Online Appendix: Robustness

One robustness check, recommended by Imbens & Lemieux (2008) and Green et al. (2009), is to remove the data points that are furthest from the discontinuity and then re-estimate the model. The resulting estimates should be less prone to model dependence, but also potentially less certain. We thus created 23 separate data sets with varied window sizes from 0.08 to 0.30. We first consider the percentage of the police force that is black, which only has 130 observations in total. The data set with a window size of 0.08 includes only the 54 observations within 8 percentage points of the discontinuity, while the data set with a 0.30 window includes 97 observations where the black candidate won between 20% and 80% of the vote. The results are presented in Figure 4. The mean estimated effect is always positive, and it is statistically significant at the 0.05 level for all window sizes above 0.09. Consider a data set with only the 53 observations where the black candidate garnered between 40% and 60% of the vote. There, the estimated impact is 8.3 percentage points, with a standard error of 4.0.[34] For the finding on the percentage of the police force that is black, we have reasonable confidence that the results are not driven by observations far from the discontinuity.

[Figure 4 Here]

The results for other dependent variables prove less robust. For instance, consider the 86 elections where the black candidate won between 35% and 65% of the vote. For the share of payrolls going to the police and the share of police employees, the impacts are -1.5 percentage points and -2.9 percentage points, respectively, with p-values that do not approach statistical significance. In short, similar point estimates remain in this smaller sample, but given the reduced sample sizes, they are no longer approaching statistically significant levels. In these cases, the precision of our estimates above relies partly on observations far from the discontinuity.

[34] To err on the conservative side, we also removed Cincinnati's 1991 election from these models. With Cincinnati excluded, the same data set produced an estimated treatment effect of 6.1 percentage points with a standard error of 2.9.

In theory, the RDD eliminates concerns about most omitted variables. There is no reason that cities where black candidates narrowly defeat white candidates should differ from those where white candidates are narrow victors. Here, however, we act on the caution advised by Caughey & Sekhon (2010), Grimmer et al. (2011), and Vogl (2011), by testing the results in the presence of potentially omitted variables. Figure 5 does precisely that.[35] Each graph begins with the baseline model that uses covariates, and then illustrates how the estimated treatment effect changes in the presence of each new covariate. In all three cases, the substantive effect is generally robust, with no sharp declines due to a single omitted variable. When considering the impact on the share of pay devoted to the police, the median estimate is -2.4 percentage points, with a two-sided p-value of 0.10. For the share of police employees, the median estimate is -2.6 percentage points, with a two-sided p-value of 0.09. The pattern of reduced investments in police staffing and increased black hiring is generally stable, although there are many specifications that push the results into insignificance. For the police force's percent black, virtually all results are statistically significant. The median impact is 3.8 percentage points, with a two-sided p-value of 0.02.[36]

Considered as a whole, the results are suggestive, and very consistent in their substantive magnitude. Again and again, they point to criminal justice–and specifically police hiring–as the lone area of impact. But given the number of results that cross the threshold into insignificance, we should stop short of calling them definitive. We do not observe the share of blacks within other city departments. But these results on police staffing, pay, and especially diversity are certainly compatible with research reporting that black mayors increase the share of blacks elsewhere in the city workforce (Eisinger, 1982). Moreover, if police departments have proportionately fewer blacks

[35]The results of Vogl (2011) are of special note, as that analysis considers a separate but overlapping data set of elections involving black candidates between 1965 and 2000. It reports that in Southern U.S. cities but not northern ones, narrow black victories are more likely than narrow loses, and that they are accompanied by higher levels of turnout. Our core results hold even omitting the 51 southern cities, with an estimated effect of 5.7 percentage points on the police department's share black (SE=2.4). They also hold conditional on the city's region. Still, if southern cities that elect black mayors do in fact differ because of the capacity for black political mobilization, the pattern of small or null policy changes following their election documented above becomes all the more striking.

[36]Excluding Cincinnati's 1991 election, we uncover a median impact of 2.2 percentage points with a two-sided p-value of 0.12.

than other city agencies, shifting away from police hiring could be a consequence of emphasizing black hires citywide.

[Figure 5 Here]

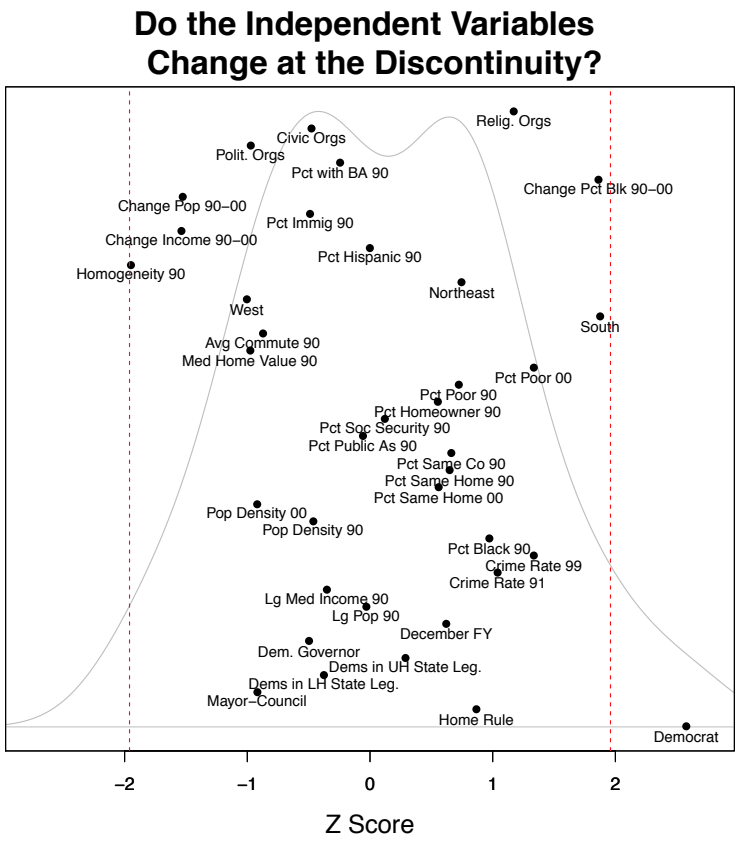

Figure 3: Placebo Tests. Note: This figure presents the z-scores from regressions where the discontinuity at 50% is used along with functions of the percent supporting the black candidate to predict 34 independent variables. Z scores (x-axis) greater than 1.96 or less than -1.96 indicate a significant imbalance in that variable at the point of the discontinuity. The gray line indicates the density of distribution of Z-scores.

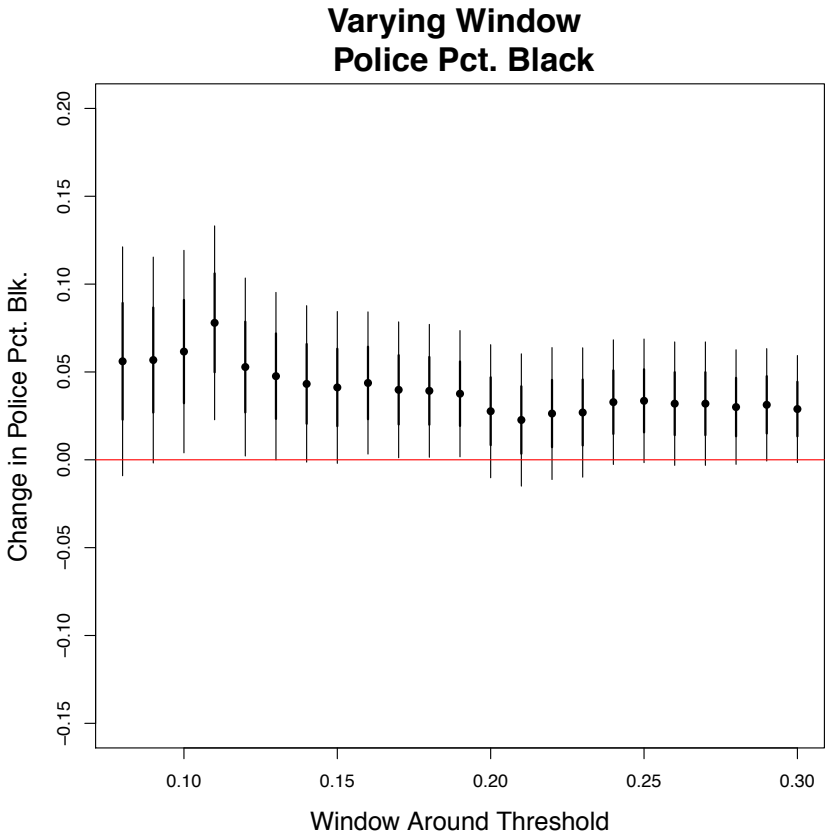

Figure 4: Robustness to Window Size. Note: For varying window sizes around the discontinuity at 0.5, this figure presents the estimated impact (dot) from a regression discontinuity design as well as the standard deviation (thick line) and 95% confidence interval (thin line). A window size of 0.10 indicates that the observations were within 10 percentage points of the discontinuity.

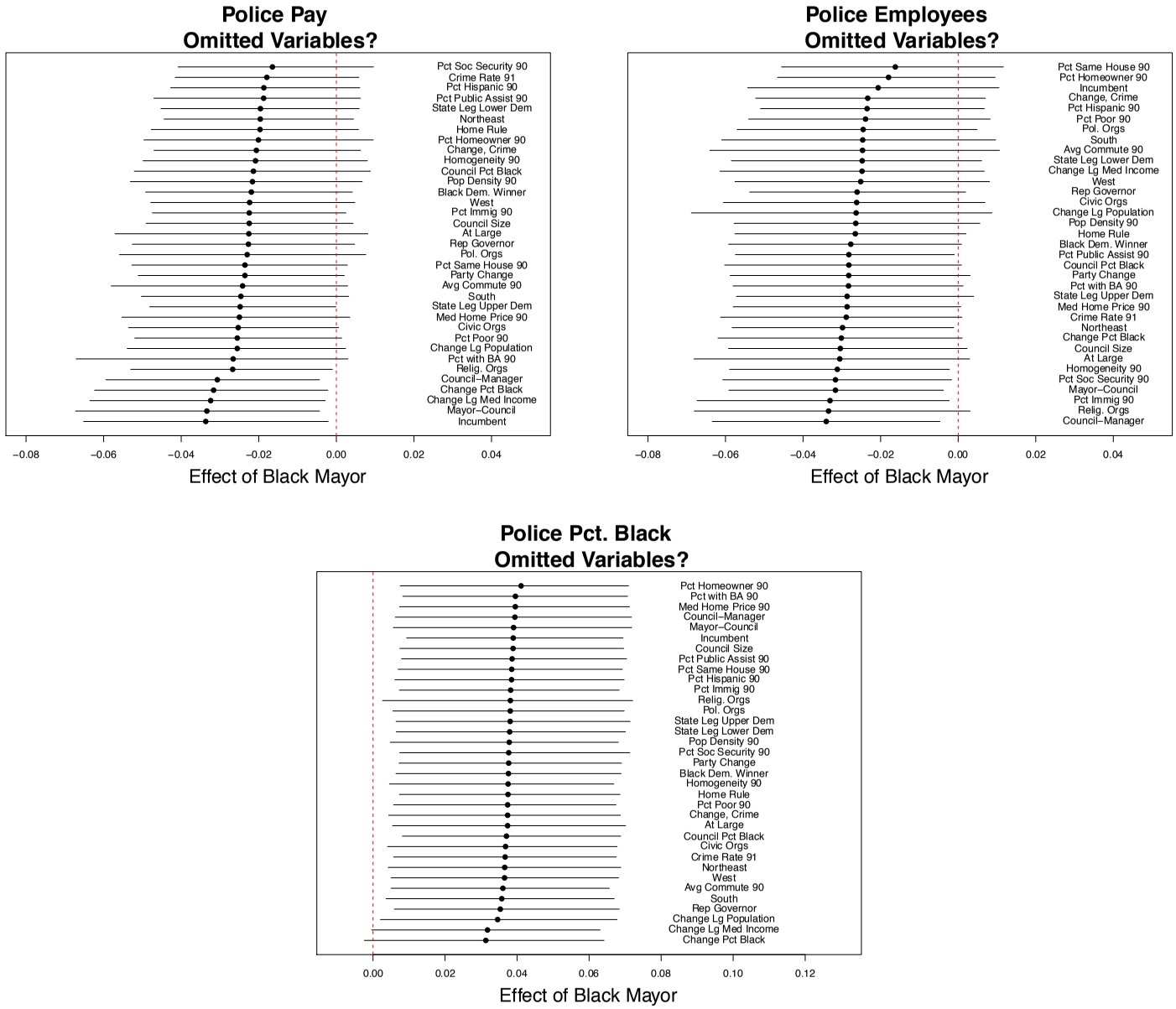

Figure 5: Robustness to Omitted Variables. Note: This figure presents the estimated treatment effect when each of the listed independent variables is included separately in the basic models.

Table 5: Full List of First Black Mayors

Number	Mayor	Year	City	Δ Police Sp.
1	James Ford	1972	Tallahassee	-0.01
2	Theodore M. Berry	1972	Cincinnati	0.00
3	Tom Bradley	1973	Los Angeles	0.00
4	Maynard Jackson	1973	Atlanta	0.03
5	Clarence Lightner	1973	Raleigh	-0.02
6	Hermanze Fauntleroy, Jr.	1973	Petersburg	0.02
7	Walter Washington	1974	Washington	0.02
8	Albert Wheeler	1975	Ann Arbor	-0.02
9	Noel Taylor	1975	Roanoke	-0.02
10	Lionel Wilson	1977	Oakland	-0.02
11	Henry Marsh	1977	Richmond	-0.01
12	Richard Arrington	1979	Birmingham	0.01
13	Edward Vincent	1980	Inglewood	-0.03
14	Charles Harris	1980	Danville	-0.01
15	Charles Bussey	1981	Little Rock	0.01
16	Thirman Milner	1981	Hartford	0.01
17	Ed McIntyre	1981	Augusta	-0.02
18	Randy Primas	1981	Camden	0.02
19	Everett Lattimore	1981	Plainfield	-0.00
20	James Everett Chase	1981	Spokane	-0.02
21	Eva Mack	1982	West Palm Beach	-0.02
22	Ernest Morial	1982	New Orleans	0.00
23	Wallace Holland	1982	Pontiac	0.01
24	Washington	1983	Chicago	0.01
25	Harvey Gantt	1983	Charlotte	-0.01
26	Wilson Goode	1983	Philadelphia	0.00
27	James Usry	1984	Atlantic City	0.05
28	James W. Holley, III	1984	Portsmouth	-0.01
29	Robert Henning	1985	Lynwood	0.00
30	Ronald Blackwood	1985	Mount Vernon	-0.00
31	Jessie Rattley	1986	Newport News	0.00
32	Kurt Schmoke	1987	Baltimore	-0.01
33	Edward Carter	1987	Greenville	0.01
34	John Daniels	1989	New Haven	-0.01
35	Charles Box	1989	Rockford	0.01
36	David Dinkins	1989	New York City	-0.00
37	Chester Jenkins	1989	Durham	0.05
38	Norm Rice	1989	Seattle	0.01

Continued ...

Table 5 – Continued

Number	Mayor	Year	City	Δ Police Sp.
39	Coy Payne	1990	Chandler	0.01
40	Douglas Palmer	1990	Trenton	0.02
41	William E. Ward	1990	Chesapeake	-0.01
42	Wellington Webb	1991	Denver	-0.04
43	Emanuel Cleaver	1991	Kansas City	0.02
44	Willie Herenton	1991	Memphis	0.00
45	James H. Sills, Jr.	1992	Wilmington	0.02
46	Sharon Sayles Belton	1993	Minneapolis	0.00
47	Freeman Bosley Jr.	1993	Saint Louis	0.02
48	William A. Johnson	1993	Rochester	-0.00
49	Sara B. Bost	1994	Irvington	0.00
50	James Talley	1994	Spartanburg	-0.01
51	David Moore	1994	Beaumont	-0.03
52	Harold Moss	1994	Tacoma	0.01
53	Ron Kirk	1995	Dallas	0.01
54	William H. Batey II	1996	Moreno Valley	0.18
55	Floyd Adams, Jr.	1996	Savannah	0.00
56	Abe Pierce III	1996	Monroe	-0.04
57	Joe Adams	1996	University City	0.01
58	Leon Young	1997	Colorado Springs	-0.01
59	Preston Daniels	1997	Des Moines	0.00
60	Harvey Johnson	1997	Jackson	-0.01
61	Lee Brown	1997	Houston	0.00
62	C. Jack Ellis	1999	Macon	-0.01
63	Michael Coleman	1999	Columbus	0.00
64	Terry Johnson	2000	Oceanside	-0.01
65	Mamie Locke	2000	Hampton	0.00
66	Irma Anderson	2001	Richmond	-0.07
67	Brenda L. Lawrence	2001	Southfield	0.01
68	Glenn Cunningham	2001	Jersey City	0.01
69	Marshall Pitts, Jr.	2001	Fayetteville	0.02
70	William Euille	2003	Alexandria	0.02
71	Carl Redus	2004	Pine Bluff	0.03
72	Willie Adams, Jr.	2004	Albany	0.00
73	Kip Holden	2004	Baton Rouge	0.01
74	Sam Jones	2005	Mobile	0.05
75	Byron Brown	2005	Buffalo	-0.00
76	Jay Williams	2005	Youngstown	0.02

Table 6: Policy Changes Before, After Breakthrough Election

	Mean Δ $t_{-1} - t_{-4}$	Mean Δ $t_3 - t_0$	T-test P-value
Police	0.001	0.004	0.451
Police Pay	0.006	-0.000	0.515
Share, Police Emp.	0.007	-0.000	0.310
Police Emp.	14.2	-16.9	0.678
Natural Resources	0.000	-0.000	0.442
Inspection	0.000	-0.000	0.730
Administration	0.001	-0.003	0.060
Housing	-0.000	0.006	0.362
Share, Housing Emp.	0.005	0.004	0.783
Sanitation	0.003	0.000	0.373
Share, Sanitation Emp.	-0.001	0.000	0.706
Parks	0.002	-0.002	0.290
Roads	-0.007	-0.002	0.381
Share, Road Emp.	-0.008	0.001	0.023
Health	-0.001	0.001	0.179
Libraries	-0.000	-0.000	0.928
Share, Library Emp.	-0.003	0.001	0.050
Fire	-0.001	-0.002	0.752
Share, Fire Emp.	-0.003	-0.002	0.800
Taxes/Revenues	-0.007	0.001	0.467
Sales Taxes/Taxes	-0.004	-0.002	0.776
Property Taxes/Taxes	0.003	-0.007	0.360
Lg. Total Taxes	0.151	0.190	0.113
Total Revenues *	138.	171.	0.815
Lg. Total Payroll	0.174	0.163	0.676
Lg. Total Emp.	0.023	0.022	0.971
Lg. Population	0.021	0.006	0.187
Employees per Cap.	-0.000	0.000	0.226

Note: This table compares the difference in spending changes in the three-year period preceding the election (left column) with the changes immediately following the election (middle column). At right, it presents the p-value corresponding to a two-sided t-test that the changes are statistically indistinguishable. The data set includes 67 cities where the first black mayor was elected between 1977 and 2005. An asterisk denotes results in thousands.

Table 7: Demographics of Cities with Black-White Elections

	Mean	SD	Mean	SD
Lg. Population	12.5	1.01	11.7	0.963
% with BA	0.250	0.097	0.237	0.110
% Poor	0.196	0.055	0.166	0.068
Lg. Med. Hsh. Income	10.4	0.201	10.5	0.269
% Same Home 95-00	0.502	0.057	0.487	0.076
Ethnic Homogeneity	0.425	0.094	0.463	0.129
% Hispanic	0.115	0.115	0.164	0.178
% Black	0.387	0.181	0.288	0.211
South	0.383	0.488	0.435	0.496
West	0.101	0.302	0.237	0.426
Northeast	0.161	0.369	0.105	0.306
Observations	149		354	

Note: This Table compares 2000 census demographics for cities that are home to the 149 black-white mayoral contests (left) with the full sampling frame of cities from which they were drawn (right).

Table 8: OLS Model of Police Share Black

	Estimate	Std. Error
Intercept	-5.67	18.7
Black Winner	3.80	1.61
% Black Can. Wins - .5	-14.8	24.8
(% Black Can. Wins $-.5)^2$	-69.4	139.
(% Black Can. Wins $-.5)^3$	-94.1	217.
December FY	-0.033	0.661
Lg. Pop. 90	0.267	0.291
% Non-Hispanic Black 90	-1.04	2.22
Lg. Med. Hsh. Income 90	0.123	1.81
Intergov't Revenue per Cap.	0.650	0.462
Democratic Winner	0.259	0.718
Black Winner x (% Black Can. Wins - .5)	-55.3	41.2
Black Winner x (% Black Can. Wins - $.5)^2$	555.	284.
Black Winner x (% Black Can. Wins - $.5)^3$	-787.	562.

Note: This table presents a fitted OLS model predicting the share of police officers who are black for the 130 cities for which data are available. The share of the vote won by the black candidate has been rescaled by subtracting 0.5 to allow the "Black Winner" coefficient to be directly interpretable.

Table 9: Estimated Impact by Policy Area

	Impact	SD	2.5th	97.5th
Property Taxes/Taxes	-0.047	0.035	-0.116	0.021
Police Pay	-0.036	0.019	-0.072	0.001
Share, Police Employees	-0.029	0.015	-0.058	-0.000
Housing	-0.018	0.016	-0.049	0.012
Fire Employees	-0.007	0.015	-0.037	0.023
Police	-0.005	0.012	-0.028	0.017
Administration	-0.005	0.007	-0.018	0.009
Housing Employees	-0.004	0.010	-0.024	0.015
Parks	-0.004	0.010	-0.024	0.016
Log Total Payroll	-0.003	0.018	-0.038	0.031
Road Employees	-0.001	0.014	-0.028	0.026
Total Taxes per Capita	0.000	0.000	-0.000	0.001
Natural Resources	0.001	0.003	-0.005	0.006
Sanitation Employees	0.001	0.015	-0.028	0.030
Employees per Cap.	0.002	0.005	-0.009	0.013
Libraries	0.002	0.005	-0.008	0.012
Fire	0.002	0.007	-0.011	0.016
Log Total Employees	0.003	0.015	-0.027	0.032
Library Employees	0.004	0.013	-0.021	0.029
Inspection	0.004	0.005	-0.006	0.014
Log Population	0.005	0.007	-0.009	0.020
Roads	0.007	0.018	-0.029	0.042
Log Tot. Taxes	0.007	0.012	-0.016	0.030
Sanitation	0.009	0.008	-0.007	0.024
Health	0.009	0.007	-0.004	0.022
Taxes/Revenues	0.020	0.037	-0.053	0.092
Police Pct Black	0.038	0.016	0.007	0.070
Sales Taxes/Taxes	0.042	0.032	-0.022	0.105

Note: This table presents the estimated impacts and 95% confidence intervals for each dependent variable analysed using the regression discontinuity specification. Some variables have been rescaled by factors of 10.