus on legislatures because of the greater role that they play in setting county fiscal policy than executives. Indeed, most counties do not have elected executives. Many counties do, however, have other elected officials who many influence *implementation* of policy — e.g., sheriffs (Farris and Holman, 2015, 2017) — but who have no role in setting fiscal policy via county budgets.

<sup>4</sup> Our target universe also does not include counties that are consolidated with cities (e.g., counties in New York City) and counties in Rhode Island, Connecticut, and Vermont that lack elected governments.

<sup>5</sup> In our preliminary research, we found that it was nearly impossible to find election results for many counties with fewer than 150,000 people since elections in these rural counties are often not covered by the news media and they usually have only a handful of election results on their website.

cover 47.9% of the U.S population.

## County Election Data

The study of local elections has long been stymied by a lack of centralized publicly-available data (Trounstine, 2009). In particular, there is no publicly available dataset of county election outcomes. This makes it impossible to examine the causes and consequences of these elections. To address this gap, we build the first large-scale dataset of county election outcomes. In order to assemble this original dataset, we gathered data from a number of different sources. First, we scraped data on county elections from OurCampaigns.com (OC), a crowd-sourced political information website that allows users to contribute information on candidates and campaigns at all levels of government.<sup>6</sup> Next, we collected data on election returns from county websites and by contacting local election officials. Then, we added information from local newspaper archives.<sup>7</sup> We also obtained data that Jessica Trounstine generously shared on elections in Arizona, Idaho, New Jersey, and South Carolina. We obtained data on elections in California, Kentucky, and Louisiana from the Local Elections in America Project (Marschall and Shah, 2016).

The final dataset that we use in our analysis consists of 8,869 individual elections in large counties with partisan elections. While we use these data to examine the policy effects of the partisan composition of county government, future research could use this resource to study other causes and consequences of county elections.<sup>8</sup> Our

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Hopkins and Pettingill (forthcoming) also note the difficulty of obtaining election results for smaller local governments.

<sup>6</sup> Data from OC have been previously used by de Benedictis-Kessner and Warshaw (2016), Miller (2013), and Vogl (2014). Local elections listed here have the date of the election, candidate names and partisanship, vote totals, and often even more detailed information on the candidates. These user-contributed sources ranged from archived newspaper articles to official county election returns.

<sup>7</sup> We used newspapers archives available through NewsLibrary, Newspapers.com, ProQuest Archiver, Access Newspaper Archive, and Google News.

<sup>8</sup> While we gathered data for all counties that we could, we focused on the states where we knew partisan elections were held in order to best identify our quantity of interest. However, our larger dataset includes many nonpartisan elections — not useful for the current analyses, but valuable for



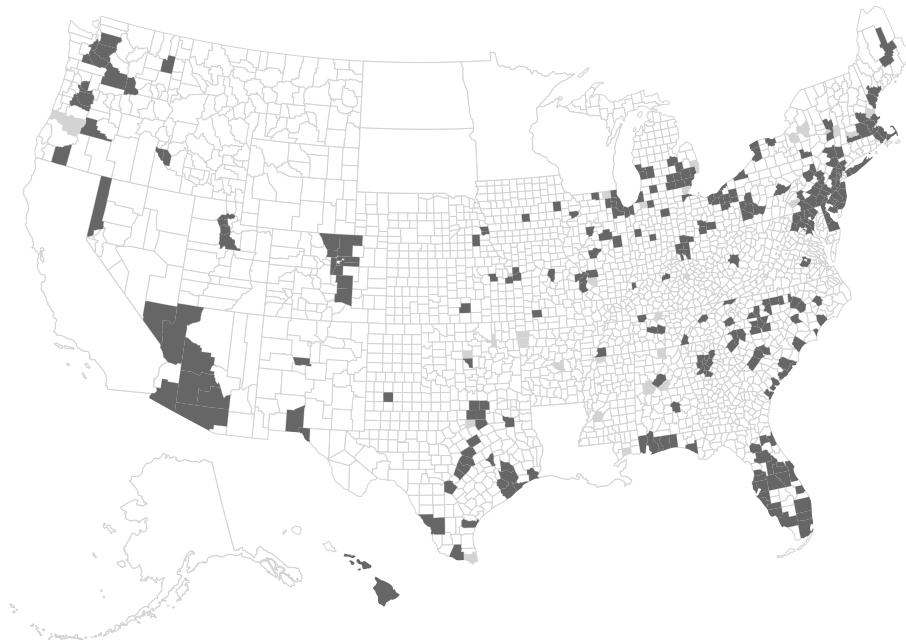


Figure 1: Counties in final election data. Dark shaded counties are in the elections data, while lighter unshaded counties are not. States and counties in white are outside our target universe because they either do not hold partisan elections or have populations with fewer than 150,000 people in 2010.

dataset includes election results from 289 counties in 36 states (Figure 1), which cover over 45% of the United States’ total population.<sup>9</sup> Our counties closely match the demographics of our target universe of medium and large counties (see Supplementary Appendix A).<sup>10</sup> The top panel of Figure 2 shows the size of the legislatures in the counties in our dataset. Most counties have very small legislatures. The median size of county legislatures in our data is 5. Less than 20% of the counties have more than 10 members and only a handful have more than 25 members.

Figure 3 shows how the partisan composition of counties in our dataset has

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research on counties more broadly.

<sup>9</sup> In parallel, we also assembled data on the overall partisan composition of county legislatures in our target universe. In some of these counties, we were unable to find district-level election returns, but we found information on the overall partisan composition of the county legislature.

<sup>10</sup> In spite of this, one limitation of our data is that the coverage is uneven over time. We have election results on 282 counties in the post-2000 period. Yet due to the limitations of archival data sources, our coverage shrinks as we move backwards in time. For example, we only have data from about 150 counties going all the way back to the early 1990s.

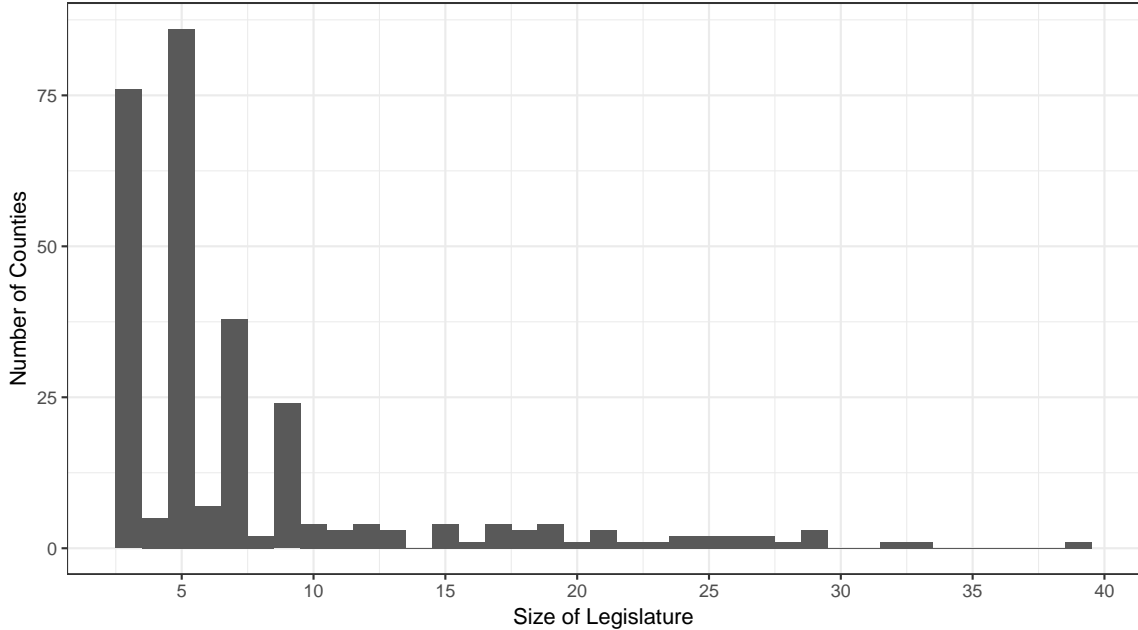


Figure 2: Size of County Legislatures in our Dataset

changed over the past 25 years.<sup>11</sup> The black solid line plots the local average, while the individual smaller lines plot the average in each year split by southern counties and non-southern counties. On the whole, the Democratic seat share of county councils trends from 52% Democratic in 1990 to only 40% Democratic by 2014. The trends in county legislatures also follow national electoral tides: when Republicans increased their presence in Congress after both the 1994 and 2010 elections, county legislatures also became more Republican on average. And with the Democratic victories in Congress and the presidency in 2008, county legislatures also had a corresponding trend towards the Democratic party. Just as state-level and national elections correspond, county legislative elections follow similar patterns to the nation overall (Rogers, 2016; Hopkins, forthcoming).

This overall stability in the partisan composition of county councils masks significant geographic heterogeneity, however. As shown by the turquoise dashed line, counties in the South were quite Democratic in the beginning of our time period —

<sup>11</sup> We plot data here only for counties in which we have data for at least a span of 25 years.

higher than the average across all counties — but are far less Democratic by 2014. The overall trend towards less Democratic (and more Republican) county councils is driven mainly by these counties in the South.

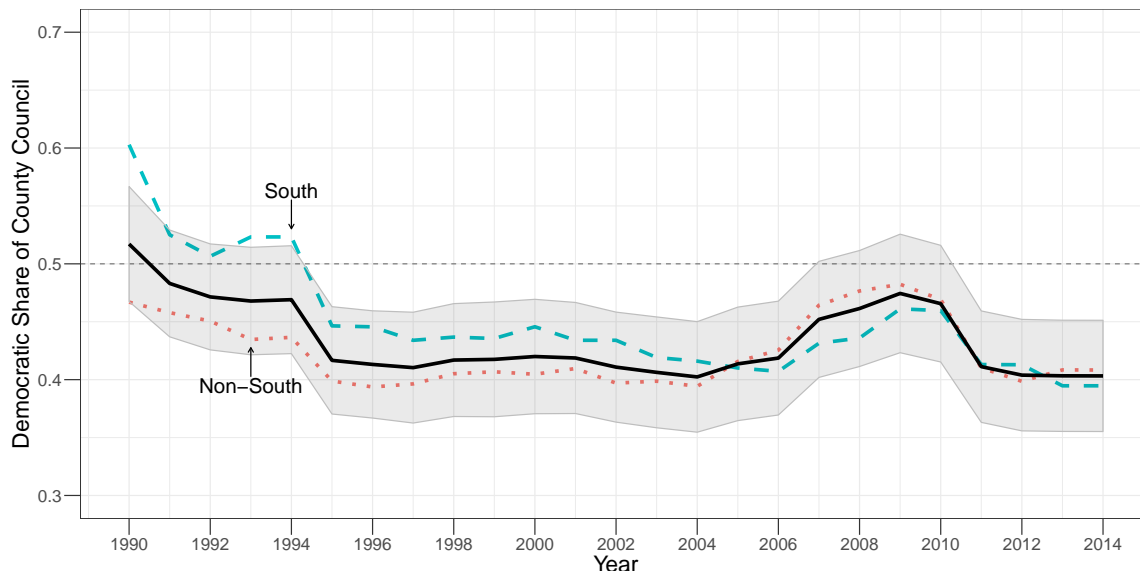


Figure 3: Average National and Regional-level Democratic Seat Share Across Time

## County Fiscal Data

To study the impact of the partisan composition of county commissions on county fiscal outcomes, we use fiscal data from the Historical Data Base of Individual Government Finances. These data are based on a Census of Governments conducted every five years and the Annual Survey of Governments collected in every non-census year. These data provide detailed expenditure and revenue data for U.S. local governments.<sup>12</sup> We adjusted all monetary figures into 2012 dollars based on the consumer price index. In our main analysis, we use per capita expenditures and revenues to account for population differences across counties.

<sup>12</sup> For our analysis on the causal impact of legislators, it is crucial to accurately assign fiscal data to the appropriate year. As a result, we dropped a small number of observations from the Annual Survey of Government Finances where we could not determine the year in which fiscal data was collected.

On average, counties in 1990 spent approximately \$1,101 per capita and their revenue totaled \$1,123 per capita, with a debt level of \$1,062 per capita (all in 2012 dollars). By 2014, expenditures had grown to an average of \$1,689 per capita while revenues totaled \$1,953 per capita on average and debt totaled \$1,005 per capita. Counties in the U.S. spend a little more than half the per capita amount that large cities do, have less than half the amount of debt that large cities do, but raise more in revenue (de Benedictis-Kessner and Warshaw, 2016). This suggests that while cities may fund much of their expenditures with debt, counties tend to spend much more in line with their current revenues.

Within these totals, counties divided their expenditures among a variety of categories, and similarly raised their revenue from a variety of sources. Figure 4 shows the division of total expenditures into a variety of categories in counties in our target universe of large counties from 1990 to 2014. Across the entire time period, counties spent the largest amount on education, administration, welfare, and healthcare. While the level of most of these spending areas is relatively constant over time, health-care costs rise by more than 61% between 1990 and 2012 in the average county, in line with national trends. Education expenditures also rise steadily by more than 23% during the same period.<sup>13</sup>

Figure 5 similarly shows revenue raised from specific categories as well as debt in the average county in our target universe from 1990 to 2014. Their total revenues are divided between taxes, intergovernmental revenue, and charges. This division stays fairly consistent across the time period from 1990 to 2014. Generally, counties tend to raise most of their revenues through taxes — primarily the property tax. The average overall outstanding debt fluctuates over time. In 1990, the average county in our target universe had debt of about \$1,005 per capita. After 2006, the outstanding debt rises compared to overall revenue, even surpassing revenue at a maximum of

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<sup>13</sup> See Supplementary Appendix A for more detailed information on trends in expenditures.

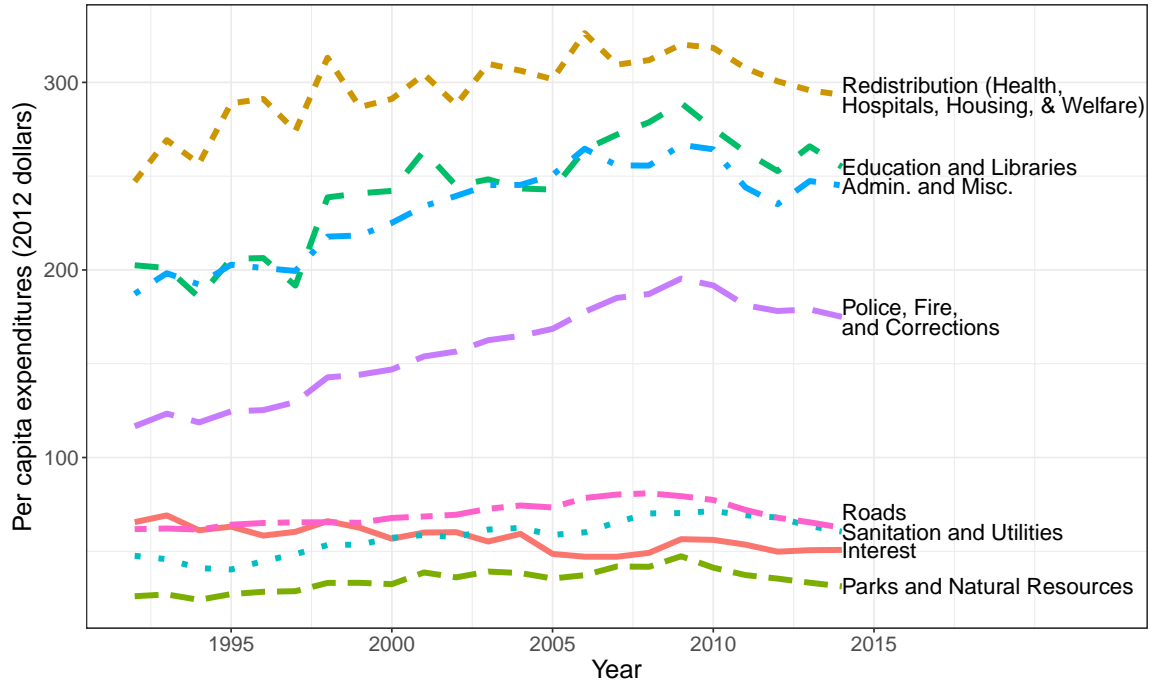


Figure 4: Expenditures per capita over time, individual categories (target universe)

\$1,280 per capita in 2009.

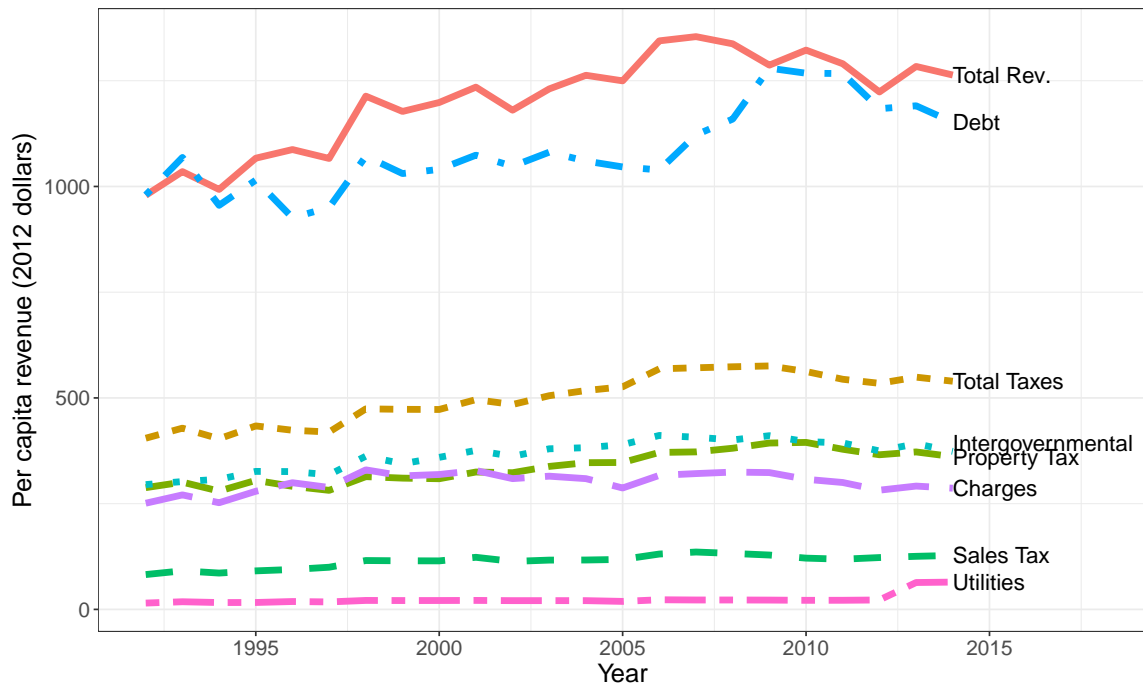


Figure 5: Revenue per capita over time, individual categories (target universe)

The overall stability in the average levels of spending and revenue mask quite

a great deal of variation in the data within each year. This massive cross-sectional variation in both expenditures and revenue across counties could allow a small number of outliers to drive our results. To reduce this possibility, we focus on the natural log of spending in our main analysis. The results for logged values of the outcome variables can be interpreted approximately as the percentage change in expenditures or revenue due to electing a Democratic legislator (Gelman and Hill, 2007, 60-61). However, the results are substantively similar for non-logged values of the outcome variable.

## Regression Discontinuity Design

We use a regression discontinuity (RD) design to identify the effect of the partisan composition of county legislatures on county fiscal policy. We make use of the fact that the winner of county legislative elections changes discontinuously at 50% of the two-party vote share (Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011).<sup>14</sup> Around this discontinuity, the winner is likely to be determined by pure chance as long as there is some unpredictable component of the ultimate vote (Lee, 2008). Thus, the winner of these narrow races is quasi-random. Much like in an experiment, our regression discontinuity design enables us to causally identify the local average treatment effect of electing a Democratic rather than a Republican county legislator on county spending.<sup>15</sup>

The most important assumption of the RD design is that the distribution of units'

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<sup>14</sup> In multimember districts, we compare the winners and runner-up for the last seat in the district. For example, in a district that elects three legislators, we compare the vote totals of the third and fourth placed candidates.

<sup>15</sup> As with any regression discontinuity design, this effect is identified at the threshold, and is therefore generalizable to contexts where partisanship of legislators might actually change, and not necessarily to counties that are partisan strongholds. Previous studies in the urban politics literature have also used the regression discontinuity design to examine the effect of mayoral partisanship on policy (Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011; de Benedictis-Kessner and Warshaw, 2016), the local incumbency advantage (de Benedictis-Kessner, 2018; Ferreira and Gyourko, 2009; Trounstine, 2011), the effect of black mayors on city policy outcomes (Hopkins and McCabe, 2012), the effect of female mayors on policy outcomes (Ferreira and Gyourko, 2014), and the effect of partisan selection in school boards on segregation (Macartney and Singleton, 2017).

potential outcomes is continuous at the threshold for treatment (Hahn, Todd, and Klaauw, 2001; Lee and Lemieux, 2010). In some contexts, this continuity assumption may be violated due to incumbents’ better ability to win narrow victories (Caughey and Sekhon, 2011). But Eggers et al. (2015) find no evidence of pro-incumbent sorting in a variety of electoral settings. Consistent with these findings, we observe no significant discontinuities in lagged values of the running variable or other key placebo variables (Appendix B). In order to increase statistical efficiency, we estimate treatment effects on changes in expenditures rather than on levels (Lee and Lemieux, 2010).<sup>16</sup> Specifically, our main analysis focuses on the difference between logged fiscal outcomes in the year the county legislator was elected and the average of outcomes measured two and three years after the election.<sup>17</sup>

We estimate the effect of electing a Democratic county legislator based on the “jump” in outcome variables at the threshold. We model the relationship between the assignment and outcome variables with local linear regression, using the default options in the `rdrobust` package in R (Calonico, Cattaneo, and Titiunik, 2014a).<sup>18</sup> The optimal bandwidth is chosen to minimize mean-square-error (MSE) and confidence intervals are adjusted to account for remaining bias (Calonico, Cattaneo, and Titiunik, 2014b; see also Imbens and Kalyanaraman, 2012).<sup>19</sup> In order to address the

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<sup>16</sup> Gerber and Hopkins (2011) and de Benedictis-Kessner and Warshaw (2016) use a similar approach.

<sup>17</sup> We focus our main analyses on this average outcome because it allows time for the newly elected member(s) of the legislature to affect the budget, which ordinarily has a lag between when it is passed and when it actually comes into effect, yet not a longer amount of time that might allow for endogenous reactions to policy change (for instance, a backlash against changes in spending). We obtain similar results if we focus on the difference between fiscal outcomes in the year the legislator was elected and 2-5 years after the election.

<sup>18</sup> In our main analysis, we use the default local linear regression in `rdrobust` because Calonico, Cattaneo, and Titiunik (2014b) show that local linear regression models perform well in regression discontinuity designs with optimal bandwidth selection (see also Cattaneo, Idrobo, and Titiunik, 2017, 41-42). Moreover, Gelman and Imbens (2017) show that “controlling for global high-order polynomials in regression discontinuity analysis is a flawed approach with three major problems: it leads to noisy estimates, sensitivity to the degree of the polynomial, and poor coverage of confidence intervals.” They “recommend researchers instead use estimators based on local linear or quadratic polynomials or other smooth functions.” It is worth noting, however, that we obtain very similar results using higher-order polynomials in our analysis (see Appendix C).

<sup>19</sup> Our results are robust to this choice of bandwidth, however. We show our effects for other bandwidths than the optimal-MSE one in Appendix C.

fact that there often multiple elections in a given year for a particular county, we cluster standard errors by county-year.<sup>20</sup>

A final complication for our analysis is that while the vast majority of county legislatures are very small (see Figure 2), with five or fewer members, our dataset is heavily skewed toward the small number of counties with larger legislatures. For example, fewer than 20% of counties in our data have ten or more members in their legislatures. But over half of the elections in our dataset come from these counties. Moreover, the handful of counties with 25 or more members constitute over 16% of our dataset. To address the over-representation of counties with large legislatures in our dataset, we weight our regression discontinuity analyses based on the number of legislators in each county legislature relative to the average number of legislators. This enables us to interpret the results as the effect of elections in the average *county* rather than the average *election*. This approach prevents the handful of counties with very large legislatures from driving our results. In Appendix C, however, we show that the unweighted results are substantively similar to the weighted results.

## Results

In this section, we present our main results. First, we show the descriptive association between changes in the partisan composition of county legislatures and changes in county spending. Next, we examine the causal effect of electing a Democratic legislator rather than a Republican legislator using a regression discontinuity design (RDD). Both of these analytical strategies yield similar results indicating that the partisan composition of county legislatures has a significant effect on county spending.

In order to conduct a first cut at the relationship between the partisan composition of county legislature and county spending, we examine the association between *changes* in the partisan composition of county legislatures and *changes* in county

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<sup>20</sup> We use the ‘cluster’ option in `rdrobust`.



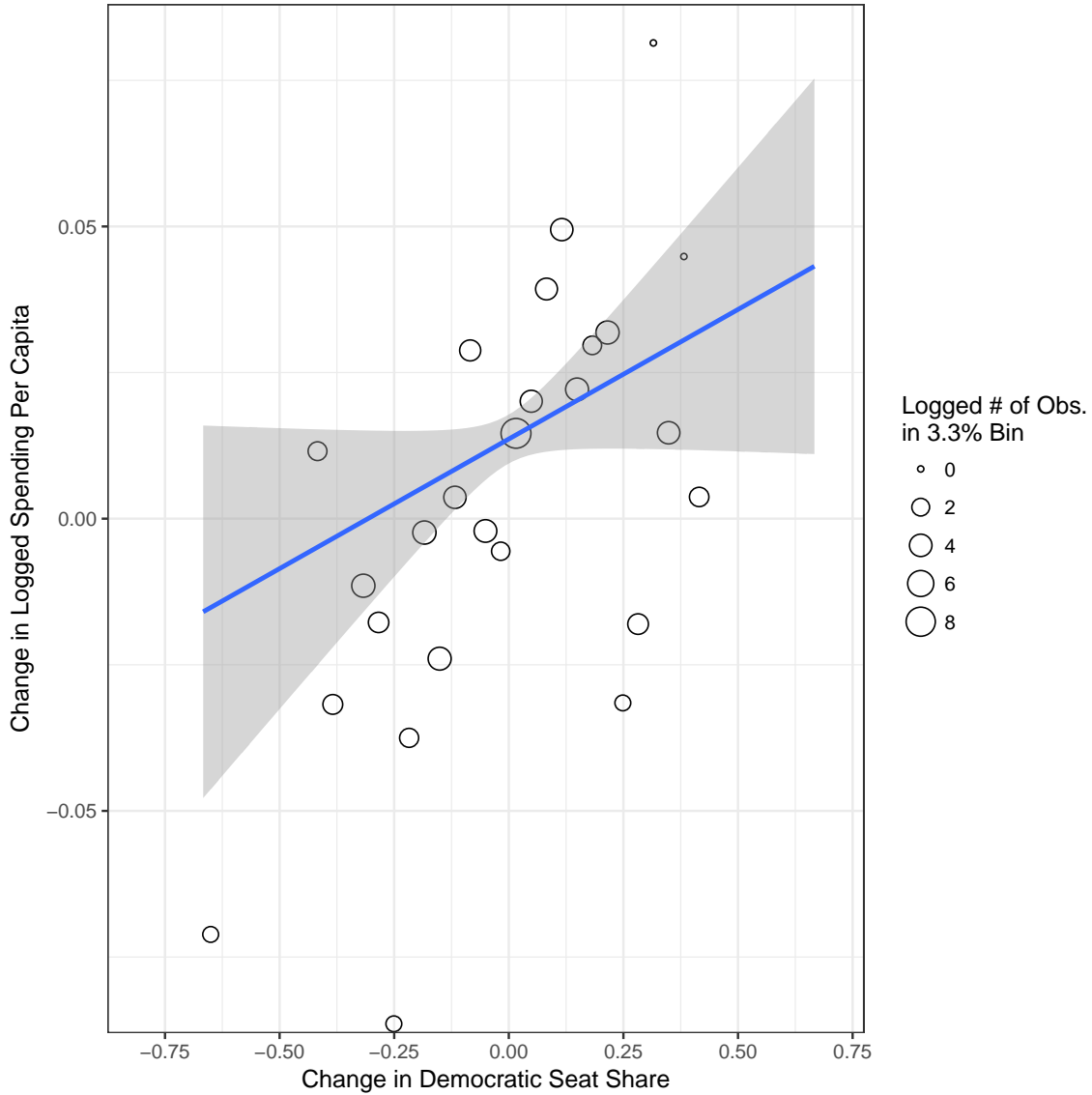


Figure 6: Association between Changes in Partisan Composition of County Legislators and Changes in County Spending. The bubbles show average changes in expenditures in each 3.3% bin.

spending (Figure 6). By examining changes rather than levels, this analysis controls for many of the potential confounders. Figure 6 indicates that a 50 percentage point increase in the Democratic composition of a legislature (e.g., from 25% to 75% of the legislature) is associated with a 2.5% increase in spending per capita two years after an election. This result suggests that a larger Democratic share of county legislatures leads to more county spending. Of course, the association between changes

in the partisan composition of county legislatures and county expenditures could be confounded by any number of omitted variables. This leads us to pursue our second analytical strategy.

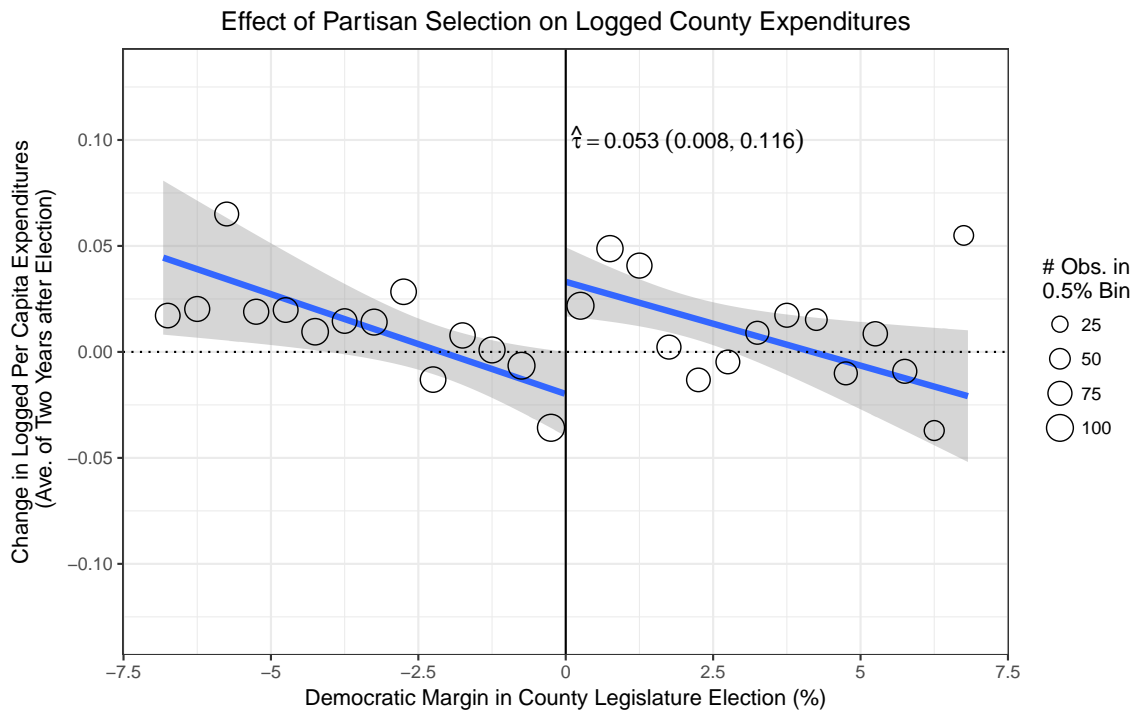


Figure 7: The effect of legislative partisanship on changes in logged per capita county expenditures in the fiscal years two and three years after an election

In order to determine the causal relationship between changes in the partisan composition of county legislatures and county spending, we turn to a regression-discontinuity (RD) design. This enables us to isolate the causal effect of electing a Democratic legislator on county spending. In the average county, electing a Democratic legislator increases average per capita spending in the fiscal years two and three years after an election by about 5.3% relative to electing a Republican legislator (Figure 7).<sup>21</sup>

<sup>21</sup>In Appendix C, we demonstrate the robustness of this result to different modeling choices. First, we show that it is robust to different bandwidths for the RD model. We also show that we obtain similar results using higher order polynomials for our RD models. Finally, we show that we obtain similar results using local randomization in a narrow 1% bandwidth close to the discontinuity using the default options in the `rdlocrand` package in R (Cattaneo, Titiunik, and Vazquez-Bare,

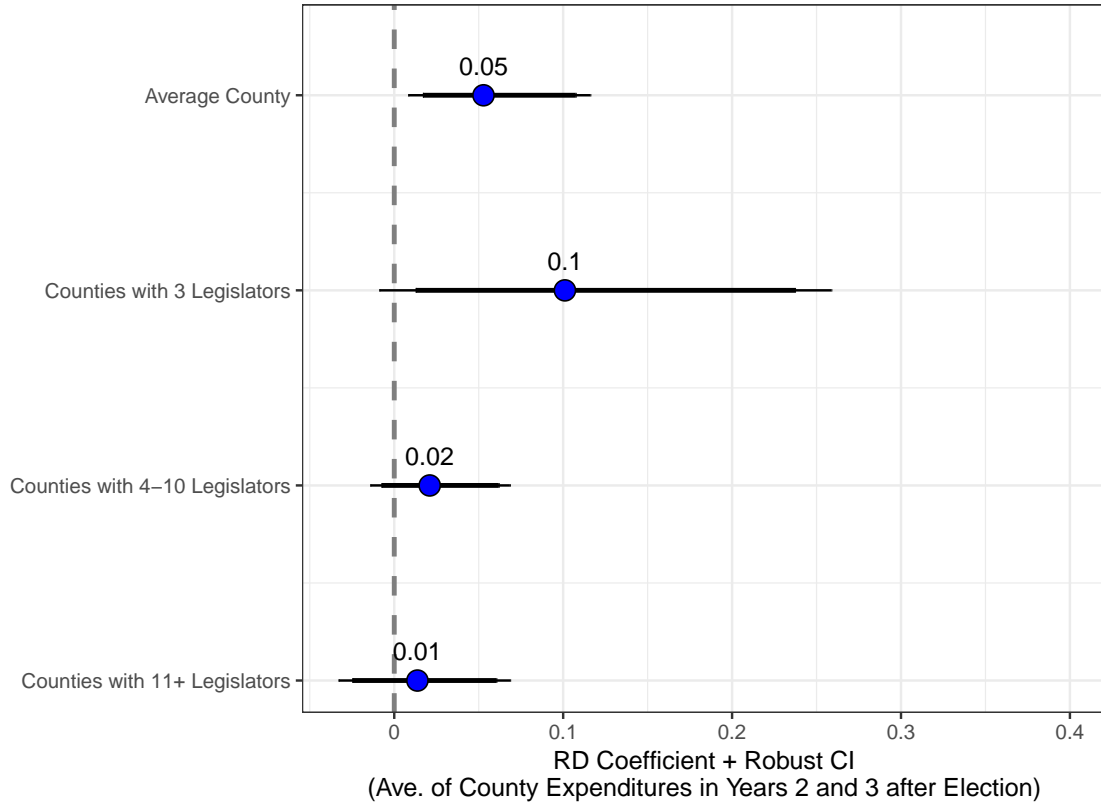


Figure 8: The effect of legislative partisanship on changes in logged per capita expenditures in the fiscal years two and three years after an election by size of county legislature. Thick bars show 90% confidence intervals and thin bars show 95% confidence intervals.

Next, we examine heterogeneity in the effect of electing a Democratic legislator based on the size of county legislatures. We might expect the effect of electing a Democratic legislator to be larger in counties with small legislatures since each legislator has more voting power than in a legislature with many members. Consistent with these expectations, Figure 8 shows that the partisanship of county legislators has a massive effect on county spending in counties with only 3 members of the legislature. In these counties, electing a Democratic legislator increases spending by about 10%. In larger counties, electing a Democratic legislator has smaller and statistically insignificant effects on spending.

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2016).

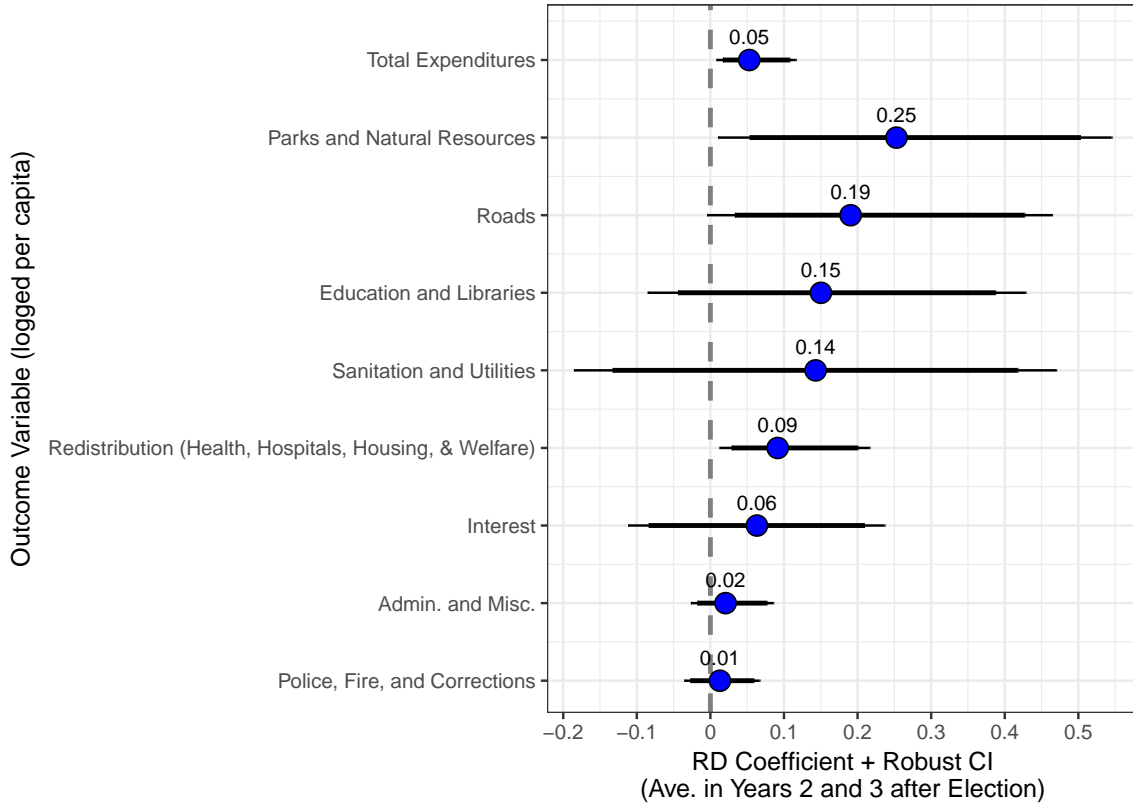


Figure 9: The effect of legislative partisanship on changes in logged program-area per capita expenditures in the fiscal years two and three years after an election. Thick bars show 90% confidence intervals and thin bars show 95% confidence intervals.

Next, we turn to the effect of legislative partisanship on spending across different policy areas. Figure 9 shows the results from our regression discontinuity models of the effect of legislative partisanship in the average county on overall spending as well as individual categories of county spending. The top row shows our main result that electing a Democrat in the average county increases spending by 5%.

Turning to the effect of legislative partisanship on individual spending areas, while the statistical significance of different spending areas varies, the point estimates for individual spending areas are almost all positive. Moreover, consistent with our theoretical expectations, we find that Democratic legislators increase spending on social programs, such as health, hospitals, housing and welfare, by about 9%. We find robust evidence that Democratic legislators substantially increase spending on parks

and natural resources. There is also borderline significant evidence that Democratic legislators increase spending on roads.<sup>22</sup> We also find large, but insignificant, point estimates of the effect of electing a Democratic legislator on education and libraries, and sanitation and utilities.<sup>23</sup>

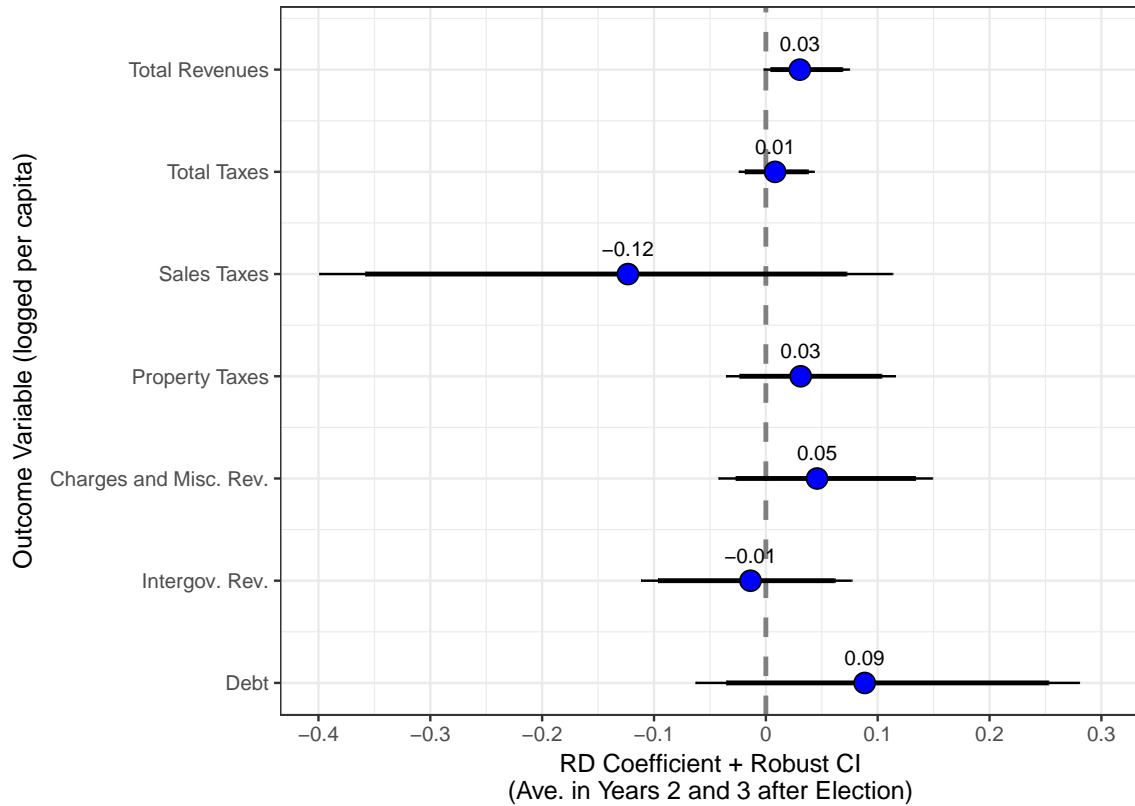


Figure 10: The effect of legislative partisanship on changes in logged per capita revenues in the fiscal years two and three years after an election. Thick bars show 90% confidence intervals and thin bars show 95% confidence intervals.

Figure 10 shows the effect of Democratic legislators on county revenues. We find that the election of a Democratic legislator in the average county increases total county revenues an average of about 3% in the fiscal years two and three years after an election. Figure 10 also shows the effects on individual revenue sources. We find no evidence that Democratic legislators increase taxes or intergovernmental revenues.

<sup>22</sup> These results are all significant at the  $p=0.1$  level.

<sup>23</sup> Full tabular results for these spending areas are in Appendix D. This table also shows the details of the models, such as the bandwidth, robust confidence intervals, and p-values.

Consistent with the findings in de Benedictis-Kessner and Warshaw (2016) for municipal governments, we find suggestive evidence that Democratic legislators increase debt, but this result is not statistically significant.

In Figure 11, we explore the persistence of the effect of partisan selection in county legislative elections on spending.<sup>24</sup> We find that it takes legislators two years to have an effect on county expenditures.<sup>25</sup> The effects peak three years after the election. Then the effect gradually decays until it largely disappears by the sixth year after an election. This could be the result of endogenous political responses to policy changes whereby voters punish legislators for large changes in the status quo.

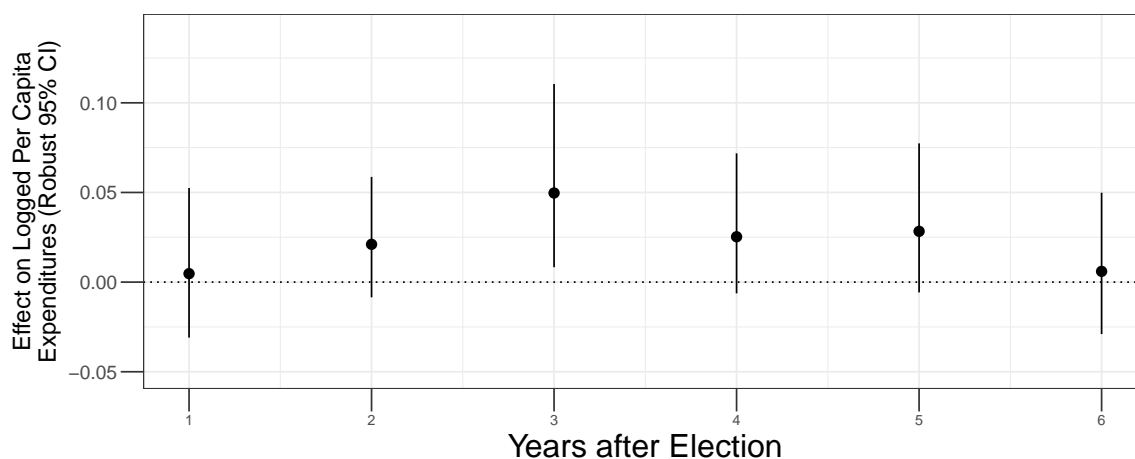


Figure 11: The effect of legislative partisanship on per capita county expenditures 1-6 years after an election.

In Supplemental Appendix E, we examine heterogeneity in the effect of partisan selection in county legislative elections by region, time period, urban vs. rural counties, population size, by form of government, and dependence on intergovernmental revenues. We find suggestive evidence that the effects of electing a Democratic county legislator are larger in the past decade than during the 1990s.<sup>26</sup> We also find some

<sup>24</sup> For this analysis, we subset our data to elections held between 1990-2010 to ensure that each time horizon uses a similar dataset.

<sup>25</sup> The lack of an effect in  $t+1$  can be seen as a placebo effect since new legislators generally cannot affect the budget in the first fiscal year after they're elected. Thus, it is not surprising that we see no effect there.

<sup>26</sup> The increase in the policy effects of the partisan composition are consistent with the findings of

evidence that the effects of partisan selection are larger in counties with a commission form of government than with a council-manager or elected county executive. Finally, we find suggestive evidence that the partisanship of county legislators matters more in states where counties are less dependent on intergovernmental revenue. However, it is important to keep in mind that none of these differences are causally identified and any differences across subgroups could be confounded by any number of omitted variables.

## Conclusion

County governments play an important role in American democracy. They spend nearly 400 billion dollars each year and employ over 2.5 million people. However, there has been little previous research about the effect of elections on county fiscal policies.

In this paper, we have shown that the partisan composition of county legislatures has a significant effect on county fiscal policies. Counties with more Democratic legislators spend more than counties with Republican legislators. We find this effect using two separate analytical strategies applied to an original dataset of nearly nine thousand county elections. This effect is especially large on redistributive policies — in contrast to the argument made by Peterson (1981) that redistribution is an area where local governments are especially constrained and “where certain kinds of citizen needs and preferences seldom become demands” (Peterson, 1981, p. 182). Counties with more Democratic legislators also raise more revenue than counties with Republican legislators.

Why do county policies exhibit these effects, when the bulk of the previous literature on counties has emphasized its constraints? There are several possible explanations. First, perhaps receiving a large portion of funding from states and federal

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Caughey, Warshaw, and Xu (2017) at the state-level.

governments is not that constraining at the margin, and so counties have some degree of leeway within their budget in which to adjust policy when local representatives from different parties are elected.<sup>27</sup> Another potential reason is that the institutional constraints — such as tax and revenue restrictions preempting local policy changes — only require policy changes to stay within bounds imposed by current revenues. These restrictions therefore inherently allow for incremental change because incremental change is small. Finally, it may be true that economic competition between local jurisdictions exists, but the degree to which this influences the policy decisions of local representatives may be minimal. Local politicians may either believe mobility is low enough, or political knowledge dismal enough, that the effects of this competition are non-threatening.

Overall, our findings contribute to a growing literature on the policy consequences of partisan control of state and local government. The partisan composition of county governments matters. The myriad of limits on county government render the substantive size of the effect relatively small, yet persistent. Despite the lack of attention on the *politics* of county governments, we demonstrate that county-level policy is influenced by the same political patterns evident in the United States as a whole. Much as it does in Congress, states, and cities, partisan selection plays a powerful role in county politics. When voters elect Democratic county legislators rather than Republican legislators, the county policies that result will change in accordance with the leanings of those partisan representatives. County elections, then, may be a vehicle by which policy responsiveness operates at the local level. Since counties spend hundreds of billions of dollars of taxpayer money and conduct thousands of elections each year, the health of county democracy is important for democracy *writ large* in the United States.

Future research should not leave this as the last word on the politics of county

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<sup>27</sup> See Supplementary Appendix E.



governments. The opportunity to study other realms of county policy remains ripe for future work. For instance, future work should examine the effect of the partisan composition of county governments on non-fiscal policies, such as gay rights or environmental policies.

Future work should also examine the policy effects of the partisan or ideological composition of city councils, school boards, and other local legislatures. This could make it possible to examine whether the policy effects of the partisan composition of local government are influenced by institutions. For example, it is possible that the partisanship of local legislators has a smaller impact on policy in settings with a strong executive than in places with appointed administrators. Finally, future research should build the overall body of knowledge about local politics by examining how all local governments — municipalities, counties, and special districts — interact to produce democratic governance in the United States.

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Politics in Forgotten Governments:  
The Policy Effects of the Partisan Composition of  
County Legislatures  
Supplementary Appendix

February 22, 2018

## A Descriptive Statistics on Sample of Counties

Descriptive statistics for the counties that we use in our final sample of elections are presented in Table A1. In the first column, we report summary statistics (mean and standard deviation) for several characteristics. Since we choose to focus on counties over a population threshold of 150,000 people and which have partisan elections, we present the same descriptive statistics for this universe of counties in the second column.<sup>1</sup> Our final sample consists of 289 of these 319 counties. Relative to our target set of counties, our sample of counties have a slightly higher white population and a slightly lower black population.

We also present these same statistics for all counties in the U.S. in the third column of Table A1. Because we focus our sample on larger counties, our sample is unsurprisingly biased in its average size relative to all counties in the U.S. Relative to the entire country, our sample is also somewhat regionally weighted towards the northeast. It is made up of counties that are slightly less white and slightly more black than cities across the entire country, as well as more educated, of higher income, and with a higher median home value.

Table A1: City Summary Statistics

	Final Sample	>150k population	All U.S. counties
Population	439444 (515847)	422507 (495874)	89733 (292675)
% West	14 (35)	13 (34)	14 (35)
% South	42 (49)	42 (49)	45 (50)
% Northeast	21 (41)	22 (41)	7 (25)
% White	80 (13)	80 (13)	84 (17)
% Black	11 (11)	11 (11)	9 (15)
% College degree or more	17 (6)	17 (6)	11 (5)
Median household income	45981 (10318)	45608 (10183)	35374 (8906)
Median home value	120929 (41917)	119266 (41539)	81327 (42236)
Number of counties	289	319	3136

Statistics are from 2000 U.S Census data. Standard deviations in parentheses.

<sup>1</sup>This excludes counties in CA, MN, WI, AK, SD, ND, and LA, as well as some counties in FL.

We also compute descriptive statistics on the finances of the counties that we use in our final sample of elections, presented in Table A2 for those that had finances data available for 2012. In the first column, we report summary statistics (mean and standard deviation) for per capita expenditures and revenue across several categories. We present the same descriptive statistics for the target universe of large counties with partisan elections in the second column, and again for all counties in the U.S. in the third column of Table A2. Our sample of counties closely resembles our target universe of counties.

Counties divided their expenditures among a variety of categories, and similarly raised their revenue from a variety of sources, but this also changed over time. Figure A1 shows the division of total expenditures into a variety of categories in counties in our target universe of large counties from 1990 to 2014. Across the entire time period, counties spent the largest amount on education, administration, welfare, and healthcare. While the level of most of these spending areas is relatively constant over time, education expenditures rise by a large degree between 1990 and 2012 in the average county. In line with national trends, healthcare costs also rise steadily from 1990 to the present.

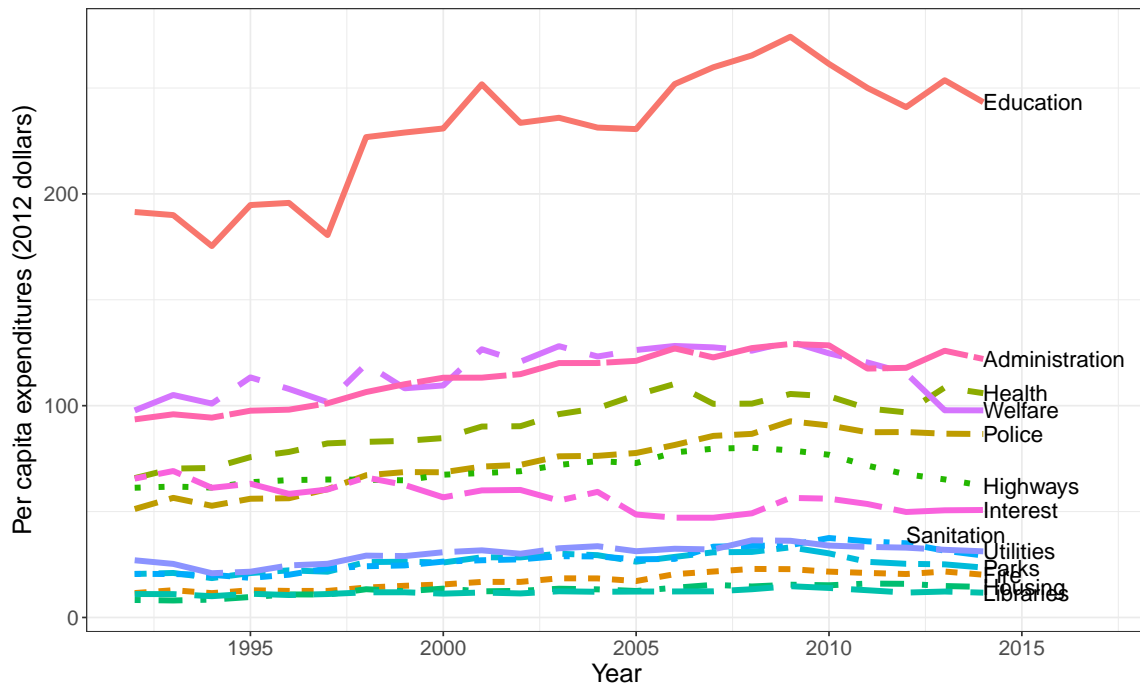


Figure A1: Expenditures over time, individual categories (target universe)

Table A2: City Finances Summary Statistics, 2012 dollars per capita

	Final Sample	>150k population	All U.S. counties
Total Expenditures	1273 (1054)	1239 (1039)	1469 (1755)
Education	253 (610)	241 (591)	215 (608)
Fire	22 (48)	21 (46)	18 (58)
Police	91 (80)	88 (78)	106 (112)
Health	98 (109)	97 (112)	87 (149)
Highways	67 (59)	68 (58)	189 (313)
Housing	17 (35)	16 (34)	9 (28)
Libraries	12 (18)	12 (18)	10 (31)
Parks	27 (37)	25 (36)	19 (61)
Sanitation	37 (127)	35 (123)	12 (58)
Utilities	35 (77)	33 (74)	25 (214)
Welfare	113 (159)	115 (172)	91 (171)
Interest	52 (61)	50 (59)	41 (288)
Administration	121 (75)	118 (74)	156 (203)
Total Revenues	1258 (1023)	1223 (1005)	1492 (1765)
Own Sources	875 (765)	849 (747)	993 (1342)
Total Taxes	548 (506)	535 (493)	572 (920)
Sales Taxes	121 (159)	123 (164)	104 (198)
Property Taxes	378 (331)	366 (321)	432 (868)
Debt	1231 (1267)	1184 (1235)	897 (5039)
Intergovernmental	383 (367)	375 (363)	499 (736)
Number of counties	283	309	2793

Statistics are from the Census of Governments Finances data in 2012, and therefore eliminate counties that did not report financial data in 2012. Standard deviations in parentheses.

## B Further Details on Validity of Regression Discontinuity Design

The key identifying assumption of the RD design is that the distribution of units' potential outcomes is continuous at the treatment threshold (Hahn, Todd, and Klaauw, 2001; Lee and Lemieux, 2010). In some electoral settings the continuity assumption

appears to be violated due to incumbents' ability to win narrow victories (Caughey and Sekhon, 2011). However, Eggers et al. (2015) find no evidence of pro-incumbent sorting in a variety of electoral contexts. Consistent with Eggers et al.'s (2015) findings, we find no statistically significant discontinuities (i.e., placebo effects) using similar RD models as in our main paper.

Table B1: Covariate continuity tests for the County Legislative RD design

Outcome Variable	Estimate	Pr >  z	Eff. N	BW
Lagged Running Variable (Dem. Vote Share)	-0.011	0.508	2360	10.484
Lagged Treatment Variable (Dem. Legislator)	0.102	0.159	2494	10.551
Contemporaneous Logged Per Capita Expenditures	-0.104	0.229	3404	11.248
Contemporaneous Change in Logged Per Capita Exp.'s	0.015	0.169	2984	9.866
Contemporaneous Democratic Seat Share	0.044	0.401	2510	9.156

Estimated using the default local-linear regression bandwidth (BW) and robust confidence intervals calculated by `rdrobust` (Calonico, Cattaneo, and Titiunik, 2014).

## C Robustness of Main Results

This appendix shows the robustness of our main results on total county expenditures to different modeling choices. First, Table C1 shows that the main results are substantively similar using a variety of different bandwidths for the RD model. Second, Table C1 shows that we obtain similar results using higher order polynomials for our RD models. Finally, the last line of Table C1 shows that we obtain similar results using local randomization in a narrow 1% bandwidth close to the discontinuity using the default options in the `rdlocrand` package in R (Cattaneo, Titiunik, and Vazquez-Bare, 2016).

Table C1: Robustness of Main Results to Different Modeling Choices.

Model	Polynomial	<i>Weighted RD</i>				<i>Unweighted RD</i>			
		Estimate	Pr > z	Eff. N	BW	Estimate	Pr > z	Eff. N	BW
Main Results (optimal BW)	1	0.053	0.024	2197	6.9	0.035	0.024	2544	8.1
2nd order polynomial	2	0.061	0.012	3942	13.7	0.042	0.018	4038	14.2
3rd order polynomial	3	0.065	0.071	4339	15.6	0.047	0.037	4751	18.3
4th order polynomial	4	0.059	0.146	4724	18.1	0.035	0.245	4547	16.9
1% bandwidth	1	0.028	0.411	397	1	-0.003	0.805	397	1
2% bandwidth	1	0.066	0.509	734	2	0.04	0.99	734	2
3% bandwidth	1	0.072	0.332	1055	3	0.042	0.45	1055	3
4% bandwidth	1	0.056	0.075	1369	4	0.034	0.16	1369	4
5% bandwidth	1	0.051	0.072	1673	5	0.035	0.156	1673	5
Randomization Inference	NA	NA	NA	NA	NA	0.036	0.079	397	1

## D Main Results in Tabular Form

Table D1: Expenditure Results.

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
Total Expenditures	0.053 (0.008, 0.116)	0.024	2197	6.856
Police, Fire, and Corrections	0.013 (-0.035, 0.067)	0.544	2958	9.587
Redistribution (Health, Hospitals, Housing, & Welfare)	0.091 (0.012, 0.216)	0.028	2074	6.345
Education and Libraries	0.15 (-0.085, 0.428)	0.19	4360	15.748
Roads	0.191 (-0.004, 0.464)	0.054	3333	10.958
Parks and Natural Resources	0.253 (0.01, 0.545)	0.042	2675	8.593
Sanitation and Utilities	0.143 (-0.185, 0.47)	0.395	2721	8.754
Interest	0.063 (-0.112, 0.237)	0.482	2698	8.671
Admin. and Misc.	0.021 (-0.026, 0.085)	0.302	2757	8.907

Table D2: Revenue Results.

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
Total Revenues	0.03 (-0.002, 0.074)	0.063	2612	8.373
Total Taxes	0.008 (-0.024, 0.043)	0.584	3130	10.22
Sales Taxes	-0.123 (-0.399, 0.113)	0.274	2769	8.953
Property Taxes	0.031 (-0.036, 0.115)	0.3	3375	11.149
Charges and Misc. Rev.	0.046 (-0.042, 0.149)	0.274	2438	7.732
Intergov. Rev.	-0.014 (-0.112, 0.077)	0.716	2736	8.795
Debt	0.088 (-0.063, 0.28)	0.214	2651	8.525



## E Results Across Subgroups

Variation in the treatment effects we observe could help explain *why* these effects persist. We delve into this by comparing our treatment effects across several different dimensions, reported in the tables below: by region, by time period, by urban vs. rural counties, by population size, form of government, and dependence on intergovernmental revenues. However, it is important to keep in mind that none of these are causally identified and any differences across subgroup could be confounded by any number of omitted variables.

### 1) Region

In Table E1 we examine how the size of county legislatures varies between different regions. Here, we find some degree of geographic heterogeneity. Most very large legislatures with more than 10 members are found in the east and midwest. However, these states also have a large number of very small legislatures with only three members. In the west and south, virtually no counties have large legislatures. And in the south, very few have small legislatures either. We can also examine variation in the effect of electing a Democratic legislator between counties in different regions. In Table E2, we find that the effects are broadly similar in different regions, although the results are noisy due to small sample sizes.

Table E1: Proportion of counties in each region with small, medium, and large legislatures

	N	3	4-10	10+
East	61	0.41	0.36	0.23
Midwest	67	0.31	0.34	0.34
South	120	0.03	0.85	0.12
West	41	0.54	0.46	0.00

Table E2: Heterogeneity in effect of legislator partisanship across regions

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
East	0.072 (-0.057, 0.24)	0.226	802	9.314
Midwest	0.052 (-0.011, 0.146)	0.091	815	7.278
South	0.034 (-0.034, 0.121)	0.273	736	9.123
West	0.036 (-0.039, 0.109)	0.357	266	7.992

### 2) Time period

Next, we examine whether the effects of legislators’ partisanship on county spending has changed over time. Indeed we find that electing a Democratic county legislator had no significant effect on county spending during the period between 1990 and 2002 (Table E3). However, it had a large and significant effect between 2003 and 2012.

Table E3: Heterogeneity in effect of legislator partisanship across time

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
1990-2002	0.017 (-0.031, 0.08)	0.379	1249	7.784
2003-2012	0.09 (0.016, 0.193)	0.021	1169	7.528

### 3) Urban vs. Rural Counties

Here, we first examine how the size of county legislatures varies between urban and rural counties. Figure E1 shows a kernel density of the percentage of people in the counties in our dataset that are rural. Unfortunately, we have very few truly rural counties in our universe of counties with more than 150,000 people. But it is possible to divide our dataset into counties with some substantial rural component and those that are almost entirely urban. In Table E4, we examine how the size of county legislature varies between counties where more than 15% of the population is rural compared to counties where less than 15% of the population is rural. It indicates that there is little difference in the size of legislatures between urban and rural counties. We can also examine variation in the effect of electing a Democratic legislator between urban and rural counties. In Table E5, we find that there is suggestive evidence that the effect is larger in more urban counties. However, the difference between urban and rural counties is not statistically significant.

Table E4: Proportion of urban and rural counties with small, medium, and large legislatures

	N	3	4-10	10+
Rural ( $>15\%$ Rural)	108	0.32	0.49	0.19
Urban ( $<15\%$ Rural)	181	0.20	0.62	0.17

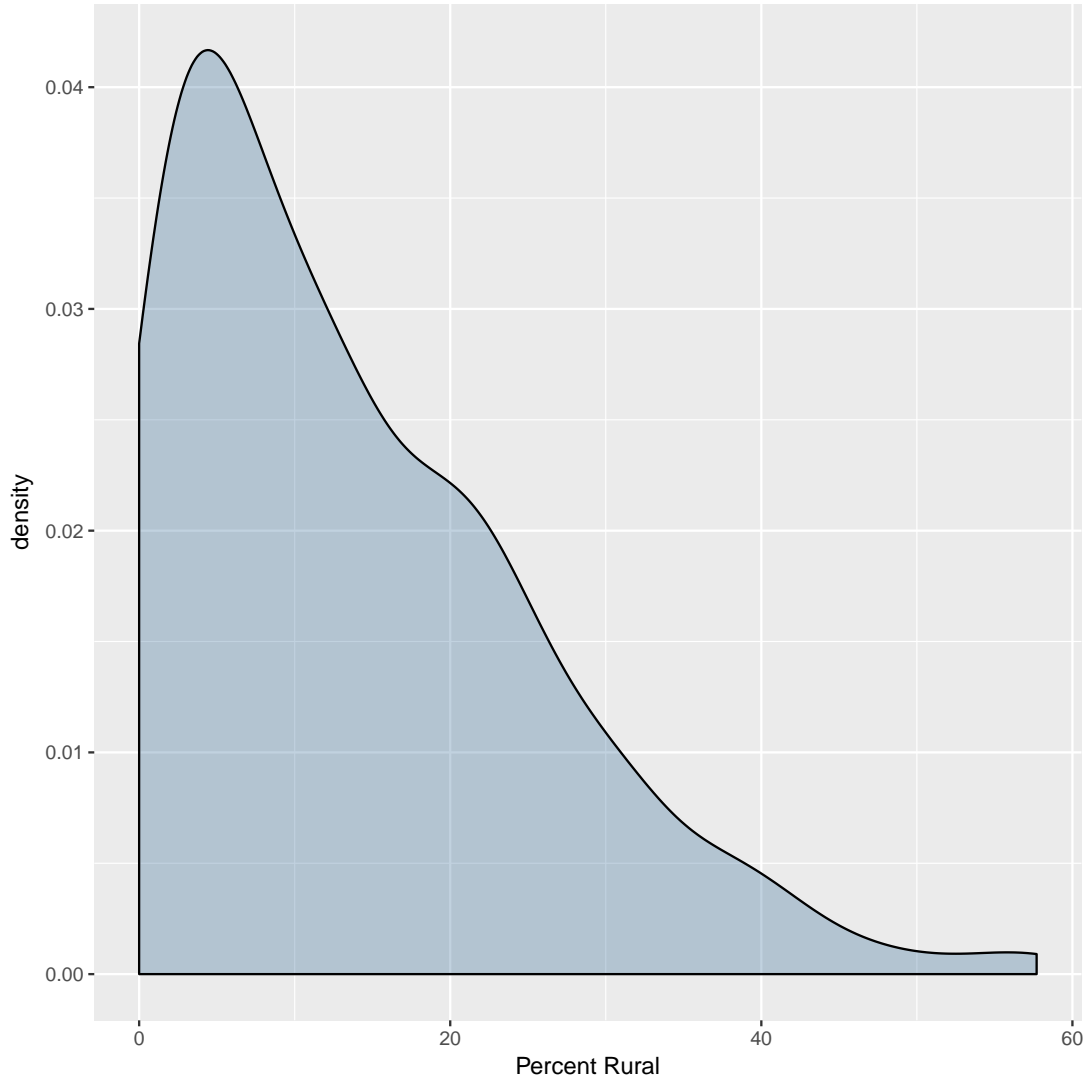


Figure E1: Density of rural population in counties.

Table E5: Heterogeneity in effect of legislator partisanship across more urban and rural counties

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
Rural	0.029 (-0.019, 0.106)	0.174	817	8.492
Urban	0.059 (-0.003, 0.14)	0.06	1633	7.529

#### 4) Population

It is also possible to use the data we were able to collect to examine heterogeneity in the effect of electing a Democratic legislator across counties with different populations.

Consistent with the theoretical expectations we briefly discuss in the paper, we do find some evidence that the effects of electing a Democratic legislator are larger in counties with larger populations. However, the results are very noisy and we wouldn't want to place too much emphasis on differences in the point estimates. Moreover, these non-causal differences could be confounded by other differences in the structure of county governments. For instance, they are almost certainly confounded by variation in the size of county legislatures across counties.

Table E6: Heterogeneity in effect of legislator partisanship by county size

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
Main Effect	0.053 (0.008, 0.116)	0.024	2197	6.856
<150,000	0.01 (-0.064, 0.084)	0.789	669	9.75
150,000-250,000	0.009 (-0.054, 0.092)	0.605	727	8.842
250,000-400,000	0.098 (0.017, 0.211)	0.021	554	7
400,000-800,000	0.069 (-0.066, 0.235)	0.271	598	8.964
>800,000	0.029 (-0.014, 0.091)	0.155	657	10.503

## 5) Form of Government

Next, in Table E7 we examine how the size of county legislatures varies between form of government. We gathered form of government data from the ICMA, the 1987 Census of Governments, and manual research. However, it is worth noting that our coding of form of government may have measurement error. For example, we found it very difficult to determine the difference between commission and council-manager governments in our manual research.

Despite the measurement error in the coding, we do find that there is significant heterogeneity in the size of legislatures across forms of government. Counties with commissions are much more likely to have smaller legislatures with only 3 members. Indeed, 39% of counties with a commission form of government have 3 members and only 7% lie in larger counties. In contrast, 48% of counties with elected executives have large legislatures.

In Table E8, we find that the effects of electing a Democratic legislator are much larger in counties with commissions than in other counties. Moreover, we find that electing a Democrat has essentially no effect in counties with an elected executive. However, it is very hard to disentangle whether the larger effect is driven by the form of government or the small size of these legislatures. We do not have sufficient sample size to run RD models separately for each configuration of legislative size and form

Table E7: Proportion of counties with various forms of government with small, medium, and large legislatures

	N	small	medium	large
Commission	99	0.39	0.54	0.07
Council-manager	144	0.22	0.63	0.15
Council-elected executive	46	0.04	0.48	0.48

of government, making it impossible to disentangle the role of county size from that of form of government.

Table E8: Heterogeneity in effect of legislator partisanship across form of governments

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
Commission	0.118 (0.012, 0.273)	0.033	511	6.124
Council-manager	0.039 (-0.014, 0.106)	0.136	1315	9.954
Council-elected executive	-0.013 (-0.075, 0.044)	0.611	842	8.608

## 6) Intergovernmental Revenue

Next, we look for heterogeneity in our results by the dependence of counties in each state on intergovernmental revenue. Indeed, intergovernmental revenue is hard to directly manipulate, so counties that are dependent on intergovernmental revenues may see smaller effects from elections. In order to examine heterogeneity based on the degree of counties' dependence on intergovernmental revenues, we examine separately counties in states where the average proportion of revenue that comes from intergovernmental sources is more and less than 35%. The results from this analysis are below in Table E9. They show suggestive evidence that the partisanship of county legislators matters more in states where counties are less dependent on intergovernmental revenue. However, the difference between these two subsets is not statistically significant. So we are cautious in drawing any strong conclusions.

Table E9: Heterogeneity in effect of legislator partisanship based on dependence on intergovernmental revenues

Outcome variable	Estimate	Pr $> z $	Eff. N	BW
$>35\%$ of Revenue from IG Sources	0.023 (-0.025, 0.083)	0.29	959	10.88
$<35\%$ of Revenue from IG Sources	0.072 (0.002, 0.167)	0.045	1482	6.882

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