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Local leaders and the pursuit of growth in US cities: the role of managerial skill

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Abstract

Do the choices of city leaders matter for local economic conditions? While existing literature focuses on how the preferences of local officials influence city policy, we argue that the managerial skill of local leaders should condition their ability to achieve their goals. We conduct an original phone survey of over 300 mayors and city managers across the USA to learn about their management practices. Using a two-way fixed effects design that holds fixed a rich battery of individual and city-level characteristics, we examine how changes in leadership affect economic growth, a common goal for local officials. We find that when local leaders employ the "best practices" of organizational management, their cities grow across a range of indicators. These results are strongest for the subset of leaders who mention a growth-related goal for their time in office, suggesting that managerial skill allows local leaders to more effectively achieve their objectives.

1. Introduction

In the USA, nearly 20,000 municipal governments employ millions of public employees and raise over half a trillion dollars in revenue to provide essential public services. City leaders make critical policy decisions in the areas of education, policing, environmental sustainability, housing and development, public health, and infrastructure. Despite the importance of city government for people's day-to-day lives, urban politics scholars continue to debate the degree to which local leaders are capable of shaping city outcomes. City officials are constrained both by the state environments in which they operate and by the pressures of Tiebout (1956) competition, which can limit the scope of policy options available to local politicians (Peterson, 1981).

Existing research on whether local leaders "matter" for city policy typically asks two questions: first, are local leaders able to exert *any* influence over local outcomes given the myriad political and institutional constraints they face? Second, conditional on being able to move policy at all, are these policies responsive to the preferences of voters or reflective of leader characteristics? Most empirical work in this area has tended to focus on the second question by testing if partisanship and other descriptive characteristics of local politicians, such as race, gender, or previous business background influence representation and the direction of policy in American cities (Pelissero *et al.*, 2000; Gerber and Hopkins, 2011; Hopkins and McCabe, 2012; Ferreira and Gyourko, 2014; De Benedictis-Kessner and Warshaw, 2016; Einstein and Kogan, 2016; Kirkland, 2021; Szakonyi, 2021). What remains less clear is whether, conditional on holding particular policy priorities, certain city leaders are better equipped to navigate the various horizontal and vertical constraints they face to move policy in the direction they favor.

In this paper, we argue that the managerial skill of local leaders should condition their ability to shape city outcomes. As Mullin *et al.* (2004) point out, local officials vary in the leadership strategies that they employ to manage their cities. Drawing from methodology developed by Bloom and Reenen (2007) and Carreri (2021), we design an original phone survey that allows us to document the management practices of over 300 mayors and city managers of municipalities of all sizes across the USA. Specifically, we assess the extent to which city leaders employ the "best practices" of organizational performance. A growing literature in public administration and economics demonstrates that leaders who employ these management practices achieve systematically better results for their organizations in both the public and private sectors (Bloom *et al.*, 2015; Di Liberto *et al.*, 2015; Rasul *et al.*, 2017; Rasul and Rogger, 2018). Do these practices allow local officials to more effectively achieve their goals?

Of course, different local leaders have different priorities for their time in office, from reducing crime to increasing housing affordability to lobbying the state government for transfers (Payson, 2022). Unfortunately, systematic data simply do not exist for the range of outcomes that local officials might feasibly influence for a large sample of cities over time. To overcome this challenge, we focus on the closest approximation of a universal goal for city officials: local economic prosperity. Classic research on urban politics suggests that virtually all local leaders seek to improve or at least maintain their tax bases and local economy (Tiebout, 1956; Molotch, 1976; Peterson, 1981; Logan and Molotch, 2007; Judd and Swanstrom, 2015). Voters approve of mayoral performance at higher rates when the local economy is flourishing (Arnold and Carnes, 2012), and the inaugural Survey of Mayors conducted by Boston University revealed that economic development and growth were the top policy priorities mentioned (Einstein *et al.*, 2014). Pursuing growth also turns out to be a common goal among the leaders in our sample—and it is one of the few outcomes for which longitudinal data exist across states at the municipal level.

We study whether managerial skill allows city leaders to generate three types of local economic growth: population growth, higher median home values, and increased property tax revenues. We are not arguing that these outcomes are always normatively desirable or that they are priorities for all cities. Population increases do not necessarily correspond to rising wages or less segregation, and growth without proper planning can lead to sprawl, congestion, and the loss of open space (Gottlieb, 2002; Fodor, 2012). However, even if these outcomes are not necessarily beneficial for all residents in a city, they effectively capture through revealed preferences whether people want to live in a particular community.

Using a two-way fixed effects design that holds fixed a rich battery of city-level and leader-level characteristics, we find that when managerially skilled leaders take office, their cities grow faster across all growth indicators: a one standard deviation increase in our measure of managerial skill is associated with around a 2 percent increase in population, a 3 percent increase in median home values, and a 4 percent increase in property tax revenues. We demonstrate that these results are not driven by the ideology of the local officials, and we also rule out that these results reflect changes in the preferences of the electorate in two ways. First, we show that cities that elect or appoint leaders with different levels of managerial skill have parallel pre-trends for each of our outcomes of interest. Second, we demonstrate that the results are robust to adjusting for a time-varying measure of voter ideology using data on the political contributions of city residents from the DIME (Bonica, 2016) database.

Finally, we discuss why cities that select managerially skilled leaders experience more growth. Our findings are consistent with two explanations. First, managerial skill might be correlated with a latent preference trait not measured by self-reported ideological alignment. Perhaps leaders who score highly on this dimension simply favor the pursuit of economic growth and development over other priorities. Second, managerially skilled leaders may be simply better at achieving their goals. Among the city leaders who hope to generate growth, those with effective organizational management could be better able to meet that objective.

To adjudicate between these two possible explanations, we draw from the text of our interviews to classify the stated goals of the leaders in our sample. We uncover two pieces of evidence that

are consistent with the second story. First, we show that mentioning economic growth as an objective is uncorrelated with our measure of managerial skill, suggesting that managerial skill is not systematically correlated with a latent preference for city growth over other goals. City growth is also a widely shared goal by the leaders in our sample, with (53 percent) of respondents mentioning at least one growth-related goal for their time in office. When we restrict our analysis to leaders who list growth as one of their main objectives, the effect of managerial skill is even stronger for each of our outcomes. In other words, effective management appears to enable local leaders who want to generate growth for their cities to actually achieve it.

This paper makes three main contributions to the study of urban politics and local political economy. First, it adds to the growing body of literature that explores whether and how local leaders shape economic conditions within their cities. While much of this research focuses on how ideology and other politically saliently traits of local officials map on to policy outcomes, we show that ability—in addition to preferences—is an important predictor of economic growth. Second, we add to a long line of classic work that studies the determinants of local economic prosperity across cities. Finally, by drawing from concepts in public administration and economics, we demonstrate that seemingly non-political traits like managerial skill can still have political consequences if they change how local leaders govern.

2. Institutional background and case selection

In the USA, the two primary forms of municipal government are mayor-council systems and council-manager systems. In mayor-council systems, mayors are elected as heads of their city councils and maintain significant budgetary and administrative authority. In council-manager systems, the city council appoints a full-time city manager to serve as the government's chief administrator. The city manager has full responsibility for the day-to-day operations of the local government and the authority to hire and fire local government staff, recommend policy to the council, and prepare the budget. On average, city managers spend five to seven years in their position (Ammons and Bosse, 2005). Mayoral term lengths are typically four years, but the length of tenure varies dramatically across cities. Term limits are uncommon, with only 9 percent of cities employing mayoral term limits.[1]

The goal of our study is to understand whether the managerial ability of executive leaders in cities allows them to achieve economic growth, a common local goal. We therefore interview the local official who is most directly able to steer the implementation of city policy, which in mayor-council systems is the mayor and in council-manager systems is the city manager. To maximize statistical power, in the analyses we generally pool across both types of cities and always adjust for leader type. Of course, there are some important differences between mayors and city managers, as mayors are elected and city managers are appointed. However, whether the governance mandate comes from voters (in the case of the mayor), or the city council (in the case of the manager), there are theoretical reasons to believe that managerial skill should help both types of leaders achieve their goals more efficiently. In fact, we find very similar results for both mayors and city managers.

We contacted a random sample of both mayors and city managers in cities with at least 5000 residents (as measured by the 2012 Census of Governments) in California, Louisiana, Minnesota, North Carolina, Ohio, Washington, Florida, New York, and Indiana. We used a population threshold of 5000 because below this size the responsibilities and scope of municipal government falls dramatically, and we selected these states on the basis of their geographic diversity, number of municipalities, and data availability on the form of local government. Our final sampling frame consisted of 1407 cities with the requisite number of residents in these nine states. In total, we contacted leaders from 890 cities, and 283 mayors and managers agreed to take part in our study. We were also able to secure participation from 25 former leaders, for a total of 308

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[1]https://www.nlc.org/mayors-term.

interviews and an overall response rate of 32 percent. We provide additional details about the sampling protocol in Carreri and Payson (2021) and balance tests between interviewed and non-interviewed cities in the on-line Appendix (Table A1).

3. Measuring managerial skill

To evaluate the extent to which local leaders use the management practices associated with successful organizational performance, we adopt methodology from Bloom and Reenen (2007)'s study of management practices in firms. This approach has been applied to a variety of other contexts in both the private and public sectors to study the managerial skill of bureaucrats (Bloom *et al.*, 2015; Rasul *et al.*, 2017; Rasul and Rogger, 2018), school principals (Di Liberto *et al.*, 2015), and Italian mayors (Carreri, 2021). Bloom and Reenen (2007) identified four types of practices that predict corporate growth and productivity: target setting, performance monitoring, operations, and incentives. These practices have also been widely studied by public administration scholars (Holzer and Callahan, 1998; Ingraham *et al.*, 2003; O'Toole and Meier, 2011). Leaders who employ these effective strategies typically set clear goals, formally monitor the performance of the government, and employ standardized procedures to motivate and incentivize their staff. In the following sections, we describe the survey methodology and how we measure local management practices.

3.1 Survey content and methodology

The main goal of the survey is to measure managerial skill in an outcome-agnostic way. We achieved this by posing questions that do not focus on the specific "output" of local leaders—that is, the policies that they actually implement—but rather by asking about the government administration practices that mayors and managers use to achieve their objectives. A detailed discussion of how the survey methodology is designed to address possible response bias is included in Appendix Section A.2.

We asked a total of seven questions to evaluate city leaders along the four dimensions introduced above. The *target setting* section of the survey deals with the goals that the mayors/managers have set for their time in office. Whatever the goal—whether increasing tourism, a redevelopment project, or addressing homelessness—respondents are evaluated on the clarity of their objectives rather than the content. For example, are the goals clearly stated with associated practical targets? Do the leaders identify a mix of short and long-term goals with appropriate time horizons? The *monitoring* portion of the survey deals with tracking the performance of the government in attaining the stated goals. In particular, it asks whether progress tracking is informed by data, how often this monitoring takes place, and how the monitoring practice involves different levels or people within the city government. The *operations* section investigates respondents' knowledge and oversight of the procurement procedures of their city (an important and time-consuming operation for municipal governments) and the efficiency of implementation. Finally, the *incentives* section assesses how well the mayor/city manager incentivizes the municipal staff, specifically by rewarding top performers and addressing or rectifying issues of poor performance.

Each answer is evaluated in real time by an interviewer who assigns a score ranging from one (lowest) to five (highest) for each question. The score is based on a detailed rubric specifying the criteria for each value. As a clarifying example, Figure 1 shows the first survey question, which falls under the target setting practice, with its scoring grid and three anonymized examples of answers that respectively earned a score of one, three, and five. The Appendix contains the full survey instrument with the rubric for each question, and Appendix Figure A4 presents three additional anonymized examples of answers. Each response was also independently re-scored by a second interviewer. The correlation between the two sets of scores was 0.812, and we use the average of those two scores in our analysis.

(1) Target Inter-Connection

	a) We would like to start by learning what you think are some of the main issues currently facing your city. b) What types of goals or objectives have you set for your city and what are the practical targets related to these goals? c) How are these goals assigned or delegated down to the individual members of the government and staff?		
	Score 1	**Score 3**	**Score 5**
Scoring Grid	Objectives and targets are very loosely defined without specific targets associated with them; goals are not communicated and/or delegated to other members of the staff	Objectives are well-defined with related targets; there is some communication and/or delegation but only to certain staff or departments	Objectives are very clearly defined with specific related targets; targets are clearly and widely communicated and/or delegated to many different departments or members of staff
Anonymized examples	Defines the objective as "develop downtown". Does not identify practical targets.	Defines the objective as "expanding the downtown". Identifies two practical targets (creation of master plan, recruitment of specific desired uses). Utilizes "informal" process of delegation.	Defines the objective as "drive economic development in the downtown". Identifies three practical targets (update comprehensive plan, adopt tax abatements, leverage local company investment). Assigns responsibilities to department leaders who in turn delegate to project-specific staff leaders.

Figure 1. Example of survey question, scoring grid, and anonymized answers.

We then create an overall managerial score, which is the unweighted average of the scores of each individual question. Later, we demonstrate that the results are robust to using an inverse-covariance weighted score (Anderson, 2008) that takes into account the fact that specific questions might be driving the results. Finally, interviewers also collected data on the respondents' age, gender, race, birthplace, educational attainment, previous occupation, years of experience as mayor/city manager, and ideological leaning. Summary statistics for all variables are shown in Appendix Table A2.

3.2 The managerial score

Over the course of the study, mayors and city managers from 283 cities agreed to be interviewed. Figure 2 shows the distribution of the managerial scores across the cities in our sample. The scores range from a low of 1.625 to a high of 5, with substantial variation. The average score is 3.68, and higher scores indicate that the leader employs more of the management practices associated with organizational success. As an initial validity check, we compare the scores of mayors and city managers. Figure A5 in the Appendix shows the distributions for the two types of leaders. Unsurprisingly, city managers tend to receive higher average scores than mayors, reflecting the fact that they have generally received professional training in municipal management. We always control for form of government in the following analyses to ensure we are comparing leaders of similar types.

3.3 Validity and reliability of the managerial score

As discussed in the previous section, the overall managerial score is the average of the scores that the local leaders receive across four different areas: target setting, performance monitoring, operations, and incentives. To investigate what we are capturing with the managerial score, in Table 1 we examine the correlates of the score based on the individual characteristics of the mayor or manager. Is this score simply tapping into other human capital traits, such as years of education or having a business background? Perhaps not surprisingly, having either a college degree or
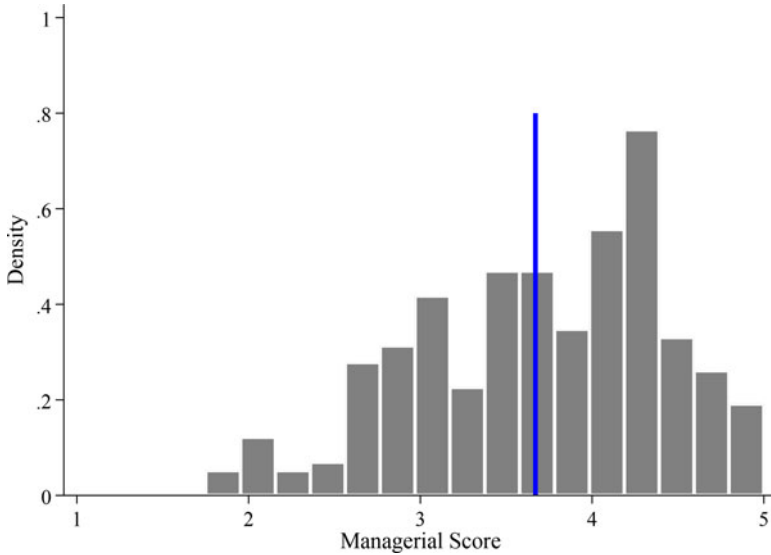
Figure 2. Distribution of the managerial score. *Notes*: The plot shows the distribution of the managerial score. The blue vertical line marks the mean.

Table 1. Individual correlates of the managerial score

	Managerial score						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)
Age	−0.020***	−0.020***	−0.016***	−0.015***	−0.015***	−0.015***	−0.015***
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)
Female		0.090	0.025	0.019	0.008	0.036	0.015
		(0.121)	(0.114)	(0.115)	(0.122)	(0.120)	(0.118)
Non-white		0.237	0.127	0.099	0.103	0.044	−0.037
		(0.149)	(0.141)	(0.143)	(0.158)	(0.157)	(0.157)
College degree			0.582***	0.598***	0.574***	0.480***	0.491***
			(0.146)	(0.147)	(0.150)	(0.153)	(0.150)
Advanced degree			0.829***	0.831***	0.805***	0.612***	0.561***
			(0.135)	(0.135)	(0.141)	(0.144)	(0.143)
Years in local govt				−0.004	−0.005	−0.003	−0.005
				(0.005)	(0.005)	(0.005)	(0.005)
Previous job in business				−0.155	−0.133	−0.095	−0.087
				(0.116)	(0.119)	(0.118)	(0.116)
Ideology—Center					−0.016	0.030	0.040
					(0.103)	(0.101)	(0.100)
Ideology—Right/Center-Right					−0.079	−0.048	−0.027
					(0.101)	(0.099)	(0.097)
Observations	283	283	283	283	267	267	267
R^2	0.069	0.079	0.195	0.202	0.206	0.281	0.322
State FE						✓	✓
Population quintile FE							✓

Notes: OLS specifications showing the individual correlates of the managerial score (dependent variable in all specifications). The excluded category for education is less than college, and the excluded category of ideology is center-left/left. The relatively low R^2 suggests our score is capturing something distinct about leadership that can't be accounted for by these other characteristics.
***p≤0.01, **p≤0.05, *p≤0.1.

advanced degree is positively associated with the managerial score, while age is negatively correlated. While it is reassuring that managerial skill correlates with education (a standard measure of human capital), the correlation is low enough to suggest that our score is measuring something above and beyond education or age.

Interestingly, neither having a business background nor having worked in local government for more years is associated with a higher score. We classify the previous occupation of local officials according to the US Census Bureau. Note that working in a business-related field does not necessarily imply that the local official had management experience—in fact, other research finds that local officials with a business background run government *for* business rather than *like a* business (Szakonyi, 2021). The fact that number of years working in local government is not correlated with the score suggests that leaders are not learning about or adopting more effective management strategies over time. Rather, the score appears to measure a relatively fixed trait of each individual leader. This is important from a measurement perspective, because we interview the leaders in our sample after they take office, and if such learning were happening this might introduce concerns about reverse causality.

There is also no correlation between self-reported ideology and the managerial score. Given that scores were assigned in a goal-agnostic way, this is not particularly surprising. Whether leaders wanted to address homelessness or lower property taxes, their managerial score was based on how well these objectives were defined rather than the ideological direction of the policy, and there is no reason why left-leaning officials should be better or worse than right-leaning ones at setting goals, tracking progress, and incentivizing the city staff.[2] Finally, note that even in the full specification, the R^2 is quite low, implying that our score is capturing something distinct about leadership that can't be accounted for by these other characteristics.

In the main analyses, we always show results both with and without these individual covariates. While it would be impossible to adjust for every characteristic of local leaders that might correlate both with our score and policy priorities, our battery of individual control variables rule out a variety of alternative stories. For example, if the score were correlated with education or ideology, we might mistakenly attribute city growth to managerial skill when in fact it was this other trait affecting outcomes. But if our managerial score has an effect on city growth and spending after accounting for gender, race, education, age, business background, years in local government, and ideology, this suggests that it really is something about the choices of managerially skilled local officials driving the results.

Finally, we examine the city-level correlates of the managerial score. Are the cities where low versus high scoring leaders emerge systematically different from each other? The answer is not clear *ex ante*. On the one hand, we might expect that voters or city council members of larger or more affluent cities would be more likely to select leaders with higher managerial scores. On the other, these cities might also provide more attractive outside options in the private sector compared to smaller, less affluent cities—and these options might be particularly lucrative for high scoring public officials. Moreover, it is likely that voters and city council members are selecting leaders based on more easily observable characteristics such as gender, race, or previous experience, in which case we would not expect to observe a systematic correlation between a city's characteristics and the leader's managerial score. To the extent that managerial skill is not a particularly visible trait, this helps to explain why we observe such variation in the scores and also helps us from an identification perspective because there is more randomness in which cities end up with effective managers. Consistent with this idea, we find no clear pattern in the types of cities that select high-scoring leaders. Table A4 shows the city-level correlations of the managerial score from a simple pooled ordinary least squares (OLS) regression with state fixed effects, and we discuss these results further in the Appendix.

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[2]Because the vast majority of cities in our sample have non-partisan elections, we rely on self-reported ideology rather than partisanship to identify a leader's political leanings. For a review of the ways in which partisanship operates differently at the local level compared to the national level, see Anzia (2021).

4. Does managerial skill matter? Empirical strategy

To investigate whether leaders with effective management skills achieve different types of outcomes for their cities, we collect data on city demographics from the American Community Survey and municipal finances from the Census of Governments and Survey of Local Government Finances.[3] We focus specifically on three outcomes related to municipal growth: population, median home values, and property tax revenues. A lively debate exists in the urban politics literature about the degree to which city officials are constrained to pursue economic growth above other priorities and whether this growth is beneficial for local residents (Molotch, 1976; Peterson, 1981; Fulton *et al.*, 2000; Gerber and Phillips, 2003; Logan and Molotch, 2007; Lubell *et al.*, 2009). While the pursuit of growth is far from universal, most scholars agree that maintaining a healthy tax base is an important goal for many city officials (Judd and Swanstrom, 2015).

Each of our outcomes taps into a different dimension of local economic growth. According to growth machine models of city politics, attracting labor and capital should be the primary goal of local officials. Change in population is a simple way to capture this idea. In general, we can assume that cities that gain residents are prospering economically compared to cities that lose residents or maintain the same population.[4]

The amount of revenue raised via property taxes similarly taps into the notion of economic prosperity. This is especially true since many of the states in our sample have local taxation limits in place that cap how much local governments can increase property taxes each year.[5] Increasing property taxes is often viewed as "the third rail of politics" and an extremely risky strategy for local leaders (Judd and Swanstrom, 2015); thus, we interpret increases in property tax revenues as reflecting increases in property values rather than tax rates increases. Or, if local leaders are able to raise taxes, this would mean they believe they are in a political position to do so without driving away wealthy residents and businesses. This too would be an effective proxy for economic prosperity.

Median home value is a self-reported measure provided by residents in the annual American Community Survey. While these values are respondent estimates, they are still meaningful insofar as they capture resident attitudes toward the economic health of the neighborhood. Homeowners are also often quite attuned to their property values (Fischel, 2009) and tend to monitor this information closely. While population, property tax revenue, and self-reported median home value are all indirect proxies for economic growth, they each tap into the idea of city tax bases becoming stronger and more robust.

Our empirical strategy is a two-way fixed effects design that compares within-city changes in outcomes when leaders with higher and lower managerial scores take office. Our data cover the period between 2002 and 2018, and we exploit the fact that the leaders in our sample assumed

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[3]The Census of Governments is conducted every five years and collects financial data for every city in the USA. The Annual Survey of Local Government Finances is conducted in non-census years and always includes cities with a population above 200,000. Below this threshold, cities are sampled quasi-randomly with larger municipalities having a higher probability of being included. In our analysis we leverage both data sources. On average, we have six years of financial data for each city in our sample during the five years both before and after each local leader took office (ten years total). We do not impute missing values for years without data.

[4]We rely on the five-year estimates from the American Community Survey (ACS) for our population estimates. While the Census Bureau also offers annual Intercensal Population Estimates at the city level, these estimates are constructed by imputing county-level data down to minor civil divisions (such as municipalities). We prefer the ACS data because it provides a single source not only for population estimates but also for median housing values and all of our control variables. We also note that we are restricted to using the five-year estimates because one-year estimates only exist for areas with more than 65,000 residents (only 40 municipalities in our sample).

[5]For example, in California property taxes are capped at 1 percent of the value of the property and cannot be increased by more than 2 percent per year. In New York, property taxes can't be raised more than 2 percent per year. In Florida, property tax rate increases are limited to the rate of inflation (https://www.ncsl.org/research/fiscal-policy/state-tax-and-expenditure-limits-2010.aspx).

office at different times to examine the five year period before and after they were elected or appointed.

We use this within-city approach to account for the fact that cities with different policy priorities likely select leaders with different traits. Any observed correlation in management practices and outcomes across cities might therefore be the result of underlying city characteristics rather than the management style of the new leader. This approach is similar to a difference-in-differences design in that we are observing city outcomes both before and after leaders take office, but we only observe the managerial score *after* the leaders we interviewed take office. Several recent papers have employed this design including Bandiera *et al.* (2020) and Carreri (2021), and we discuss the additional assumptions for identification below.

We estimate equations of the form

$$y_{itj} = \alpha_i + \beta_t + \gamma_j + \delta(ManagerialScore_i \times Post_t)$$
$$+ \sum_{k=1}^{m} \lambda_k(x_{ki} \times Post_t) + \varepsilon_{itj} \tag{1}$$

where y_{itj} equals logged city population, median housing value, or revenues generated via property taxes. Normalized years are represented by t, indexing the number of years since the interviewed leader of city i took office, with $t = 0$ being the first year. City fixed effects, α_i, control for any time-invariant city-specific characteristics that might correlate with our outcomes of interest. Normalized year fixed effects, β_t, control for political budget cycles within each city, and calendar year fixed effects, γ_j, control for year-specific shocks, such as the housing crisis in 2007. $ManagerialScore_i$ is the managerial score for the interviewed leader of city i. The coefficient of interest, δ, measures whether cities where a higher scoring leader eventually takes office experience more growth after the leader takes office relative to the years preceding the election/appointment.

We also include a series of time-invariant controls—x_{ki}—interacted with a $Post_t$ dummy that takes value one after the leader takes office. These always include fixed effects for the interviewer, the municipal form of government, and city population quintile (based on population measured at the beginning of the sample period for each city). To more credibly isolate the effect of the managerial score, we present specifications augmented with leader-specific and city-specific controls. Leader controls include the respondent's race, gender, age, years of experience in local government, educational attainment, and an indicator for a previous occupation in business.[6] City controls from the American Community Survey include the city's median income, percent white residents, unemployment and poverty rates, and the percent of residents with a college degree. Standard errors are always clustered by city.

There are two important identifying assumptions to this approach. First, we assume the presence of parallel trends, that is, we assume that the outcomes of cities that elect or appoint leaders with higher or lower managerial scores would have evolved similarly if those leaders hadn't taken office. Second, we assume that the managerial score of the interviewed leader is uncorrelated to the managerial score of their predecessor. This is an additional identifying assumption required on top of the standard parallel trends assumption because we only observe $ManagerialScore_i$ for the leader we interviewed and not for their predecessor. We provide evidence in support of both assumptions after presenting the main results by (1) examining the pre-treatment trends in outcomes in cities that select low- versus high-scoring leaders and (2) showing the correlation in managerial scores between predecessor and successors for a subsample of cities.

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[6]Specifically, race is an indicator taking value one for white respondents (versus non-white), age is expressed in deciles, and years of experience in local government is expressed in deciles. Note that to include all time invariant controls we interact the variable with the *Post* indicator.

Table 2. Managerial score and growth

	(1)	(2)	(3)
Panel A: Population (log)			
Managerial score × Post	0.025**	0.013*	0.013**
	(0.012)	(0.007)	(0.006)
Observations	2746	2746	2746
Mean DV Pre	45,104	45,104	45,104
SD DV Pre	78,490	78,490	78,490
Panel B: Median home values (log)			
Managerial score × Post	0.023***	0.027***	0.028***
	(0.009)	(0.009)	(0.009)
Observations	2745	2745	2745
Mean DV Pre	268,893	268,893	268,893
SD DV Pre	216,566	216,566	216,566
Panel C: Property tax revenues (log)			
Managerial score × Post	0.065**	0.049	0.042
	(0.028)	(0.030)	(0.033)
Observations	1688	1688	1688
Mean DV Pre	21,168	21,168	21,168
SD DV Pre	31,870	31,870	31,870
Cities	283	283	283
Leader controls		✓	✓
City controls			✓

Notes: Dependent variables are reported in each panel title. All specifications include fixed effects for the city, the year since the leader was elected/appointed, the calendar year, the interviewer, population quintiles (measured at the beginning of the sample period), and form of government. Leader controls include the leader's gender, age (expressed in deciles), years of experience in local government (expressed in deciles), indicators for educational attainment, and an indicator taking value one if the previous occupation was in business. City controls include median income, % white, % in poverty, % unemployed, % with a college degree (all measured at the beginning of the sample period and interacted with the *Post* indicator). The mean and standard deviation of the unlogged dependent variables in the pre-period (i.e., in the years preceding the election of the interviewed mayor/manager) are reported in the table. Standard errors clustered at the city level are shown in parentheses.
*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

5. Leaders with higher managerial scores generate growth

Do city leaders who employ more effective management practices generate greater growth for their cities? Table 2 shows the within-city change in city population, median housing values, and property tax revenue as leaders with different managerial scores take office. We find that when leaders with higher scores take office, these growth metrics increase within their cities.

Column 1 presents baseline models with city, year, form of government, interviewer, and population quintile fixed effects. Column 2 includes individual leader controls, and column 3 further adds the city-level controls discussed in the previous section. To avoid post-treatment bias, we measure these values at the beginning of the sample period and interact them with the *Post* indicator. Including these covariates allows us to rule out a series of alternative accounts revolving around differential trends in growth-related outcomes between cities with different characteristics. For example, wealthy cities may be both more likely to select managerially skilled leaders but also more likely to gain residents over time regardless of the leader in power. The results are even stronger when we include time varying versions of these control variables, which we show in Appendix Table A6. However, since these variables might plausibly be affected by the selection of a managerially skilled leader, we prefer the specifications that only include pre-treatment measures of these characteristics.

Column 3 in Table 2, panel A (our preferred specifications due to the rich battery of controls) indicates that a one point increase in the managerial score leads to an increase in population of around 1.3 percent.[7] For an average sized city of 45,000 people, this would translate into almost

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[7]Because the outcomes are logged transformed, the exponentiated coefficients correspond to changes in the ratio of the expected geometric means. E.g., in panel A column 3 $\exp(0.013) * 100 - 100 = 1.3\%$.

600 new residents. Similarly, a one point increase in the managerial score is associated with a 2.8 percent increase in median home values (panel B) and a 4.2 percent increase in the amount of revenue generated via property taxes (panel C), although the latter effect is noisy (p-value 0.195). The effects are consistently positive for each growth outcome, indicating that when cities select mayors or city managers who employ more effective management practices, those communities grow relative to other municipalities.

6. Validating the research design

In this section, we provide evidence to address concerns about possible threats to our identification strategy.

6.1 Parallel trends

One of the key assumptions of our approach is that the growth trends in cities that elect or appoint leaders with different scores would have evolved in the same way if those leaders hadn't taken office. To provide evidence supporting this assumption, we analyze pre-trends in our outcomes across municipalities where leaders with higher or lower scores take office. We allow the effect of $ManagerialScore_i$ to vary flexibly over time by estimating the following equation:

$$y_{itj} = \alpha_i + \beta_t + \gamma_j + \sum_{t=-4}^{+4} \delta_t ManagerialScore_i + \sum_{k=1}^{m} \lambda_k(x_{ki} \times Post_t) + \varepsilon_{itj}. \tag{2}$$

Figure 3 shows the results. When city officials have higher managerial scores, their cities grow only after these leaders take office. There do not appear to be any differential trends in these outcomes before these leaders assume executive power. Critically, this analysis helps to rule out perhaps the most plausible alternative story, which is that trending changes in economic or demographic conditions are ultimately responsible both for the selection of a managerially skilled leader and also for any associated changes in outcomes.[8]

6.2 Within-city correlation in managerial skill

The other key assumption for our approach is that the managerial score of interviewed leaders is uncorrelated with the managerial score of their predecessors. This is required on top of the standard parallel trends assumption because we only observe the managerial score for the leader we interviewed and do not observe the managerial score of the former leader. In other words, we are identifying the effect both of the new leader taking office and of the previous leader leaving office. The most problematic case would be a strong negative correlation in managerial skill, which would tend to bias the estimates away from zero. In the case of a perfect negative correlation, our estimated coefficients would be twice that of the true effect.

However, in Table 3, we show evidence consistent with the absence of any correlation between the managerial score of the interviewed leader and the predecessor. We leverage instances in which we were able to interview both the current and former leader of a city, allowing us to compare managerial scores within-city over time. While we were only able to conduct 50 such interviews across 25 cities, the results are reassuring. The sample is large enough to detect significant correlations between the education, professional backgrounds, and ideology of current and

[8]Note that the coefficients in Table 2 roughly reflect the average of the post-period coefficients minus the pre-period coefficients displayed in Figure 3. The remaining minor discrepancies reflect the fact that the coefficients in the figure are expressed in standard deviations to aid with interpretation.
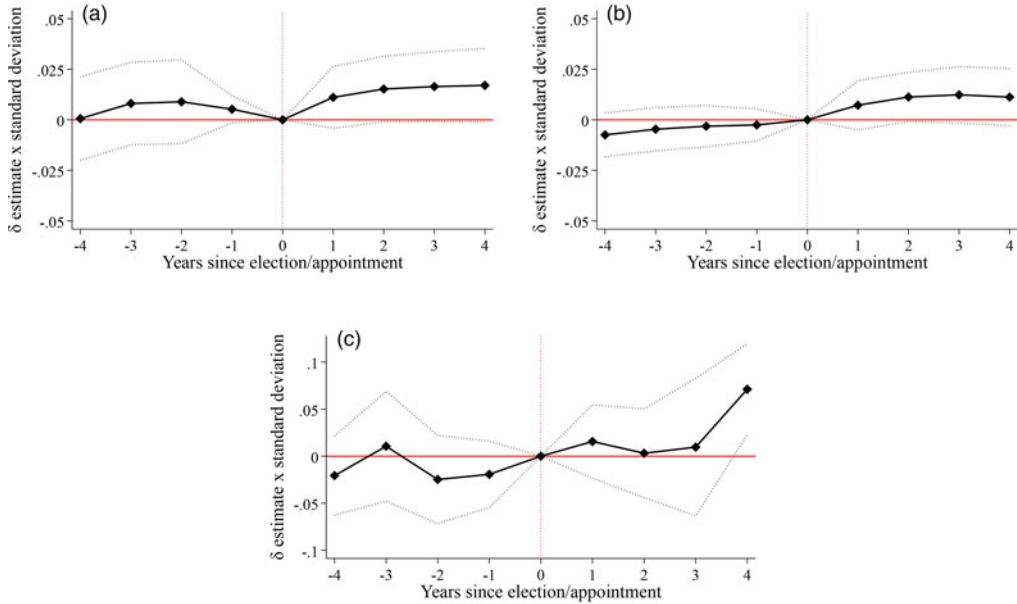
Figure 3. Timing of changes in growth indicators: (a) population, (b) median home values, and (c) property tax revenue. *Notes*: The coefficient plots represent the coefficient estimates δ_t from the model in Equation 2 with leader- and city-specific controls, multiplied by the standard deviation of the managerial score. Therefore, each coefficient can be interpreted as the effect of a one standard deviation increase in the managerial score. Consistent with Table 2, dependent variables are logged. Dotted lines plot the 95 percent confidence intervals.

Table 3. Correlation between predecessors and successors

	Coefficient (1)	Standard error (2)	No. of cities (3)	Mean successor (4)
Managerial score	0.003	(0.172)	26	3.909
Woman predecessor	0.614***	(0.203)	26	0.231
Non-white	−0.045	(0.108)	26	0.039
Age	0.002	(0.205)	26	46.69
Education (years)	0.463***	(0.127)	26	18.23
Years in local govt	0.114	(0.152)	26	13.46
Job in business	0.455***	(0.155)	26	0.115
Center-left/Left	0.053	(0.213)	23	0.609
Center	−0.208	(0.196)	23	0.261
Center-right/Right	0.750***	(0.104)	23	0.130

Notes: Each row reports the correlation between predecessors and successors for the same characteristic. Column 4 reports the mean of each characteristic for the successor mayor/citymanager.
*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

former leaders. But the correlation in terms of the managerial score is nearly 0, suggesting the validity of our empirical approach.

6.3 Multiple hypothesis testing and additional robustness checks

In order to rule out for the possibility of multiple hypothesis testing, we introduce an overall growth index—an inverse covariance weighted summary index of all three measures of local growth (Anderson, 2008). The use of an index presents two advantages: while results on each

Table 4. Managerial score and growth index

	(1) Growth index	(2) Growth index	(3) Growth index	(4) Growth index
Managerial score × Post	0.032**	0.042***	0.046***	0.046***
	(0.013)	(0.014)	(0.015)	(0.015)
Share republican contributors				0.101***
				(0.032)
Observations	1686	1686	1686	1686
Cities	283	283	283	283
Leader controls		✓	✓	✓
City controls			✓	✓
Mean DV Pre	0.0114	0.0114	0.0114	0.0114
SD DV Pre	0.986	0.986	0.986	0.986

Notes: The dependent variable is an inverse covariance weighted index of the three growth measures used as dependent variables in Table 2.
See Table 2 for additional table notes.
*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

local growth proxy could be due to chance (type I error), this is less likely when several growth metrics are summarized in an index. Moreover, the use of a summary index could diminish the risk of low statistical power (type II error). In Table 4 we report the treatment effect estimated in Table 2 for this summary index of growth. In line with the effects that we observe for each single growth measure, the coefficient in column 3 shows that a one point increase in the managerial score is associated with an increase of 0.046 in the growth index, which amounts to a 4.7 percent increase in the index relative to its standard deviation in the period before our interviewed leaders take office.

In column 4, we show that the estimate remains unchanged when we control for a time-varying measure of voter ideology which we generate using voter contribution data from the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica, 2016). We discuss the methodology and rationale behind this approach in detail in Appendix Section A.4. Essentially, this proxy for voter preferences allows us to rule out the possibility that trending changes in the electorate are driving the results. In Table A7, we demonstrate that each of our main results is robust to including this control variable.

We conduct a variety of robustness checks to probe the sensitivity of the results. First, we construct an inverse-covariance weighted version of the managerial score to ensure that the results are not being driven by any single component of the overall score (Anderson, 2008). These results are shown in Table A8 in the Appendix. In addition, Appendix Table A9 presents robustness to dropping each component of the score, one at a time, and shows that no single component of the score is driving our results.

Again, we emphasize that the managerial score is measured in an outcome agnostic way, and we later find no correlation between mentioning growth as a goal and earning a higher score. Instead, we find a similar distribution of scores regardless of the particular policy objectives that the local leader is pursuing. However, to further rule out the possibility of reverse causality, we examine whether the effect of the score varies for leaders with more or less experience. If mayors and managers were getting better at answering our survey questions over time as a result of their cities growing, we should observe the effect of the managerial score being concentrated among leaders who have served in office longer. Instead, when we split the leaders into two groups based on their years in office (above average and below average), we observe identical effects of the managerial score on growth. These results can be found in Table A10.

In Table A11, we show that the main results are also robust to controlling for the self-declared ideology of the leader. While the vast majority of cities in our sample have non-partisan elections, we asked respondents about their ideological leaning on the survey. Because almost 10 percent of the leaders that we spoke to declined to answer this question, we chose not to include this

covariate in our main results in order to maximize the sample size. However, the results are even stronger when we adjust for ideology. Finally, in Section A.6, we discuss in detail the theoretical differences between mayors and managers and show the results broken down by each type of leader. We find no statistically significant difference across leader types.

7. Why cities grow when managerially skilled leaders take office

The previous sections demonstrated that when cities elect or appoint mayors or city managers who use more of the management practices associated with organizational success, those cities gain residents, experience growth in home values, and generate additional property tax revenues. We now test two alternative accounts as to why high-scoring leaders in our sample are more likely to focus on economic development and oversee growth in their communities.

First, it might be that leaders who adopt the best practices of organizational management share a latent preference trait for development-oriented goals. While we adjust for traits such as education and self-identified ideology in our analysis, there might be some unobservable taste for development that we are capturing with our managerial score. Second, it might be that managerially skilled local leaders are simply better at meeting their goals than other types of officials. If local economic growth is a widely shared goal, we would expect more effective managers to achieve this objective more easily.

In order to adjudicate between these two alternatives, we leverage the fact that one of our survey questions asked local leaders to discuss the major issues facing their city, as well as their main priorities for their time in office. Using the transcripts of our interviews, we classify these goals into eight policy categories established by the Menino Survey of Mayors, a nationally representative study of US mayors in cities with populations over 75,000 (Einstein et al., 2018). In their inaugural study, Einstein et al. (2014) asked respondents open-ended questions about the challenges and policy priorities they faced, and they hand-coded responses and classified them into the following categories: financial management, economic development, education, governance, socioeconomic issues, infrastructure, quality of life, and relationships. We follow this classification approach and provide additional details in Carreri and Payson (2021).

In our sample, a majority of the leaders (56 percent) mentioned at least one goal related to economic development.[9] Specific examples of issues that our respondents raised were investing in public–private partnerships, recruiting retail business, and revitalizing their commercial districts. If our managerial score is tapping into an unobservable preference for growth or development, we would expect to see a positive correlation between the management score and the probability of mentioning a goal related to economic development. However, we do not observe this in the data. Instead, the correlation is virtually zero and even slightly negative, suggesting that managerial skill is not associated with a latent preference for growth-related outcomes.[10] This lack of a correlation also helps to ally concerns that leaders in cities experiencing growth have simply "learned" how to use effective management practices.

The alternative possibility is that managerial skill allows local officials to more effectively achieve their goals. In this case, an observable implication is that our effects should be most pronounced among the subset of leaders who explicitly say that generating local growth is one of their objectives. In fact, this is exactly what we find. In Table 5, we allow the effect of the managerial score to vary based on whether the respondent mentioned a growth-related goal or not. Here Growth Goal is a dummy variable that takes a value of 1 if the leader mentioned a goal

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[9]In order to classify goals, we relied on the text of the interview transcripts. Several respondents did not consent to being recorded, while other recordings had technical problems. After accounting for these issues, we were left with transcripts from 216 interviews, and 114 leaders mentioned growth as an objective.

[10]Specifically, a regression of an indicator for mentioning economic growth on the managerial score produces a coefficient of −0.0208 (p-value = 0.641). Results in on-line replication code.

Table 5. When leaders mention growth as a goal

	Growth index			
	(1)	(2)	(3)	(4)
Managerial score × Post	0.046***		0.039***	0.006
	(0.015)		(0.015)	(0.022)
Growth goal × Post		0.029	0.028	−0.192**
		(0.021)	(0.021)	(0.096)
Managerial score × Post × Growth Goal				0.060**
				(0.028)
Observations	1686	1295	1295	1295
Cities	283	216	216	216
Leader controls	Y	Y	Y	Y
City controls	Y	Y	Y	Y
Mean DV Pre	0.0114	−0.0395	−0.0395	−0.0395
SD DV Pre	0.986	0.889	0.889	0.889

Notes: Growth Goal identifies leaders who explicitly mention growth as one of their top priorities.
*** $p \leq 0.01$, ** $p \leq 0.05$, * $p \leq 0.1$.

related to local economic development or growth. In column 1, we first replicate our main finding that the managerial score is associated with subsequent growth. In column 2, we examine whether simply reporting growth as a goal leads to an increase in the growth index. Interestingly, indicating that economic growth is a priority is not sufficient for leaders to actually achieve it. While the coefficient is positive, it is less precise and nearly half as small as the estimated effect of the managerial score.

In column 3, we simultaneously compare the effects of the managerial score with mentioning a growth goal and find that higher managerial scores continue to predict growth while the goal alone does not. However, the most striking finding is in column 4. In this specification, we interact the managerial score with the indicator for a growth-related goal, and we find that the effect of managerial skill is driven by the leaders who explicitly say they want to pursue economic development during their time in office. For this set of leaders, a one unit increase in the managerial score is associated with an increase in our growth index of 0.066, corresponding to 7 percent of a standard deviation for the growth index. When respondents don't mention a growth goal, the effect of the management score is nearly zero.

8. Discussion

The question of whether and how city leaders matter for local outcomes remains an open empirical debate. While existing literature has tended to focus on whether and how the preferences of local officials influence city policy, we instead ask whether certain leaders are simply better able to achieve their goals in the first place. To answer this question, we study managerial skill—a trait that has traditionally received more attention in economics and public administration than in political science.

We evaluate the extent to which municipal leaders employ effective management practices. We then investigate whether cities experience more robust growth when they elect or appoint mayors or city managers who score more highly on this dimension. Maintaining a robust tax base and vibrant local economy are among the most widespread goals of local officials. We focus specifically on population, median housing values, and revenue generated via property taxes. These measures are widely studied in the urban political economy literature, and—importantly—are some of the few outcomes for which high-quality panel data exist for smaller municipalities over time.

We find evidence that managerial skill is associated with city growth across each of our indicators. These results remain robust across specifications, when subjected to standard tests

of the parallel trends assumption, and after adjusting for a rich array of city-level characteristics—including a time-varying measure of local political preferences.

Finally, we use the text of our interviews to demonstrate that our measure of managerial skill is not simply tapping into a latent preference for local development. The managerial score is not correlated with the officials in our sample mentioning a growth- or development-related objective. When mayors and managers claim that local growth is a priority, they do achieve modest gains for their city in terms of our growth outcomes. But by far the largest effects are produced by the local leaders who both mention a growth-related goal AND who score highly in terms of managerial effectiveness. This finding may help to explain why some empirical literature finds few differences in the policy consequences of local officials from different political parties (e.g., Ferreira and Gyourko, 2009; Gerber and Hopkins, 2011). Holding a particular ideological goal may not be enough for political officials to move policy in their preferred direction in the absence of governing skill. Although measuring ability is often more difficult than measuring preferences, studying this dimension of leadership offers a fruitful path to better understand the conditions under which political actors are able to achieve their objectives.

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