

## A On-Line Appendix

### Local Leaders and the Pursuit of Growth in U.S. Cities: The Role of Managerial Skill

Supplementary information intended for on-line publication

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#### A.1 Survey Recruitment and Design

Interviewers contacted respondents by both phone and email to provide details about the project and invite them to take part in the study.<sup>11</sup> To increase participation, we secured a letter of support from the National League of Cities. The body of the email and the letter of support are shown below. Interviewers kept contacting the mayor/manager by phone and email until the respondent either declined or agreed to participate in our study, and each respondent was contacted by one interviewer only. On average, interviewers called each mayor or manager 3 times and sent 4 emails before securing an interview. 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 interviews and an overall response rate of 32%,

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<sup>11</sup>We interviewed whoever the current mayor or manager was at that time, unless that person assumed office in 2017 or later. In these cases, we interviewed the previous leader in the position, because our outcome data typically do not exist past 2017. After conducting an interview, we always attempted to contact the interviewee's predecessor in order to obtain within-city measures of local management practices over time. Interviews took place between October 2018 and August 2019.

Table A1: Interviewed vs. Non-Interviewed Cities - Balance

	Accepted Interview	Declined Interview	All Other Cities in State	$\Delta$ Accepted vs. Decline	$\Delta$ Accepted vs. All Other
Property Tax Revenues	\$355	\$348	\$455	-7.0 (19.0)	100* (32.0)
Population	47,664	55,819	39,013	8,155 (21,408)	-8,650 (10,387)
Median Home Value	291,051	261,186	211,840	-29,865 (19,429)	-79,211* (11,697)
White (%)	76.3	76.1	78.0	-0.202 (1.274)	1.716 (1.150)
Unemployed (%)	4.5	4.7	4.6	0.24 (0.144)	0.088 (0.148)
College Degree (%)	32.0	28.0	28.6	-3.92* (1.182)	-3.389* (0.989)
Observations	283	607	4,653		

*Notes:* Shows 2017 averages of cities that appear in our sample compared to cities that declined and all other cities in the state. Expenditure variables are from the Census of Governments in dollars per capita. Demographic variables are from the American Community Survey. Standard error of the difference in parenthesis. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

To determine how representative the cities in our sample are, we compare the demographic and financial characteristics of cities that agreed to participate in our study to those that declined, as well as to all other cities in the state. These balance tests are shown in Table A1. The cities in our sample are similar in terms of size, racial composition, and expenditure levels compared to other cities. However, they are also slightly wealthier and more likely to have residents with a college degree. While the differences between the cities in our sample and the rest of the cities in each state are substantively small, they should be kept in mind when generalizing the following results. For additional discussion, see Carreri and Payson (2021).

We attempt to maximize the response rate for our study in several ways. First, we portray respondents' participation in the most neutral terms possible by *i*) presenting the interview as a "conversation" and without mentioning the word "interview" or "survey", *ii*) not mentioning which outcomes we will examine, and *iii*) by stressing throughout that the

project is an academic endeavor. Questions are similarly neutral in tone. For example, the question on target setting reads: “What types of goals or objectives have you set for your city and what are the practical targets related to these objectives? How are these goals assigned or delegated down to the individual members of the government and of the staff?”. Finally, we secured the institutional endorsement of the National League of Cities (NLC), a nonpartisan, non-profit advocacy organization representing U.S. municipalities.

Figure A1: Recruitment Letter and Project Description



Northwestern  
University



Dear Mayor/City Manager,

We are a research team from New York University (NYU) and Northwestern University working on an academic research project on the different managerial styles and practices employed across the U.S. in its local governments. The project is directed by [Dr. Maria Carreri](#) at Northwestern University and [Prof. Julia Payson](#) at New York University. We believe that mayors play a fundamental role for the success of their city and the well-being of its citizens. It is based on this conviction that we are interested in understanding the different practices and managerial styles employed at the city level across the country, and your input would be extremely valuable in making this project successful. We invite you to take part in our study through a brief and confidential phone conversation revolving around your experience as mayor.

Potential benefits to you include:

- A copy of the results of our academic research prior to their publication
- An opportunity to contribute to an academic study with the potential to identify best practices across city governments
- Other mayors have enjoyed our phone conversation and have considered it a great opportunity to discuss and reflect upon their managerial practices in a completely confidential environment

The phone conversation will touch upon four macro areas related to your government practices: targets, performance monitoring, operations and people management. We will also pose a few questions on your experience and background. The conversation is expected to last 25 minutes. No compensation will be provided and neither the mayor nor the city will incur any expense as a result of the study. The conversation will be confidential to guarantee that no risk will be associated to your participation to this academic study. Your identity and the name of the city will be kept confidential and not mentioned by name in the study. We will be delighted to answer any questions you might have at any time. We encourage you to contact Dr. Carreri or Prof. Payson, the project directors. This study (STU00208676) has been reviewed and approved by an Institutional Review Board ("IRB"). You may talk to them at (312) 503-9338 or [irb@northwestern.edu](mailto:irb@northwestern.edu).

We will be in touch by phone in the coming days. Should it be more convenient for you to contact us directly, we will be grateful to receive an email or a phone call. We look forward to hearing from you and thank you in advance for your consideration.

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Figure A2: National League of Cities Letter of Support



October 10, 2018

To whom it may concern,

As Director of Research of the National League of Cities, I certify that the Dr. Maria Carreri (Northwestern University) and Professor Julia Payson (New York University) have communicated the details of their research study on U.S. the management practices of local officials. The NLC supports this academic study as it has the potential to contribute to a better understanding of city governments, to disseminate best practices, and to strengthen partnerships between local government practitioners and the academic community.

I therefore encourage you to feel free to participate in this study and to reach out to Dr. Maria Carreria ([maria.carreri@kellogg.northwestern.edu](mailto:maria.carreri@kellogg.northwestern.edu)) or Professor Payson ([julia.payson@nyu.edu](mailto:julia.payson@nyu.edu)) if you have additional questions.

Best Regards,

*Christiana K. McFarland*  
Christiana K. McFarland

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Figure A3: Survey Instrument and Rubric

Management Survey Questions			
Target Setting			
<p><b>1) Target Inter-Connection</b></p> <p>Score: 1□ 2□ 3□ 4□ 5□ .□</p>	<p>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?</p>		
	<p><i>Score 1: 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</i></p>	<p><i>Score 3: Objectives are well-defined with related targets; there is some communication and/or delegation but only to certain staff or departments</i></p>	<p><i>Score 5: 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</i></p>
<p><b>2) Time Horizon of Targets</b></p> <p>Score: 1□ 2□ 3□ 4□ 5□ .□</p>	<p>a) What kind of timeline are you looking at with your goals?                      b) Which goals receive the most emphasis? Long-term or short-term ones?                      c) Are the long-term and short-term goals set together or independently?</p>		
	<p><i>Score 1: The main focus is on short-term targets. Or, "it varies" without any follow-up or specific discussion of timelines.</i></p>	<p><i>Score 3: There are both short and long-term goals for most areas with specific timelines, but they are not necessarily linked to each other.</i></p>	<p><i>Score 5: Long-term goals are translated into specific short-term targets so that short-term targets become a 'staircase' to reach long-term goals. An overall timeline is clearly articulated for both types of goals.</i></p>

Monitoring			
<p><b>3) Progress Tracking</b></p> <p>Score: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> . <input type="checkbox"/></p>	<p>a) So thinking more about [one of the goals or objectives just mentioned]: What kinds of indicators do you use to track the city's progress in reaching this goal? What sources of information are used to perform this tracking? b) How frequently are these indicators measured? Who gets to see this performance data?</p>		
	<p><i>Score 1: There are no specific indicators or measures to track if objectives are being met; tracking is an ad-hoc process (certain processes are not tracked at all)</i></p>	<p><i>Score 3: Most performance indicators are tracked formally; tracking is overseen by only a few members of the staff rather than communicated widely</i></p>	<p><i>Score 5: Progress is continuously tracked with specific, formal indicators. This tracking is communicated widely across the city government to a variety of staff.</i></p>
<p><b>4) Progress Review</b></p> <p>Score: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> . <input type="checkbox"/></p>	<p>a) And how often do you review whether [Name of City] is on track to meet its goals with other members of the government or with city staff, either formally or informally? b) Can you give me an example of a recent meeting where you discussed this? c) Who is usually involved in these meetings? Who gets to see the results of this review? d) What sort of follow-up plan usually results from these meetings?</p>		
	<p><i>Score 1: Performance/progress is reviewed infrequently or in an un-meaningful way (e.g. only success or failure is noted)</i></p>	<p><i>Score 3: Performance is reviewed periodically with successes and failures identified; results are only communicated to a few staff members; no clear follow up/ action plan is adopted</i></p>	<p><i>Score 5: Progress is continually reviewed, based on specific indicators; tracking consistently results in follow-up plans to ensure continuous improvement; results are communicated widely to staff members</i></p>

People Management			
<b>5) Building a High-Performance Culture through Incentives and Appraisals</b>  Score: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> . <input type="checkbox"/>	a) Do you have an appraisal system to assess staff performance? Could you explain how it works? b) Are there any procedures in place to recognize or reward the best performers across different staff groups, either formally or informally? c) What types of professional development opportunities are provided for top performers?		
	<i>Score 1: No appraisal system, either formal or informal. No type of rewards, recognition, or professional development for top-performers</i>	<i>Score 3: There is an evaluation system which allows employees to get feedback and rewards or recognizes good performance, but the system is informal and not applied systematically</i>	<i>Score 5: There is a formal evaluation system that monitors staff performance and allows staff members to receive feedback. Rewards or recognition are given for top performers, formally or informally</i>
<b>6) Removing Poor Performers</b>  Score: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> . <input type="checkbox"/>	a) If you had a staff member who was struggling or who could not do his/ her job, what would you do? Can you give me a recent example?		
	<i>Score 1: Poor performance is not addressed or addressed very inconsistently; poor performers are rarely removed from their position</i>	<i>Score 3: Poor performance is addressed, but not always consistently, and usually through a limited range of methods (e.g. "encouraging the person to do better")</i>	<i>Score 5: Poor performance is frequently addressed either formally or informally and using a variety of methods and/or interventions</i>
Operations			
<b>7) Efficiency of Procurement</b>  Score: 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 <input type="checkbox"/> 5 <input type="checkbox"/> . <input type="checkbox"/>	a) Could you talk me through the usual process of writing either a procurement bid or RFP in your city? [RFP = Request For Proposal] b) Thinking about a typical [RFP or bid], how far ahead of time do you usually issue the announcement relative to when the service is needed? c) How standardized is this procedure across different city departments?		
	<i>Score 1: Mayor does not know about / there is no standardized process to issuing RFPs; RFPs are not anticipated ahead of time and are issued as needs arise.</i>	<i>Score 3: Mayor states there are common guidelines across staff groups on how to issue RFPs; RFPs are not anticipated far ahead of time and are issued as needs arise</i>	<i>Score 5: There are common official guidelines across staff groups; RFPs are anticipated in a timely manner.</i>



Figure A4: Example of Survey Question, Scoring Grid, and Anonymized Answers

<b>(1) Target Inter-Connection</b>			
	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?		
	<b>Score 1</b>	<b>Score 3</b>	<b>Score 5</b>
<b>Scoring Grid</b>	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
<b>Anonymized examples</b>	Defines the objective as “homelessness”. Does not identify practical targets	Defines the objective as “Addressing homelessness”. Identifies one practical target (establishment of homeless navigation center). Assigns responsibilities to department leaders	Defines the objective as “Creating meaningful work for the homeless”. Identifies two practical targets (teaching financial literacy, placing into entry-level work) with specific goals for numbers reached. Assigns responsibilities through one-on-one and collective weekly meetings with department leaders who delegate to staff.

## A.2 Minimizing Interviewer and Interviewee Bias

The scoring process described in the main paper is potentially subject to both interviewee and interviewer induced bias. On the one hand, the city leaders being interviewed could answer untruthfully, systematically gearing their responses toward what they believe are the best answers. The interviewers might also systematically under- or over-score responses based on their overall perceptions of the leader or the city in question. However, the use of a double-blind survey technique based on Bloom and Van Reenen (2007) minimizes these two biases.

Interviewee bias, or bias from self-reporting, is minimized in two ways. First, respondents are unaware that they are being scored.<sup>12</sup> Second, the questions they are asked are all open-ended (e.g. “What types of professional development opportunities are provided for top

<sup>12</sup>Respondents are de-briefed on this and all aspects of the interview via email after the interview as per the IRB protocol.

performers?") rather than being closed (e.g. "Do you provide professional development opportunities for top performers[yes/no]?"), and respondents don't have access to the rubric being used to assess their answers.

Interviewer bias is limited by the fact that interviews are conducted by phone, rather than in person. Interviewers have no information about either the mayor or manager or the performance of the city prior to conducting the survey. Finally, all interviewers go through a training workshop that emphasizes the importance of scoring each answer separately, based on the scoring rubric, rather than on their overall impression of the interviewee. Each interview is recorded (conditional on the respondent's permission to record), and we validate the reliability of the procedure by having a second interviewer score the same interview based on the recording. The correlation between the two sets of scores, by the first and second interviewer, is 0.812. On average, each interviewer conducted 40 interviews, allowing us to include interviewer fixed effects in the analysis. This adjusts for an interviewer's general tendency to over- or under-score responses irrespective of the interviewees' characteristics.

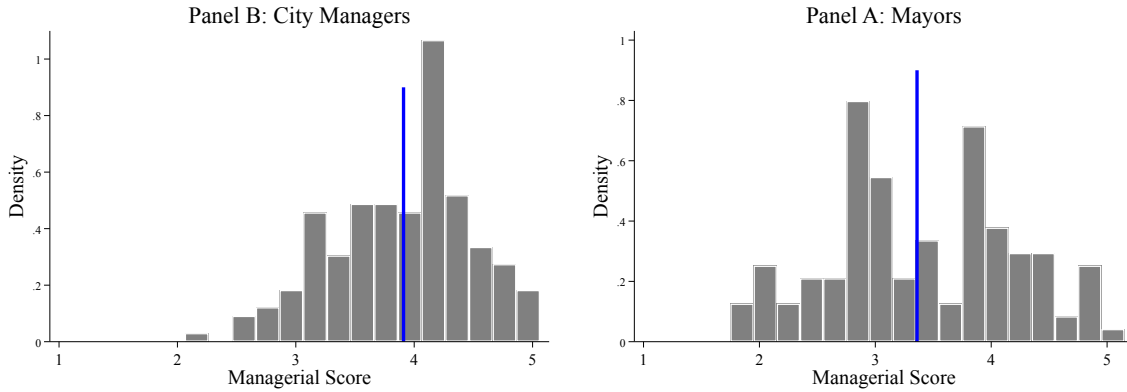
### A.3 Data and Descriptive Results

Table A2: Summary statistics

	Mean	Std. Dev	Min	Max	N
<i>Cross-sectional Variables</i>					
Managerial Score	3.689	0.719	1.75	5	283
Managerial Score (ICW)	-0.013	0.998	-2.773	1.831	283
City Manager	0.58	0.495	0	1	283
Female	0.131	0.338	0	1	283
Age	50.481	9.353	25	74	283
Education (years)	18.42	2.469	13	23	283
Years in Local Government	11.758	8.119	1	40	283
Previous Job in Business	0.131	0.338	0	1	283
Left/Center-Left	0.318	0.467	0	1	267
Center	0.315	0.465	0	1	267
Right/Center-Right	0.367	0.483	0	1	267
Growth Goal	0.528	0.5	0	1	216
Experienced	0.527	0.5	0	1	283
<i>Panel Variables</i>					
Growth Index	0	1	-0.948	4.84	1686
Population (log)	10.043	1.073	7.397	13.656	2746
Median Home Value (log)	0.669	11.009	14.496	2745	
Property Tax Revenues (log)	9.018	1.442	3.434	12.505	1686
Median Income (log)	10.891	0.404	9.484	12.339	2268
Poverty (%)	13.596	7.794	1.08	46.299	2746
Unemployment (%)	8.439	3.67	0.07	30.219	2746
White (%)	0.773	0.172	0.209	0.994	2746
College Degree (%)	30.967	16.755	3.5	89.400	2406
Share Republican Contributors	0.413	0.231	0	1	2745

*Notes:* All cross-sectional variables come from our original survey. The property tax data come from the Census of Government Finances and Annual Survey of Local Government Finances. The demographic data from from the American Community Survey (5-Year Estimates). Data on contributions come from DIME (Bonica 2019). *Managerial Score (ICW)* is the Inverse-Covariance Weighted Managerial Score.

Figure A5: Distribution of the Managerial Scores: Mayors vs. City Managers



*Notes:* The plots above represent the distribution of the managerial score in the two sub-samples of interviewed mayors (Panel A) and city managers (Panel B). The blue vertical lines mark the mean.

Table A3 shows the pairwise correlations across these components of the overall score. While the correlations are all positive, indicating that leaders scoring highly on one dimension are also likely to score highly on other dimensions, the fact that the correlations generally do not exceed 0.5 suggests that each component captures something distinct in terms of overall management capability. As an alternate measure of internal reliability, we calculate the Cronbach’s alpha of the managerial score which yields a value of 0.745.

Table A3: Reliability of Managerial Score: Pairwise Correlations of Components

	Target Setting	Operations	Performance Monitoring
Operations	0.273***		
Performance Monitoring	0.587***	0.603***	
Incentives	0.426***	0.863***	0.506***

*Notes:* Each coefficient reported in the table is from a regression of the variable reported in the column on the variable reported in the row and a constant term using the 283 observations (cities) in the cross-sectional dataset. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

We find that poverty rates, unemployment, percent white, median income, median housing value, and resident education are not predictive of a leader’s managerial score. The only variable that correlates with the score is population, with larger cities tending to select higher scoring leaders. To account for this, in the main analyses we always bin cities by size and include population fixed effects. Our research design also leverages within-city changes in leader managerial skill to account for fixed city characteristics that might affect both the choice of leader and policy priorities. However, it is reassuring to note that cities are not disproportionately likely to select high-scoring leaders based on their racial composition or economic conditions.

Table A4: No Difference in City Demographics for High- vs. Low-Scoring Leaders

	Managerial Score		
	(1)	(2)	(3)
Population	0.108*** (0.040)	0.130 (0.079)	0.107*** (0.040)
% Poverty	0.008 (0.011)	-0.003 (0.016)	0.015 (0.014)
% Unemployment	-0.020 (0.018)	-0.034 (0.032)	-0.018 (0.023)
% White	-0.414 (0.272)	-0.322 (0.625)	-0.334 (0.285)
% College Degree	0.005 (0.004)	0.003 (0.007)	0.005 (0.005)
Median Income	-0.214 (0.222)	-0.353 (0.429)	-0.192 (0.272)
Median Home Value	0.003 (0.142)	-0.009 (0.309)	0.041 (0.160)
Observations	1,258	518	740
Cities	280	118	162
Sample	All	Mayors	Managers

*Notes:* Shows the correlations from pooled OLS models with state fixed effects in the pre-period (i.e. in the years preceding the election of the interviewed mayor/manager). Standard errors clustered by city are shown in parenthesis. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

Table A5: No Difference in City Growth for High- vs. Low-Scoring Leaders

	Population <b>Growth</b> (1)	Median Income <b>Growth</b> (2)	Median Home Value <b>Growth</b> (3)
Managerial Score	-0.006 (0.010)	-0.002 (0.002)	0.005 (0.007)
Observations	1,081	966	1,081
Cities	277	277	277

*Notes:* Shows the correlations from pooled OLS models with state fixed effects in the pre-period (i.e. in the years preceding the election of the interviewed mayor/manager). Standard errors clustered by city are shown in parenthesis. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

Table A6: Robustness to time-varying controls

	(1) Population (log)	(2) Median Home Value (log)	(3) Property Tax Rev. (log)
Managerial Score $\times$ Post	0.014* (0.008)	0.026*** (0.010)	0.063* (0.038)
Observations	2,268	2,267	1,358
Cities	283	283	282
Leader Controls	Y	Y	Y
City Controls	Y	Y	Y
Mean DV Pre	45026	268429	20944
SD DV Pre	78077	216342	31607

*Notes:* This table replicates results from columns (3), (6), and (9) of Table 2 including all city controls measured at the city-year level in lieu of city controls measured at the beginning of the sample period and interacted with the *Post* indicator. See Table 2 for additional table notes. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

## A.4 Controlling for Voter Ideology

To further 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 a control variable that adjusts for resident political preferences at the city level. Unfortunately, time-varying measures of voter preferences such as congressional or presidential vote share are not generally available at the municipal level because counties are the unit of government responsible for administering elections. To get around this limitation, we rely on data on political contributions from the Database on Ideology, Money in Politics, and Elections (DIME) (Bonica 2019). For each two year election cycle, we calculate the total share of individuals who contribute to Republicans in each city.<sup>13</sup>

If voters are becoming more conservative over time, changes in their preferences may account for both the election of a skilled manager and changes in local economic conditions. Including this time-varying proxy of political preferences accounts for this possibility. Interestingly, as the share of Republican contributors increases in a city, median home values increase.<sup>14</sup> This finding lends validity to the idea that the share of individuals contributing to Republicans serves as an effective proxy for trending political changes within a city. But, importantly, our estimated effects of the managerial score remain unchanged after accounting for the partisan composition of the electorate (Table A7).

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<sup>13</sup>The DIME contribution database contains records for political donations made by individuals and organizations to federal, state, and local elections. Although the vast majority of the races in the dataset take place at the state or federal level (rather than the city-level), we are simply using partisan contributions as a rough proxy for whether voters in a city are becoming more or less conservative (or liberal) over time.

<sup>14</sup>We also note that this measure of voter ideology correlates with leader ideology. In cities with a leader with self-reported right/center-right ideology, the share of individuals contributing to Republicans is 6.3 percentage points higher than in cities with a leader with a self-reported centrist ideology. Similarly, in cities with a left/center-left leader, the share contributing to Republicans is 6.4 percentage points lower. However, we find that the managerial score of the mayor/manager is uncorrelated with the share of individuals contributing to Republicans.



Table A7: Controlling for Voter Ideology

	(1)	(2)	(3)
	Population	Median Home Value	Property Tax Revenues
	(log)	(log)	(log)
Managerial Score $\times$ Post	0.013** (0.006)	0.028*** (0.009)	0.042 (0.032)
Share Republican Contributors	-0.010 (0.012)	0.126*** (0.026)	-0.102 (0.119)
Observations	2,745	2,744	1,688
Cities	283	283	283
Leader Controls	✓	✓	✓
City Controls	✓	✓	✓
Mean DV Pre	45128	268970	21168
SD DV Pre	78508	216610	31870

*Notes:* The variable *Share Republican Contributors* is a time varying measure of the share of individuals contributing to Republicans in each city for every two year election cycle. See Table 2 for additional table notes. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

## A.5 Additional Results and Robustness Checks

Table A8: Robustness to Inverse Covariance Weighted Managerial Score

	(1)	(2)	(3)
<i>Panel A: Population (log)</i>			
Managerial Score (ICW) $\times$ Post	0.018** (0.008)	0.010* (0.005)	0.010** (0.005)
Observations	2,746	2,746	2,746
Mean DV Pre	45104	45104	45104
SD DV Pre	78490	78490	78490
<i>Panel B: Median Home Values (log)</i>			
Managerial Score (ICW) $\times$ Post	0.017** (0.006)	0.019*** (0.007)	0.020*** (0.006)
Observations	2,745	2,745	2,745
Mean DV Pre	268893	268893	268893
SD DV Pre	216566	216566	216566
<i>Panel C: Property Tax Revenues (log)</i>			
Managerial Score (ICW) $\times$ Post	0.044** (0.021)	0.033 (0.022)	0.028 (0.024)
Observations	1,688	1,688	1,688
Mean DV Pre	21168	21168	21168
SD DV Pre	31870	31870	31870
<i>Panel D: Growth Index</i>			
Managerial Score (ICW) $\times$ Post	0.022** (0.009)	0.029*** (0.010)	0.031*** (0.010)
Observations	1,686	1,686	1,686
Mean DV Pre	0.0114	0.0114	0.0114
SD DV Pre	0.986	0.986	0.986
Cities	283	283	283
Leader Controls		✓	✓
City Controls			✓

*Notes:* This Table reproduces results shown in Table 2 using the inverse-covariance-weighted managerial score in lieu of the unweighted managerial score. See Table 2 for table notes. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

In Table A9, we demonstrate that the main results are consistent when dropping each component of the managerial score one at a time. In other words, no single component of the score is driving the findings. To conserve space, we report these results for the overall growth index—rather than separately for population, median home values, and property tax revenue—but the results are consistent across each outcome. This analysis is helpful, in part, because we can imagine that certain questions in the survey may be more prone to measurement bias than others. For example, if a city were to start growing for reasons exogenous to the managerial competence of its mayor (or manager), we might imagine that this could lead the mayor (or manager) to become more knowledgeable about the procurement process (the *operations* category), thus leading to a higher score. But it’s more difficult to think about why, for instance, growth would affect whether the leaders rewards top performers in the staff (*incentives*).

Table A9: Dropping one practice at a time from the Managerial Score

	Growth Index (Log)		
	(1)	(2)	(3)
<i>Panel A</i>			
Managerial Score (no Target Setting) × Post	0.033*** (0.012)	0.044*** (0.013)	0.050*** (0.014)
Observations	1,686	1,686	1,686
Cities	283	283	283
<i>Panel B</i>			
Managerial Score (no Monitoring) × Post	0.027** (0.013)	0.038*** (0.014)	0.039*** (0.014)
Observations	1,686	1,686	1,686
Cities	283	283	283
<i>Panel C</i>			
Managerial Score (no Operations) × Post	0.024* (0.013)	0.033** (0.014)	0.039** (0.015)
Observations	1,686	1,686	1,686
Cities	283	283	283
<i>Panel D</i>			
Managerial Score (no Incentives) × Post	0.032** (0.013)	0.040*** (0.013)	0.042*** (0.014)
Observations	1,686	1,686	1,686
Cities	283	283	283
Leader Controls			✓
City Controls		✓	✓
Mean DV Pre	0.0114	0.0114	0.0114
SD DV Pre	0.986	0.986	0.986

*Notes:* The table above replicates results shown in Table 2 using alternative definitions of the Managerial Score. Each Panel shows results for a separate regression using the Managerial Score calculated as the average of three out of the four practices-specific scores used to calculate the Managerial Score used throughout the paper. See Table 2 for more table notes. \*\*\* p≤0.01, \*\* p≤0.05, \* p≤0.1.

Table A10: The Effect of Managerial Skill Does Not Vary By Tenure

	Growth Index (1)	Growth Index (2)	Growth Index (3)
Managerial Score $\times$ Post $\times$ Experienced	0.015 (0.023)	-0.005 (0.024)	0.004 (0.022)
Managerial Score $\times$ Post	0.024 (0.018)	0.045** (0.021)	0.044** (0.019)
Post $\times$ Experienced	-0.077 (0.080)		
Observations	1,686	1,686	1,686
Cities	283	283	283
Leader Controls	Y	Y	Y
City Controls	N	N	N
Mean DV Pre	0.0114	0.0114	0.0114
SD DV Pre	0.986	0.986	0.986

Table A11: Controlling for Self-Declared Ideology

	(1)	(2)	(3)
<i>Panel A: Population (log)</i>			
Managerial Score × Post	0.025** (0.012)	0.014* (0.007)	0.014** (0.006)
Center × Post		0.011 (0.011)	0.012 (0.010)
Right/Center-Right × Post		-0.001 (0.010)	-0.006 (0.009)
Observations	2,746	2,602	2,602
Mean DV Pre	45104	43782	43782
SD DV Pre	78490	77910	77910
<i>Panel B: Median Home Values (log)</i>			
Managerial Score × Post	0.023*** (0.009)	0.024*** (0.009)	0.025*** (0.009)
Center × Post		-0.003 (0.015)	0.002 (0.014)
Right/Center-Right × Post		-0.010 (0.015)	-0.016 (0.014)
Observations	2,745	2,602	2,602
Mean DV Pre	268893	266080	266080
SD DV Pre	216566	215854	215854
<i>Panel C: Property Tax Revenues (log)</i>			
Managerial Score × Post	0.065** (0.028)	0.057* (0.030)	0.049 (0.033)
Center × Post		0.097* (0.053)	0.105** (0.051)
Right/Center-Right × Post		0.118* (0.061)	0.134** (0.062)
Observations	1,688	1,606	1,606
Mean DV Pre	21168	20193	20193
SD DV Pre	31870	31513	31513
<i>Panel D: Growth Index</i>			
Managerial Score × Post	0.032** (0.013)	0.038*** (0.013)	0.040*** (0.013)
Center × Post		0.005 (0.029)	0.009 (0.027)
Right/Center-Right × Post		0.001 (0.025)	-0.002 (0.025)
Observations	1,686	1,604	1,604
Mean DV Pre	0.0114	-0.00737	-0.00737
SD DV Pre	0.986	0.989	0.989
Cities	283	283	283
Leader Controls		✓	✓
City Controls			✓

Notes: This Table estimates the same specification used in Table 2 with the addition of controls for the leader's self-declared ideology. The excluded category is *Left/Center-Left*. \*\*\* p≤0.01, \*\* p≤0.05, \* p≤0.1.

## A.6 Comparing Mayors and City Mangers

The results in the main text pooled mayors and city managers to study the effect of managerial skill on local economic growth. In part, this approach allows us to maximize statistical power given a relatively small sample. We also do not expect major differences between these two types of leaders, theoretically. In all cities in our sample, we interviewed the executive leader who most directly influences policy outcomes. In fact, recent work in public administration shows that the roles of city manager and city mayor are often less distinct than early scholarship assumed (Zhang and Feiock 2010; Hassett and Watson 2002; Svara 1999, 2006). Both are executive positions with policymaking and administrative power, and the lines between the two are especially blurred in small and mid-sized cities (the focus of our sample). In addition, several existing surveys of local executive leaders pool together mayors and city managers depending on who exercises functional administrative power (Newell and Ammons 1987; French 2005; Cheong et al. 2009).

Of course, whether the effect of managerial skill varies for mayors and city managers is ultimately an empirical question. We now look for such effect heterogeneity by breaking down the results by leader type. In Table A12, we interact our managerial score measure with an indicator that takes a value of one for city managers. The bottom row of the table shows baseline differences between mayors and managers when the managerial score is zero, but given that we never observe scores of zero this result is not particularly interpretable. The second row, Managerial Score  $\times$  Post, shows the estimated effect of the managerial score on our growth index for mayors, and adding the first and second rows together gives us the estimated effect for managers.

The results in Table A12 show that city managers are somewhat more likely to achieve growth as their managerial skill increases relative to mayors, but this interactive effect is noisy and not precisely estimated. To the extent that city managers have higher average management scores than mayors and may be able to exert more direct influence on policy,

Table A12: Managerial Score and Growth: Mayors vs. Managers

	Growth Index		
	(1)	(2)	(3)
Managerial Score $\times$ Post $\times$ City Manager	0.046 (0.030)	0.034 (0.029)	0.036 (0.029)
Managerial Score $\times$ Post	0.019* (0.010)	0.032** (0.014)	0.035** (0.014)
Post $\times$ City Manager	-0.152 (0.114)	-0.129 (0.110)	-0.158 (0.111)
Observations	1,686	1,686	1,686
Cities	283	283	283
Leader Controls	N	Y	Y
City Controls	N	N	Y
Mean DV Pre	0.0114	0.0114	0.0114
SD DV Pre	0.986	0.986	0.986

*Notes:* This table allows the effect of managerial skill to vary by leader type. City Manager takes a value of one for the city managers in our sample. The coefficients in the second row show the effect of managerial skill for mayors on our growth index, and adding the coefficients in the first and second rows shows the effect of managerial skill for city managers. \*\*\*  $p \leq 0.01$ , \*\*  $p \leq 0.05$ , \*  $p \leq 0.1$ .

this finding makes sense. Managerial skill matters for both types of leaders when it comes to generating growth, and we uncover suggestive evidence that it might be even more important for managers (although, again, the marginal difference between the two groups is not statistically significant). In Table A13 in the Appendix, we split the sample between mayors and managers and show results for each growth-related outcome individually and uncover a similar pattern. While beyond the scope of this paper, further exploring how the dynamics of ability and preferences interact to produce policy for elected vs. appointed officials is a promising avenue for future research.



Table A13: Managerial Score and growth: Mayors vs. Managers

	Mayors			Managers		
	(1)	(2)	(3)	(4)	(5)	(6)
<i>Panel A: Population (log)</i>						
Managerial Score × Post	0.031** (0.014)	0.024*** (0.009)	0.025*** (0.008)	0.013 (0.012)	0.010 (0.011)	0.008 (0.011)
Observations	1,161	1,161	1,161	1,585	1,585	1,585
Mean DV Pre	29251	29251	29251	56628	56628	56628
SD DV Pre	78310	78310	78310	76628	76628	76628
<i>Panel B: Median Home Values (log)</i>						
Managerial Score × Post	0.015* (0.009)	0.015* (0.008)	0.015* (0.008)	0.032* (0.017)	0.039** (0.019)	0.034* (0.018)
Observations	1,161	1,161	1,161	1,584	1,584	1,584
Mean DV Pre	174578	174578	174578	337450	337450	337450
SD DV Pre	100175	100175	100175	250119	250119	250119
<i>Panel C: Property Tax Revenues (log)</i>						
Managerial Score × Post	0.100*** (0.033)	0.072* (0.041)	0.055 (0.045)	0.019 (0.048)	-0.038 (0.062)	-0.050 (0.063)
Observations	831	831	831	857	857	857
Mean DV Pre	8734	8734	8734	33178	33178	33178
SD DV Pre	11874	11874	11874	39604	39604	39604
<i>Panel D: Growth Index</i>						
Managerial Score × Post	0.019** (0.008)	0.032*** (0.009)	0.032*** (0.010)	0.056* (0.033)	0.043 (0.037)	0.042 (0.039)
Observations	830	830	830	856	856	856
Mean DV Pre	-0.430	-0.430	-0.430	0.438	0.438	0.438
SD DV Pre	0.673	0.673	0.673	1.052	1.052	1.052
Sample Cities	Mayors	Mayors	Mayors	Managers	Managers	Managers
Leader Controls		✓	✓		✓	✓
City Controls			✓			✓

Notes: Columns (1)-(3) show results for the sub-sample of Mayors/Mayor-Council cities. Columns (4)-(6) show results for the sub-sample of Managers/Council-Manager cities. See Table 2 for additional table notes. \*\*\* p≤0.01, \*\* p≤0.05, \* p≤0.1.