

Cities as Lobbyists

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Abstract: *Individual cities are active interest groups in lobbying the federal government, and yet the dynamics of this intergovernmental lobbying are poorly understood. We argue that preference incongruence between a city and its parent state government leads to underprovision of public goods, and cities need to appeal to the federal government for additional resources. We provide evidence for this theory using a data set of over 13,800 lobbying disclosures filed by cities with populations over 25,000 between 1999 and 2012. Income inequality and ethnic fragmentation are also highly related to federal lobbying activities. Using an instrumental variables analysis of earmark and Recovery Act grant data, we show that each dollar a city spends on lobbying generates substantial returns.*

Replication Materials: The data, code, and any additional materials required to replicate all analyses in this article are available on the *American Journal of Political Science* Dataverse within the Harvard Dataverse Network, at: <http://dx.doi:10.7910/DVN/RSD5BV>.

Over the last few decades, an emerging feature of the relationship between the American federal government and its subnational units has been lobbying. According to the 2011 *Washington Representatives* directory, state and local governments make up 12.3% of all organized interest groups that have a presence in national politics, either by maintaining an office in Washington, DC, or by hiring professional lobbying firms. Between 1981 and 2011, state and local government involvement in national politics increased by 422%, and 1,428 state and local governments have entered the national political scene since 1981 (Schlozman et al. 2015).

Despite the steady increase in state and local government involvement in national politics, we know little about why subnational governments engage in national politics or what their lobbying goals are. In this article, we tackle two main issues: why some cities lobby the federal government, while others do not; and whether city

lobbying makes a difference in terms of federal resource allocation.

In this article, we argue that cities have an incentive to lobby the federal government when their preference diverges from the preference of their state government, thereby generating a public goods provision problem. The local government is a creature of the state, and its policies are influenced by, shaped by, and reliant on state policies (Briffault 1990; Frug 1980; Peterson 1981).¹ When local demand for public expenditures is not met by a state government and cannot be raised by the city itself, cities have an incentive to lobby the federal government for desired resources.²

Given that liberal voters have a high demand for public goods provision (Alesina and Ferrara 2005; Alesina and Glaser 2004; Einstein and Kogan 2015; Tausanovitch and Warsaw 2014) and liberal states tend to have a high supply of public goods (Barrileaux, Holbrook, and Langer

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¹Often, even resources earmarked from the federal government to local governments are allocated by a state government, meaning that the state government exercises its power over local governments in the allocation of both federal and state resources (Nicholson-Crotty 2004).

²This is consistent with the argument that intergovernmental revenues become a valuable supplement to total expenditures for local governments when they have limited ability to generate extra revenues due to budgetary rules (Brooks and Phillips 2010).

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2002; Brown 1995; Erikson, Wright, and McIver 1993; Jacoby and Schneider 2001), our theory predicts that the effect of preference divergence on the underprovision of public goods will be most pronounced in liberal cities located in conservative states.

We use two estimates to measure the difference between city- and state-level public goods expenditure (a measure we call the *public goods gap*). Using detailed public finance data from the Census of Governments, we first measure the difference between each city's direct expenditures per capita and the corresponding state government's direct expenditure per capita. This measure captures the different levels of spending between a city and its state. Second, we measure how much of a city's expenses are covered by the state government by measuring the difference between each city's total direct expenditures per capita and the state government's per capita transfers to each city.

We test our theory by analyzing a novel data set of 13,858 lobbying disclosure reports submitted by 1,262 cities with populations over 25,000 from 1999 to 2012.³ From both cross-sectional and panel analyses, we find that divergence of preferences and its consequences for public goods provision matter: A city's propensity to lobby the federal government between 1999 and 2012 is increasing in the city-state public goods gap. Demographic variables such as ethnic heterogeneity and income inequality are also important determinants of a city's lobbying activities: Cities that are more ethnically diverse and unequal in income distribution are more likely to participate in federal lobbying. Their lobbying engagement may help to explain why more ethnically fragmented localities receive higher transfers per capita from higher levels of government, despite their difficulty in providing public goods at the local level (Alesina, Baqir, and Easterly 1999).

After identifying types of cities that engage in federal lobbying, we investigate whether lobbying by local governments makes any difference in terms of federal resource allocation. We collect data on earmarks awarded to cities in fiscal years 2008 and 2009, and grants awarded from the American Recovery and Reinvestment Act of 2009 (the Recovery Act) to cities in fiscal years between 2009 and 2012. The main difficulty in identifying the causal effect of lobbying on federal resource allocation arises from potential reverse causality

and joint determination. On the one hand, ordinary least squares (OLS) estimates might be biased upward if cities exert more effort in lobbying when they know they already have a relatively high chance of securing federal resources; on the other hand, if cities exert more effort in lobbying when they are especially desperate to receive earmarks or grants, OLS estimates might be biased downward.

To address this potential endogeneity issue, we exploit data on the existence of a direct flight from the relevant city to Washington, DC, as an instrumental variable. City lobbying is usually done when city officials travel to Washington, DC, to meet their lobbyists, and lobbyists arrange meetings for city officials with House representatives or senators from the state where the city is located (Leech 2013). The existence of a direct flight captures the convenience of travel to Washington, DC, from each city. We find that the existence of a direct flight is a highly statistically significant, positive, and substantively large correlate of lobbying expenditures, after conditioning on demographic variables and distance to Washington, DC.⁴ The instrumental variable regression results suggest that a 10% increase in lobbying spending increases the amount of earmarks and Recovery Act grants by 10.2% and 4.7%, respectively.

We make a number of contributions to the research literature. First, we provide the most comprehensive information on lobbying activities by local governments yet presented in the literature by constructing a novel data set of lobbying reports. Despite their intense activities, governments as interest groups have received little attention from scholars as important players in the lobbying landscape (Loftis and Kettler 2015). Second, we contribute to the understanding of how and why localities communicate their preferences to the federal government, adding a specific communication incentive and mechanism to the basic structure of intergovernmental relations under federalism (Volden 2005). Third, we provide empirical support for the theory that some cities are systematic losers in distributive politics as a result of their political preference incongruence created by geography (i.e., Dixit and Londregan 1998). Finally, we provide empirical evidence for the returns to lobbying and show that lobbying by local governments is an important factor affecting the allocation of federal resources.

³We focus on cities with populations over 25,000 because the American Community Survey provides the detailed demographic data for these cities every 3 years, which allows us to conduct a panel analysis. Also, these cities make up more than 70% of federal lobbying activities by local governments (both in terms of the number of submitted lobbying reports and total spending).

⁴We provide multiple robustness checks for the instrument, using within-city variation in terms of a direct flight to Washington, DC, as well as flight fare changes, in Appendix E in the supporting information (SI).

Preference Incongruence and Local Public Goods Provision

To understand why cities lobby the federal government, it is important to examine both the demand and the supply of local public goods. The determinants of citizen preferences for government redistribution are well studied. Material interests and political ideology are two important predictors of voter policy preferences (Alesina and Ferrara 2005; Alesina and Glaser 2004; Margalit 2013). Community-level characteristics also seem important; in particular, ethnic heterogeneity at the level of the town or village has been identified as a determinant of relatively lower demand for public goods provision (Alesina, Baqir, and Easterly 1999; Easterly and Levine 1997; Habyarimana et al. 2007).

Numerous articles also investigate how the structure of federalism affects public goods provision at the local level (Cremer and Palfrey 2006; Dixit and Londregan 1998; Hafer and Landa 2007; Knight 2002; Oates 1999; Persson and Tabellini 1996; Volden 2005). Federalism has a unique effect on local public goods provision in the United States because the interaction between the federal government and local governments is often mediated through state governments, and so, depending on the preference alignment between state and local governments, some local governments are better off than others under federalism than they might be under a hypothetical unitary system.

Heterogeneity in local public goods provision has generated academic debate since at least Tiebout (1956). A large literature explores the variation in local public goods provision; most recently, Tausanovitch and Warshaw (2013, 2014) have illustrated the link between citizen policy preferences at the state and local levels and expenditures and taxation policies and state legislative voting. Because policy is not just made at the local level, however, citizen preferences, by construction, cannot translate perfectly to available public goods. Indeed, Ferreira and Gyourko (2009) find that mayoral partisan affiliation does not affect the allocation of local public spending, though Gerber and Hopkins (2011) find that the party affiliation of a city's mayor makes a difference in policy areas, such as public safety, where local discretion is high. State governments set priorities for their own budgets and for the allocation of certain federal grants (Nicholson-Crotty 2004), so cities cannot always meet their own voters' public goods preferences.

What types of cities will suffer most from a preference mismatch with their parent states? Given that liberal

voters have a higher demand for public goods provision than conservative voters and liberal states tend to have a high supply of public goods relative to conservative states, it is not a stretch to predict that liberal cities in conservative states face an under-supply of public goods relative to their ideal points. When cities face underprovision of public goods, they face a choice between three nonmutually exclusive solutions: (1) increase revenues, (2) lobby the state government, and (3) lobby the federal government.

It is well established that cities are limited in their fiscal policy discretion. Most city revenue comes either from state aid, which is determined by preexisting formulas (Campbell 2013), or from property taxes, which are largely determined by real estate markets (Alm, Buschman, and Sjoquist 2011). The ability to raise revenue from other taxes, such as income and sales taxes, is largely determined by state laws that permit or forbid their use (Case and Rosen 1993). The second option, lobbying the state government, could be a feasible option in some states if there is a positive chance that cities could get what they want from their state governments. For example, it is reported that local governments in California regularly spend tens of millions of dollars to lobby the state government (Myers 2015). Cities almost surely believe they are more likely to receive aid from their state government when issue priorities are similar between them and their state governments and when Democrats rule the state legislature. For liberal cities in conservative states, however, these conditions are rarely met. Thus, these cities have a stronger incentive to lobby the federal government for additional resources than other types of cities due to constraints on other options.⁵

Data and Stylized Facts

The Lobbying Disclosure Act (LDA), enacted in 1995 and reformed in 2007, requires that interest groups file lobbying disclosure reports, which provide specific information about their lobbying activities. A lobbying report includes information on the client who paid for the lobbying, the registrant who provided the lobbying, expenditures, and the period of the lobbying activity. A quarterly lobbying

⁵This does not mean that conservative cities in liberal states, another type that experiences an ideological mismatch, do not lobby. Citizens in red cities located in blue states may want as many public goods as the citizens in blue cities in red states (Sears and Citrin 1982), but what distinguishes them is the state-level support for provision of public goods, which will be higher in liberal states than conservative states.

report specifies the issue areas and any specific legislation that was lobbied for.⁶

Between 1999 and 2012, government entities submitted 42,154 lobbying disclosures.⁷ The governments that submitted lobbying disclosures include cities, counties, towns, school districts, state governments, associations of institutions, and associations of individuals who work as government officials. State governments submitted 2,784 of these reports. Associations of institutions, such as the National Association of Towns & Townships, submitted 454 of these reports.⁸

In this study, we use federal lobbying disclosures submitted by cities with populations greater than 25,000 between 1999 and 2012 (the 106th–112th Congresses).⁹ Of the 1,262 U.S. cities with populations greater than 25,000 that we analyze, 541 cities submitted at least one lobbying report, and 721 did not submit any lobbying reports. In total, these cities submitted 13,858 lobbying reports and spent over \$367 million (in 2012 dollar terms) over this 14 year period.¹⁰ Lobbying participation and expenditures rose from 1999 until 2009 and have declined since, which is consistent with the 2010 earmark ban. A total of 97.2% of the reports were submitted by contract lobbying firms, and just 2.8% by a city's own lobbyists.

Table B.3 in the SI presents the summary statistics on lobbying activities for the top 20 cities in terms of total lobbying expenditures. New Orleans is ranked at the top in terms of total lobbying spending, having hired 20 lobbying firms, submitted 189 disclosures, and spent over \$7.3 million over the study period.¹¹ Over the study period, 119 cities spent more than \$1 million, 35 cities spent more than \$2 million, and among the 541 cities that submitted at least one lobbying report, the mean lobbying spending was \$679,139.

⁶Appendix F in the SI shows an example of a lobbying report.

⁷See Appendix A in the SI for a description of data sources.

⁸This lack of lobbying activities by associations is surprising, given the scholarly focus on associations of governments as key players in intergovernmental lobbying (Cammisa 1995; Flanagan 1999; Hays 1991).

⁹The total number of cities with populations of more than 25,000 is 1,451, but some cities do not have their own public finance information because their governments do not have authority to collect revenues and disburse expenditures by themselves. These cities are dropped from the sample because the Census of Governments does not have information on their public finances. The number of cities in the final sample is 1,262.

¹⁰Table B.2 in the SI presents the yearly pattern of lobbying frequency and spending.

¹¹Although this is largely due to post-Katrina reconstruction needs, Governor Bobby Jindal and the state legislature cut income taxes, reduced education spending, and laid off state and local bureaucrats beginning in 2008 (Lowrey 2016).

When cities submit lobbying reports, they are required to disclose general and specific issue areas, and one lobbying report will typically include more than one issue area. Among 13,858 lobbying reports, 4,789 mentioned budget issues. After budget issues, the most commonly mentioned issues include transportation, urban development, and the environment. During our study period, the American Recovery and Reinvestment Act (HR 1, 111th) was the most targeted piece of legislation, followed by the Hiring Incentives to Restore Employment Act (HR 2847, 111th). Appropriations bills were the most frequently targeted legislation. Lobbying reports can also specify targeted offices, and indeed almost 5,000 lobbying reports mentioned that they targeted the Senate and/or the House. The Department of Transportation is ranked third, followed by the Army Corps of Engineers.¹²

For each city in our sample, we collect demographic, public finance, and political variables that could also affect a city's decision to lobby the federal government. Demographic data were collected from the decennial Census and American Community Surveys. Public finance data, both at the city and state levels, were collected from the Census of Governments. City- and state-level revenue and expenditure data allow us to divide revenue into intergovernmental revenue and own-source-based revenue, as well as dividing expenditures into different substantive categories. To assign political variables, we match each city into a congressional district and a state.¹³ We then collect party affiliation, committee assignments, vote shares, and DW-Nominate scores of the House Representatives and senators who represent each city. Measures for city, congressional district, and state-level liberal-conservative ideology were drawn from Tausanovitch and Warshaw (2014).¹⁴ We also collect party affiliation of the governor, state legislature information, including majority party in each chamber, and state legislator ideal points developed by Shor and McCarthy (2011).

Table C.3 in the SI presents summary statistics for key demographic, political, and public finance variables for cities that did and did not lobby during the study period. We systematically investigate how each variable

¹²Table B.4 in the SI presents the top 10 most frequently mentioned issues, the most mentioned bills, and the most targeted agencies.

¹³We first match each city with a county and then use the county-congressional district matching data from the Census Congressional District Relationship Files. If a city has multiple districts, we take a mean value of the variable of interest.

¹⁴Tausanovitch and Warshaw (2014) construct the comparable ideology measure for cities, congressional districts, and states from analysis of survey data using multilevel regression with poststratification (MRP). We also use 2008 presidential vote share to measure city and state ideology as a robustness check.

TABLE 1 Lobbying Participation and Expenditures by Types of Cities

Type	Participation (%)		Expenditures (\$K)	
	Blue States	Red States	Blue States	Red States
Blue Cities	42.88	55.67	242.1	635.3
Red Cities	44.68	37.82	225.0	196.7

is associated with a city's lobbying activity in the next section.

Which Cities Lobby the Federal Government?

We test our hypothesis with a sample of 1,262 cities with populations greater than 25,000. We are interested in finding demographic, political, and local public finance variables that are associated with a city's lobbying activities—both lobbying participation and lobbying spending. In particular, we are interested in how preference divergence and the consequential gap in local expenditures and the parent state's support for public goods are related to a city's decision to lobby the federal government.

Before we move into a full empirical analysis, we present a simple 2×2 matrix in Table 1 that illustrates our hypothesis. We divide states into “blue” states and “red” states depending on state ideology scores, and divide cities into “blue” cities and “red” cities depending on city ideology scores.¹⁵ Lobbying participation is defined as whether a city submitted at least one lobbying report during the time period between 1999 and 2012, and lobbying expenditures are calculated as the average of total spending per city during the study period.

As Table 1 shows, blue cities in red states were the most likely of the four city categories to participate in lobbying the federal government—almost 56% of the cities in this category submitted at least one lobbying report, whereas only 38% of the red cities in red states did so. Lobbying expenditures show the same pattern: Whereas blue cities located in red states spent on average \$635,324 over

the 14 studied years, red cities in red states spent on average \$196,734 during the same period. As we expect, despite their preference divergence, red cities located in blue states are less likely to lobby and to spend than blue cities in red states, since they do not experience the same public goods provision problem as their counterparts. The results suggest that preference divergence and its consequences for local public goods provision are closely related to the lobbying activities of municipal governments.

The data structure is as follows. For each city in the sample, we collect annual lobbying activity, demographic, political, and local public finance information. While lobbying activity is time-variant, some variables are not available annually. For demographic variables, the Decennial Census is released every 10 years, and the American Community Survey provides detailed information for areas with a population of 20,000 or more for every 3-year interval since 2005. For local public finance data, the Census of Governments is available at 5-year intervals, and so during the period of study, local public finance data are available for the years 2002, 2007, and 2012. Therefore, we extrapolate values of demographic and finance variables in available years to previous years, given the assumption that demographic and local finance conditions do not radically change within a 3- to 4-year period. For example, we assign values from 2002 surveys to 1999, 2000, and 2001; we assign values from 2007 surveys to the years between 2002 and 2006; and we assign values from 2012 to the years between 2008 and 2011. This panel data structure allows us to examine both variation over units and variation over time.

Our main interest is variation across units, so we start with a pooled OLS regression for lobbying activities using data for all cities in all years. The basic specification is

$$Y_{ist} = \beta D_{ist} + \Gamma X_{ist} + \lambda_t + \varepsilon_{ist}, \quad (1)$$

where i indicates a city, s indicates a state, and t indicates the year. D_{ist} is a measure of divergence between a city's public goods provision and its state government's public goods provision. To directly capture this variation, we use expenditure data from the Census of Governments. We first measure the difference between each city's direct expenditure per capita and the concordant state government's direct expenditure per capita. This measure captures the different levels of spending between a city and its state. Second, we measure how much of a city's expenses are covered by the state government by measuring the difference between each city's total direct expenditures per capita and per capita state government transfers to each city.¹⁶

¹⁶To measure divergence, we use the actual public goods provision gap, instead of the ideological difference between a city and its

¹⁵Cities and states are defined as blue if their ideology score from Tausanovitch and Warshaw (2014) is less than the median city and state ideology (-0.0393 and 0.0601 , respectively), and red cities and states are defined if their ideology is greater than the median state ideology. The results are similar if we use the mean value as a cutoff or if we use the 2008 presidential vote share to characterize cities and states as red or blue.

X_{ist} is a vector that includes various control variables, such as a city i 's demographic, state and local public finance, and political variables.¹⁷ These variables, which include population, land area, water area, age distribution, median and per capita income, unemployment and poverty rates, city and state ideology measures,¹⁸ shares of local revenue coming from the federal and state governments, and property and sales taxes, as well as measures of local expenditures per capita, are intended to take account of factors that could influence a city's decision to lobby. λ_t indicates year fixed effects to capture any time-specific trend, such as recession. Finally, Y_{ist} indicates a city's lobbying activity (which has two different values in the different regression specifications: whether the city lobbied the federal government, and how much the city spent on lobbying).¹⁹

Table 2 presents the results from pooled logit analysis for lobbying participation and Tobit analysis for lobbying spending. Columns 1 and 2 show the results for whether a city engaged in lobbying in a given year. Columns 3 and 4 report the results on annual lobbying spending. We use two different measures of the public goods gap, so columns 1 and 3 show the results when we use the first measure (city direct expenditure per capita minus state government direct expenditure per capita), and Columns 2 and 4 present results that use the second measure (city direct expenditure per capita minus per capita expenditure from state government transfers). The results are similar with the two measures.

Our results demonstrate that divergence between city and state public goods provision is a highly significant

state. Our theory suggests that cities that are liberal relative to their states tend to have relatively more severe public goods provision problems, and they will thus be more likely to lobby the federal government unless they are able to raise their own revenue or appeal to the state government for assistance. Of course, there are variables predicting the real public goods gap other than the ideology gap between the city and the state, but we show in Table D.1 in the SI that the ideological gap is a statistically significant and substantively large predictor of the public goods gap, conditional on relevant demographic and fiscal variables.

¹⁷Summary statistics for these variables are in Appendix C in the SI.

¹⁸We use the ideology measures of cities from Tausanovitch and Warsaw (2014; <http://www.americanideologyproject.com>).

¹⁹Because lobbying spending is skewed, we log-transform the variable. Positive lobbying spending is only observed if a city decides to participate in the lobbying process. If we were interested in what determines lobbying spending, conditional on participation, we could use a Heckman selection model; however, our main interest here is to find factors that affect lobbying activities across cities. Like a binary variable of lobbying participation, lobbying spending is a measurement of a city's lobbying activity. Therefore, we do not use a Heckman selection model, and instead we use Tobit analysis to deal with the censored observations.

predictor of whether a city participated in federal lobbying or not, and how much it spent on lobbying, during the study period, using both measures of the public goods gap. Cities that have a greater gap between local-level expenditure and state-level support are significantly more likely to lobby the federal government than cities whose divergence in public goods provision with states is lower, after conditioning on other demographic, political, and public finance variables. Specifically, a \$1 increase in the difference between a city's general expenditure per capita and the state government's general expenditure per capita is associated with a 0.05% increase in the probability of lobbying the federal government and a 230% increase in lobbying spending.²⁰

Second, in terms of demographic variables, cities with more land area, a smaller share of the population over 65 but a larger share who are enrolled in school, and more ethnic fractionalization are more likely to participate in lobbying. Economic conditions such as income inequality are also strong predictors of lobbying activities. The fact that ethnic heterogeneity and income inequality are significant predictors of federal lobbying activity is consistent with the idea that cities with more heterogeneous preferences have a hard time forming a consensus on public resource allocation, leading to underprovision of local public goods (Alesina, Baqir, and Easterly 1999; Habyarimana et al. 2007; Easterly and Levine 1997). Our results indicate that federal lobbying may be one mechanism that those cities use to solve underprovision problems, as Alesina, Baqir, and Easterly (1999) suspect.

Third, local public finance conditions also play an important role in the lobbying activities of municipal governments. Cities that receive higher shares of total revenue from property taxes and intergovernmental transfers are relatively less likely to lobby the federal government. This is consistent with the theory that cities with more local resources from their own taxes or intergovernmental transfers rely less on lobbying to provide local public goods, whereas cities that do not have those resources engage more in federal lobbying.

Fourth, all else equal, cities that have Democratic federal representatives are more likely to lobby the federal government, which is not surprising if one assumes that Democrats are more sympathetic to constituent issues relating to public goods provision. Consistent with our theories, cities in states with a Republican governor tend to engage relatively more in federal lobbying. In particular, consistent with the theory that cities will lobby the federal government when their need for public goods falls

²⁰We use the `margins` command in STATA 14 to interpret coefficients for logistic regressions.

TABLE 2 City Characteristics and Lobbying Activities

Variable	Lobbying Participation		(ln) Lobbying Spending (\$)	
	(1)	(2)	(3)	(4)
Public Goods Gap (\$)	0.289*** (3.97)	0.136** (2.03)	2.301*** (5.49)	0.984** (2.09)
Population (K)	0.00113 (0.54)	0.00125 (0.53)	0.00134 (0.58)	0.00241 (0.98)
Land Area (K sq. miles)	3.164 (0.95)	3.153 (0.67)	19.83*** (3.28)	15.99** (2.39)
Water Area (K. sq. miles)	2.242 (0.63)	3.328 (0.82)	-14.72 (-0.53)	-10.87 (-0.36)
Senior (%)	-0.0436*** (-2.67)	-0.0407** (-2.43)	-0.355*** (-3.08)	-0.332*** (-2.84)
Student (%)	0.0503** (2.45)	0.0466** (2.23)	0.489*** (3.27)	0.457*** (3.01)
Ethnic Heterogeneity	1.557*** (3.41)	1.687*** (3.67)	13.12*** (4.50)	14.70*** (4.99)
Median Income (\$K)	-0.00865 (-1.79)	-0.00675 (-1.39)	-0.0845** (-2.42)	-0.0709** (-2.01)
Unemployment (%)	0.0296 (1.53)	0.0351 (1.80)	0.214 (1.48)	0.261 (1.78)
Households in Poverty	-0.0365** (-2.44)	-0.0391*** (-2.60)	-0.304*** (-2.69)	-0.334*** (-2.92)
Gini Index	7.407*** (5.38)	8.028*** (5.68)	59.25*** (5.84)	67.59*** (6.56)
Property Tax Share of Revenue	-2.552*** (-5.61)	-2.805*** (-6.23)	-19.64*** (-5.52)	-21.89*** (-6.15)
Intergovernmental Transfer Share of Revenue	-2.101*** (-4.78)	-1.977*** (-4.26)	-14.62*** (-4.52)	-13.51*** (-3.80)
Democrat House Representative	0.415*** (2.99)	0.423*** (3.00)	2.872*** (3.05)	3.037*** (3.16)
Democrat Senator	0.617*** (4.26)	0.497*** (3.07)	4.219*** (4.09)	3.157*** (3.03)
Republican Governor	0.131 (1.73)	0.194*** (2.60)	0.896 (1.62)	1.411** (2.50)
Constant	-4.870*** (-6.47)	-5.702*** (-8.01)	-39.53*** (-6.82)	-47.44*** (-8.42)
Year Fixed Effect	Y	Y	Y	Y
N	17,668	17,668	17,668	17,668

Note: The *t* statistics are in parentheses. Cluster-robust standard errors are used (clustered at the city level).

p* < .05, *p* < .01.

on deaf ears in the state capitol, a Republican governor is strongly predictive of federal lobbying participation and expenditure when we use the second measure of public goods gap (the amount of the city's direct expenditure per capita that is not covered by state spending). If cities are responding to a state government's relative lack of sympathy for their public goods preferences, it makes perfect

sense that the governor's party would be significantly predictive of federal lobbying activity when the public goods shortfall is measured by the state's failure to provide for the city specifically (rather than a low level of per capita state expenditure generally).

Although our primary interest is cross-sectional variation, we also conduct a panel analysis to investigate how

changes in demographic, public finance, and political conditions affect cities' lobbying activities.²¹ To investigate variation within cities over time, we take advantage of the panel structure of the data. Since detailed demographic and public finance data are available for the years 2002, 2007, and 2012, we divide the study period into three—1999 to 2002, 2003 to 2007, and 2008 to 2012—and aggregate lobbying activity across years for each period.²² This yields a panel with 3,786 observations (1,262 cities over three different time periods). The specification for the basic panel model is given by

$$Y_{isT} = \beta D_{isT} + \Gamma \mathbf{X}_{isT} + \alpha_i + \varepsilon_{isT}, \quad (2)$$

where $T = 2002, 2007, 2012$ and α_i is the unobserved time-invariant individual city fixed effect.

Pooling three period observations from 2002 to 2012 for each city, we estimate

$$\Delta Y_{isT} = \beta(\Delta D_{isT}) + \Gamma(\Delta \mathbf{X}_{isT}) + \Delta \varepsilon_{isT}. \quad (3)$$

The mean-difference specification addresses unobservable city characteristics (α_i). The coefficient of interest β captures the relationship between changes in public goods provision level between a city and its state, and changes in lobbying activities within a city over time. The effects of time-variant control variables such as population and income inequality are also identified.

Table 3 presents the results. For simplicity, we only present the results with the second measure of the public goods gap (the gap between each city's direct expenditure per capita and per capita expenditure from the state government's transfer), which more directly captures state public goods provision to the municipal government. This public goods gap measure is a statistically significant predictor both of the decision to lobby and of the level of lobbying spending. Population growth is also associated with cities' participating in lobbying the federal government. Increases in income inequality, measured by the Gini index, are associated with a higher likelihood of lobbying and more lobbying spending, although changes in ethnic heterogeneity do not appear to have a significant association with lobbying. One potential explanation for this is that while changes in income inequality between 2002 and 2012 (within cities) were substantial, within-city

²¹While 721 cities in our sample never participated in lobbying and 109 cities always participated during the period, 435 cities had both lobbying and non-lobbying years. Additionally, lobbying spending varies significantly for cities that lobbied in every year of the study period.

²²Regarding lobbying participation, we take the maximum value of any year: If a city engaged in lobbying any of the years during the given period, the city is considered to have participated in lobbying. Lobbying spending is summed over the years within the period.

TABLE 3 Panel Analysis: City Characteristics and Lobbying Activities

	Lobbying Participation (1)	(ln) Lobbying Spending (\$) (2)
Public Goods Gap (\$K)	0.0325** (2.14)	0.591*** (3.18)
Population (K)	0.00146*** (3.96)	0.00872 (1.47)
Ethnic Heterogeneity	-0.154 (-1.11)	-2.219 (-1.48)
Gini Index	0.431 (1.69)	8.380*** (3.00)
Democrat House Representative	0.0273 (1.23)	-0.306 (-1.15)
Democrat Senator	-0.0102 (-0.39)	-0.304 (-1.03)
Republican Governor	-0.00321 (-0.28)	0.0856 (0.71)
Demographic Controls	Y	Y
Fiscal Controls	Y	Y
City Fixed Effect	Y	Y
N	3,786	3,786

Note: The t statistics are in parentheses. Cluster-robust standard errors are used (clustered at the city level). Other control variables are included in the regression, but the results are not reported here. For the full results, see Table C.2 in the SI.

p < .05, *p < .01.

changes in ethnic heterogeneity over this 10 year period were relatively small.²³

Does City Lobbying Make a Difference?

In this section, we investigate whether city lobbying makes a difference in terms of federal resource allocation. It would be difficult to explain any lobbying behavior if it did not result in increased funds to cities, and given that the most frequently mentioned issue in lobbying disclosures is budgeting, and that cities most frequently target appropriations bills, it is natural to assume that the purpose of city lobbying is to channel more resources into cities.

²³The party of the House member and governor also varies little within cities over the period, which may explain the null result for these variables in the panel analysis.

To narrow our examination of federal resources, we focus on congressional earmarks awarded to cities in fiscal years 2008 and 2009 and grants awarded from the 2009 Recovery Act to cities in fiscal years 2009 and 2012.²⁴ Most federal grants to local governments are distributed by rigid formulas, but earmarks are an opportunity for cities to influence the allocation of direct federal expenditures. Conventional wisdom suggests that the main purpose of lobbying is to attract more earmarks, and success in procuring earmarks is used by lobbying firms to advertise their services.²⁵ Earmark data available from the Office of Management and Budget include detailed information on the recipients of funds for fiscal years 2008 and 2009.²⁶

After the 2010 earmark ban, cities turned to competing for federal grants. The most important grant cycle in this period was the 2009 Recovery Act. The Recovery Act distributed funds in three ways: (1) tax benefits; (2) contracts, grants, and loans; and (3) entitlements. We focus on grants because grants are the most discretionary of these funds (entitlements are mostly based on formulas where the majority of recipient entities are local governments, and contracts are awarded mostly to firms and individuals).

We collect data on grants from the Recovery Act awarded in 2009 and 2012.²⁷ In calculating the total sum of recovery grants to each city, we exclude funding given to universities and individuals located in that city for research purposes.²⁸ We also exclude grants if they were

awarded to individuals or firms. Hence, our sample includes grants mostly awarded to local governments or local contractors on public projects.²⁹ The average earmark funding is \$937,000 for 2008, and \$847,000 for 2009. For Recovery Act grants, the average amount is much larger than the average amount from earmarks, and most of the cities in our sample were recipients of Recovery Act grants.³⁰

Analyzing the relationship between earmarks or grants awarded to a city and the city's lobbying spending presents a challenge because the decision to lobby and how much to spend on lobbying is nonrandom. Furthermore, it is difficult to identify the direction of the bias because it is reasonable to assume that cities may lobby more aggressively either when they expect to be successful or when they expect to be unsuccessful in their efforts.

We address this issue by using information on whether there is a direct airline flight from city i to Washington, DC, as an instrumental variable for city i 's lobbying decision. Anecdotal evidence and interviews with city officials indicate that municipal lobbying tends to occur when local government representatives travel to Washington, where their lobbyists take them to meetings with their House members and/or senators.³¹ The existence of a direct flight is a proxy for the convenience of traveling to Washington, DC, both in time and cost. Therefore, we expect a city's lobbying decision to be correlated with the presence of a direct flight between their city and the capital.³²

²⁴In addition to securing more resources from the federal government, local governments may also lobby to change rules such as the compliance deadlines set by the Environmental Protection Agency (EPA) or pension regulations set by the Security Exchange Commission (SEC). Outcomes we examine in this article—earmarks and Recovery Act grants—are limited in that sense (although the top lobbying issue by local governments was “budget”). Examining the effect of municipal lobbying on federal rules and regulations would be a fruitful extension of this study.

²⁵See, for example, Jodi Rudoren, “Hiring Federal Lobbyists, Towns Learn Money Talks,” *The New York Times*, July 2, 2006.

²⁶Earmarks' or grants' awarded dates and implemented dates are usually different. We use “awarded date” to examine the influence of lobbying activities on the decision to award federal resources to cities.

²⁷Almost all Recovery Act grants were awarded in 2009 (79.48%) and 2010 (19.70%).

²⁸Some of the Recovery Act targeted research and development activities, and therefore college towns and cities with a research university received a disproportionate share of grants. Therefore, we create two different recovery grant measures: one with the total grants awarded to any recipient whose location matches a city, and the other with total grants, excluding grants from the National Institute of Standards and Technology, the National Institutes of Health, the National Science Foundation, and the Department of Energy's Office of Science.

²⁹Among 40,462 grants awarded to our sample cities during the period, some grants were directly given to a school district within a city (125 cases) or were school-specific funding (1,475 cases). However, the majority of the grants aimed for local infrastructure and local job creation.

³⁰Table C.4 in the SI presents city-level summary statistics for earmarks and Recovery Act grants.

³¹Howard Marlowe, the president of the American League of Lobbyists and the president of Marlowe & Company, explained how representing local governments works in an interview with scholar Beth Leech. Usually, their municipal government clients came to town (Washington DC), and his firm's staffers visited the Hill or in executive branch offices with a group of people from municipal governments (Leech 2013).

³²We collect data on a direct flight from city i to Washington, DC (all three airports in the area: Baltimore [BWI], Dulles [IAD], and Reagan [DCA]) for each year for all cities since 2007. We use three measures: (1) a direct flight from city i to Washington, DC, (2) a direct flight from city i or a neighboring city within 25 miles from city i to Washington, DC, and (3) a direct flight from city i or a neighboring city within 50 miles from city i to Washington, DC. The three measures all return similar results. Cities in Virginia and Maryland are tricky cases in terms of binary indicators of a direct flight, so we run regressions both including them and excluding them, and the results are similar.

We argue that this is a valid instrument (that the instrument is correlated with lobbying activity, but uncorrelated with the error term). Airline companies choose new destinations mainly based on market dynamics: long-term growth, market competition, and profitability. The Airline Deregulation Act of 1978 has allowed freedom for air carriers to set their own fares and routes.³³ Clearly, some of the characteristics of a city that might cause a direct flight to new destinations—such as the existence of an airport, population, and income level—might also affect a city’s lobbying decision and level of lobbying spending. But after conditioning on all these relevant factors in the first-stage regression, we argue that a direct flight to Washington, DC, is a valid instrument for lobbying decisions and lobbying spending.

Using data on within-city variation in the presence of a direct flight and average flight fare from a city to the capital obtained from the Bureau of Transportation Statistics between 1999 and 2012 for a subsample of cities, we find that cities substantially increased lobbying spending in a year when they had a direct flight to Washington, DC. We also find that when flight fares to Washington, DC, went up, cities were less likely to participate in lobbying and spent less on lobbying. A sequence of robustness checks strongly supports our claim that convenience of the flight, both in time and cost, is strongly related to a city’s federal lobbying activity.³⁴

If having a direct flight to Washington, DC, is associated with the city’s previous years’ lobbying spending or political affiliation of their federal representatives, using direct flight to Washington, DC, as an instrument might violate the exclusion restriction. In the SI, we show that factors such as the previous year’s lobbying spending by a city or political party affiliation of their federal representatives, both in the House and the Senate, do not predict whether a city has a direct flight to the capital in a given year t .³⁵

³³The Department of Transportation’s Essential Air Service (EAS) program provides flight service to rural areas that might be cut off from air service given the deregulation, and for those cities, lobbying could definitely affect the presence of a direct flight to Washington, DC. In Appendix E in the SI, we rerun the analysis excluding EAS cities, and the results are substantively the same. See U.S. Department of Transportation (<https://www.transportation.gov/policy/aviation-policy/small-community-rural-air-service/essential-air-service>). See also, for example, “Unpack: How We Choose New Cities,” *jetBlue*, March 1, 2012.

³⁴For detailed robustness checks on the instrument, see Tables E.1 and E.2 in the SI.

³⁵See Table E.3 in the SI. Having a direct flight should not be confused with having an airport. There are many cities in our sample that have an airport but do not have a direct flight to Washington,

The baseline empirical specification for the relationship between earmarks/Recovery Act grants and lobbying is as follows:

$$L_{is} = \alpha F_i + \Gamma X_{is} + \psi_s + \nu_{is}. \quad (4)$$

$$G_{is} = \beta L_{is} + \Gamma X_{is} + \psi_s + \varepsilon_{is}. \quad (5)$$

Equation (4) is the first stage of our 2SLS model, and Equation (5) is the second-stage regression, where the index i denotes cities, and s denotes states. L_{is} is the endogenous variable of interest, the lobbying spending of city i . G_{is} denotes total earmarks or grants awarded to city i across years.³⁶ For the earmark analysis, we combine all lobbying spending between 2007 and 2009 in city i . For the Recovery Act grant analysis, we combine all lobbying spending between 2008 and 2010, given that almost all award decisions were made in 2009 and 2010. Both distributions of lobbying spending and the amount of earmarks or Recovery Act grants are highly skewed, so we use log-transformed values.

Table 4 presents the regression results. Column 1 reports the estimate of the correlation between a city’s lobbying spending and the earmarks that the city secured.³⁷ This estimate indicates that a city’s lobbying spending is positively related to the amounts that cities receive from earmarks and that this relationship is statistically significant.³⁸

DC. We control for city-level air transportation expenditures in the analysis.

³⁶We combine all earmarks and Recovery Act grants awarded to each city across years, so there is no time component in this equation. This is because the time span for earmarks and Recovery Act grants is short (2 years for earmarks and 4 years for Recovery Act grants), and most of the Recovery Act grants were awarded in 2009 and 2010.

³⁷Many cities in our sample received zero earmarks, so we use a Tobit specification in the earmark regression. We ran the earmark analysis with a dichotomous dependent variable, 0 or 1, depending on whether a city received any earmarks. The result is reported in Columns 1 and 2 in Table C.6 in the SI, and the main result is robust.

³⁸For the first-stage regression and detailed second-stage regression results with effects of various control variables on earmarks and grants, see Tables C.5 and C.6 in the SI. It would, of course, be interesting to know how lobbying efforts by state governments are related to city government lobbying returns, but because we include state fixed effects, and the earmark and Recovery Act grant data structure is not panel, the coefficients on state government lobbying spending are not identified. County lobbying spending is identified, and one interesting pattern in the second-stage regression is that lobbying activities by a county government where a city is located reduce the amount of earmarks and Recovery Act grants that a city is awarded. Given the limited resources of the federal government,

TABLE 4 The Effect of Lobbying on Earmarks and Recovery Act Grants to Cities

Variable	(ln) Earmark (\$)		(ln) Recovery Grant (\$)	
	(1) Tobit	(2) IV	(3) OLS	(4) IV
<i>Panel A</i>				
(ln) City Lobbying Spending (\$)	0.50*** (8.07)	1.02*** (4.12)	0.06*** (3.06)	0.47*** (3.56)
<i>Panel B: First-Stage Estimates</i>				
<i>DV = (ln) City Lobbying Spending (\$)</i>				
Direct Flight to Washington, DC		2.81*** (4.34)		2.66*** (4.11)
<i>F</i> -statistic		14.71		15.12
Controls	Y	Y	Y	Y
State Fixed Effect	Y	Y	Y	Y
Observations	1,262	1,262	1,262	1,262

Note: The *t* statistics are in parentheses. Cluster-robust standard errors are used (clustered at the state level).

p < .05, *p < .01.

Column 2 reports 2SLS estimates of Equation (5) on earmarks. Panel B under Column 2 reports the first-stage estimates of Equation (4). There is a strongly positive relationship between the instrument (a direct flight to Washington, DC) and a city's lobbying spending. To address a set of natural concerns over the validity of our strategy, we control for a large set of covariates in the baseline specification. The first-stage robust-*F*-statistic for the excluded instrument is 14.71 in our main specification; thus, it is unlikely that our estimates are biased by a weak instrument.³⁹ According to the estimate using the full set of baseline controls with state fixed effects, a 10% increase in city lobbying spending is associated with an increase of about 10.2% in the awarded earmark amount.

Column 3 presents the OLS estimate for Recovery Act grants, and the linear relationship between a city's lobbying spending and Recovery Act grants is positive. Column 4 reports the 2SLS estimate, which uses the full set of baseline controls with state fixed effects. A 10% increase in city lobbying spending increases the dollar amount of Recovery Act grants awarded to the city by 4.7%. Given the relatively small amount of lobbying expenditures compared to the size of earmarks and

Recovery Act grants, returns to municipal lobbying are substantial.⁴⁰

The analysis of the relationship between a city's lobbying expenditures and the earmarks or grants that a city secures demonstrates that the returns to a city's lobbying are statistically significant, substantively large, and consistent over different types of federal resources. Comparing the returns to lobbying by local governments with the returns to lobbying by corporations raises the interesting question of why local government lobbying is so relatively effective. Although there are some empirical articles that demonstrate corporate lobbying is effective (e.g., Kang 2016; Richter, Samphantharak, and Timmons 2009), returns to lobbying by city governments on earmarks and federal grants seem much larger in magnitude. This finding may suggest that a city government represents voters, and when a city government decides to lobby, it sends a signal to federal representatives regarding voter preferences that may be difficult to ignore. Unlike corporations and other types of interest groups, local governments as interest groups may have a unique advantage by clearly representing the voters in a jurisdiction.

Conclusion

In this article, we ask two questions: First, why do some cities lobby the federal government, whereas others do

lobbying by multiple units of government may create competition among different governments, and this may explain the negative impact of state and county governments' lobbying on the federal resources given to the city government. Inclusion of a direct flight on lobbying participation and spending does not change the core results on the public goods gap presented in Tables 2 and 3.

³⁹Generally, an *F*-statistic over 10 is required for instruments to be considered sufficiently strong (Stock, Wright, and Yogo 2002).

⁴⁰The average annual lobbying spending by municipal governments in our sample is \$18,284. The average earmark amounts and Recovery Act grant dollar amounts that cities were awarded during the period of study are \$892,000 and \$132,555,900, respectively.

not? Second, does lobbying makes a difference in terms of federal resource allocation? By analyzing a large and novel data set of lobbying disclosures filed on behalf of cities with populations greater than 25,000, we find that cities that suffer from an under-provision of local public goods due to a mismatch between local-level demand and state government support are significantly more likely to lobby and spend greater sums on lobbying than cities that do not face such a gap in public goods. This suggests that differences in political geography generated by federalism have significant distributional consequences for cities. We find that income inequality and ethnic heterogeneity at the city level are also important factors correlated with federal lobbying activity. Then we demonstrate that city lobbying is effective, in the sense that it draws more federal earmarks and grants to a city than it would otherwise receive.

To the extent that there are cities whose political preferences put them at a systematic disadvantage in the allocation of federal resources, this article suggests that lobbying can be a corrective mechanism. By providing a forum for cities to communicate with Congress and federal agencies, federal lobbying is therefore a supplement to institutional representation by members of Congress.

If lobbying by local governments has a meaningful impact on federal resource allocation, one wonders which citizens are represented by city lobbying. Local governments, unlike other interest groups, represent voters with heterogeneous preferences, and given that lobbying spending comes from local government budgets, voters even within the same city may disagree on whether the returns to lobbying justify the expense. The issue of whom lobbying serves is further complicated if the federal resources secured by lobbying activities are distributed disproportionately to a certain type of city resident (e.g., through low-income housing subsidies). Distributional consequences of resources secured by lobbying on city residents and its impact on the incentives of local elected officials are fruitful directions for future research.

Another important issue for further research is, if the returns on lobbying are so high, why do some cities not lobby at all? There are several possibilities. First, cities might not know that lobbying is effective unless they hear that their neighboring cities received extra federal grants by hiring lobbyists.⁴¹ Second, cities where the preference for public goods is relatively low may prefer to collect less tax revenue rather than pay for lobbying, even though it would reap benefits. Finally, the incentives of locally

elected officials may be misaligned with federal lobbying; for example, if local officials are extremely electorally safe, they may have little incentive to make the effort to hire lobbyists. Further investigation is needed in order to distinguish between these possibilities.

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⁴¹See, for example, Jodi Rudoren, "Hiring Federal Lobbyists, Towns Learn Money Talks," *The New York Times*, July 2, 2006.

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Supporting Information

Additional Supporting Information may be found in the online version of this article at the publisher's website:

Appendix A: Data Sources

Appendix B: Detailed Information of Government Entities' Lobbying Activities

Appendix C: Tables

Appendix D: Ideology Divergence Measures and Public Goods Gap

Appendix E: Robustness Checks for the Instrument