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RESEARCH NOTE

Longevity returns to political office

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Abstract

Does political office cause worse or better longevity prospects? Two perspectives in the literature offer contradicting answers. First, increased income, social status, and political connections obtained through holding office can increase longevity. Second, increased stress and working hours associated with holding office can have detrimental effects on longevity. To provide causal evidence, we exploit a regression discontinuity design with unique data on the longevity of candidates for US gubernatorial office. The results show that politicians winning a close election live 5–10 years longer than candidates who lose.

Keywords: Comparative politics: political behavior; comparative politics: political institutions; elections and campaigns; experimental research; political psychology

Holding political office entails stress, long working hours, and an irregular work schedule. However, the demanding life in office also comes with a series of perks such as the significant financial return to political office (Eggers and Hainmueller, 2009; Fisman *et al.*, 2014; Palmer and Schneer, 2016; Fahey, 2018). While studies have emphasized the costs and benefits of holding political office, there is one key return to office that has so far received little attention in the literature: politicians' health. Specifically, among the few studies on the topic, the evidence is pointing towards different conclusions on the impact of political office on longevity, namely a negative effect (Olenski *et al.*, 2015), no effect (Shavelle *et al.*, 2008; Olshansky, 2011), and a positive effect (Dennis and Crayford, 2015).

The limited attention to this question can partially be explained by the methodological challenges in testing such causal dynamics, including factors related to reverse causation and confounders. First, healthy politicians might be more likely to win elections, e.g. if voters are more likely to reward attractive politicians (Berggren *et al.*, 2017). Second, economic resources might explain both election wins and health, resulting in a spurious relationship. Both of these challenges put serious limitations to our knowledge of the health implications of winning political office. Accordingly, the correlation between holding political office and longevity can be biased for multiple reasons leading to different effects in the literature. In order to accommodate these challenges, we rely on a regression discontinuity design and collect a unique dataset on the longevity of all now-deceased candidates from US gubernatorial elections from 1945 to 2012. This large dataset allows us to estimate the causal effect of holding office on candidates' life expectancy taking reverse causation and confounders into account.

The results presented here are in line with a positive effect of holding office on longevity. Politicians gaining office live 5–10 years longer compared to politicians not gaining office. These results are substantial and hold across a series of specifications and does not in any models provide indication of a negative effect. In sum, the findings help adjudicate on the implications of

gaining office for health outcomes. In the next section, we briefly introduce the past research on the topic before we introduce our empirical approach and estimate the return of holding office on longevity.

1. Longevity returns to political office

The adverse effects of holding political office on life expectancy have been a frequent subject of debate in epidemiology and demography (Olshansky, 2011; Goldbaum, 2012), with some studies suggesting substantial negative effects on longevity. Olenski *et al.* (2015), for example, compare the longevity of elected leaders in 17 Western countries with runner ups who never served in office and find that elected candidates lived on average 4 fewer years after their last election compared to candidates who never served. Link *et al.* (2013) find that US presidents and vice presidents lived on average 5 years shorter than candidates for who did not serve in these offices. Similarly, Jones and Jones (2006) shows that US presidents are more likely than the average American to suffer from stress-related diseases.

These findings underscore that public office might lead to accelerated aging and reduced longevity due to the inherent pressure and stress of holding political leadership positions. Stress has direct psychological and biochemical effects, but has also been found to affect health outcomes indirectly by increasing the likelihood that an individual engages in harmful health behaviors (Schneiderman *et al.*, 2005). This resonates with the fact that political life entails stress, long working hours and an irregular work schedule which are associated with negative health outcomes. Accordingly, this is used as an explanation for why politicians staying longer in office, on average, should live shorter lives.

However, this perspective is contested by evidence showing that parliamentarians have lower mortality rates than the general population (Dennis and Crayford, 2015). Elected politicians experience an increase in status and lifetime earnings, both of which have been found to be positively related to health outcomes (Marmot, 2004; Cutler *et al.*, 2006; Cristia, 2009; Chetty *et al.*, 2016; Deaton, 2016). Chetty *et al.* (2016) use administrative population tax records in the US to show that higher income is associated with greater longevity. Importantly, holding political office has been shown to entail sizable pecuniary benefits. Palmer and Schneer (2016), for example, find that winning a senate seat or a gubernatorial election increases the likelihood of serving on a board of directors with approximately 30 percentage points. In the UK, Eggers and Hainmueller (2009) find that winning a parliamentary seat in Britain almost doubled the wealth for Conservative MPs.

In addition, in sociology and social epidemiology, social status has been found to be associated with lower mortality and better health outcomes (Marmot, 2004; Wilkinson, 2005). Rablen and Oswald (2008), for example, compare scientists who won the Nobel prize in Chemistry and Physics to scientists who were nominated, finding a causal effect of winning a Nobel prize on longevity. Liu *et al.* (2017) estimate the effect among scientists of being elected to the Chinese Academy of Science and Engineering and find that becoming an academician increases longevity with approximately 1.2 years.

The different studies suggest distinct and contradicting ways through which political office can affect longevity. The epidemiological literature suggests that political life entails stress, long working hours, and sleep deprivation which are associated with negative life expectancy. However, elected politicians also experience increases in status, wealth, power, and beneficial connections which all could lead to health advantages. Which of these effects dominate is ultimately an empirical question and the current evidence on holding political office on longevity is inconclusive.

Politicians often have better socioeconomic backgrounds than the average citizen, and for this reason, comparing elected politicians to the general population risks conflating the effect of holding office with unobserved factors such as wealth or education (Goldbaum, 2012). From the point of establishing a causal relationship between political office and longevity, the observational

approaches used in the current studies are inadequate for several reasons. Comparing politicians to the general population is problematic not just because politicians are more affluent than the average citizen (Carnes, 2012, 2013), but also because unhealthy citizens might decide not to run for office if they fear that political life will affect their health negatively. Even observational approaches that compare candidates who compete for the same position risk selection bias whenever candidates' health profile at the time of the election correlates with attributes that affect citizens' voting behavior. In the next sections, we outline our data collection and describe our strategy for estimating the causal effects of political office on longevity.

2. Method and data

To shed further light on the conflicting empirical evidence in the literature, we examine the effect of holding gubernatorial office on longevity in the US. In addition to being the ceremonial head of state, governors are central figures in the political landscape with important budgeting, planning, and managerial powers and responsibilities. Governors nominate and appoint local judges, enact state legislation, prepare state budgets, and are responsible in many symbolic roles (Sabato, 1978; Ransone, 1982).

We collect data on all gubernatorial elections from the CQ Voting and Elections Collection (Press, 2010). These data contain names and votes for all candidates running in a gubernatorial election from 1945 to 2012. We limit attention to the two candidates who received the highest number of votes. We use these data to generate an assignment variable which is defined as the fraction of all votes received by the winning candidate less the vote share of the closest losing candidate.

Next, we link this data to information on birth and death dates. We collected information on birth and death dates of all gubernatorial candidates running for office from 1945 to 2012 from a variety of sources. Birth and death dates for winning candidates are available in Glashan (1979) and Mullaney and Glashan (1988). For losing candidates, we use information gathered from several online sources, including Wikipedia, The Political Graveyard (a website that contains comprehensive biographies of US politicians), Find a Grave (a website that allows family members to upload pictures of tombstones and biographical information about the deceased) and Our Campaigns (a crowdsourced website that documents the political careers of over 350,000 people who have held or sought political office, obituaries in various national and local newspapers). We use the death date to calculate the outcome variable, namely how many days each candidate lives after the election.

From these sources, we are able to identify biographical information for approximately 97 percent of all candidates who ran for gubernatorial office from 1945–2012. In our data, 772 are still alive as of September 2019. When these observations are removed we are left with a total of 1092 candidate-year observations and 676 unique elections. Of these candidates, 557 are Democrats, 527 are Republicans, and eight are from a third party. A majority of the candidates in our sample ran for office one time (67%), 22% ran for office twice and 11% ran for office between three and six times. We further obtained the life expectancy for an average US citizen with the same age as the candidate at the time of the election. These data are available from the Human Mortality Database (http://www.mortality.org).

In a few cases, we are only able to identify the year of birth or death, not the exact date of the event. For these candidates, we impute the date as July 1 of the given year. This introduces some degree of nonsystematic measurement error which should bias our parameter estimates toward zero. The results are robust when observations with incomplete information are dropped from the analysis.

Last, we merge our candidate-level dataset with additional information at the state level. This includes annual (real) per capita income, population, and total state expenditure, available from Jordan and Grossmann (2016), as well as the region of the state as defined by the US Census

Bureau, and information on whether the state has gubernatorial term limits. Summary statistics are available in the online appendix.

We estimate the causal effect of winning the gubernatorial election using a sharp regression discontinuity design based on close elections. In doing this, we compare the longevity of candidates who narrowly win to candidates who narrowly lose the election. The underlying identification assumption is that candidates within this narrow margin are similar across all other characteristics that might affect longevity. Because election outcomes within this narrow bandwidth can be considered essentially random, the setup allows us to use candidates who narrowly lose the election as a counterfactual for the longevity of candidates who narrowly win—had they instead lost the election.

We estimate the local average treatment effect of winning office nonparametrically using local polynomial inference. We rely on linear regression in the main specifications, but the online appendix shows robustness of our results to using a second order polynomial (Gelman and Imbens, 2014). In all models, we use the optimal bandwidth, bias correction, and robust standard errors initially proposed by Calonico *et al.* (2014) and refined in Calonico *et al.* (2016).

We used the auxiliary information from our covariates in a series of placebo regressions to assess the validity of our regression discontinuity design. The idea is to test whether there are systematic differences in baseline covariates on either side of the cutoff. Any discontinuity would indicate that narrow winners were systematically different from narrow losers before the election, which would violate the validity of our design (Lee and Lemieux, 2010). We perform the placebo test using the estimation strategy on the baseline covariates. The results, available in the online appendix, show no systematic baseline differences between narrow winners and losers. Accordingly, we are confident that any significant differences in longevity cannot be attributed to the covariate differences.

3. Results

Table 1 reports the main results. Column one presents the raw estimate without control variables. In the next three columns we include various covariates. Including these controls may generate more precise estimates of the causal effect (Lee and Lemieux, 2010; Calonico *et al.*, 2016). In column two, we add state level controls. These include indicators for the Census region of the state, and information on whether the state had gubernatorial term limits at the time of the election. Column three includes controls for candidate characteristics such as gender, life expectancy at the time of the election, and political party. Column four includes all controls simultaneously.

Across all models, the effect of winning the gubernatorial election on the longevity of the candidate is positive and statistically significant. According to the estimates, winning a gubernatorial election leads to an increase in longevity around 2000 and 3000 days conditional upon the specific model. This effect is substantively important and represents an increase in longevity of approximately 20 percent for an average candidate for gubernatorial office.

Figure 1 presents the main findings graphically (based on a model without controls). Observations within the optimal bandwidth and the associated first degree polynomial are displayed. Each point represents the average days a candidate is alive within each bin, selected using the mimicking variance number of evenly spaced bins described in Calonico *et al.* (2015). A jump in the longevity of candidates across the cutoff is directly evident in the plot.

In the online appendix, we report heterogeneous results based on partisanship. If elected politicians live longer due to higher wealth, then we might observe a larger effect for Republicans than Democrats (Eggers and Hainmueller, 2009; Palmer and Schneer, 2015, 2016). The evidence here is inconclusive. While we do find evidence that the point estimates are larger for Republicans than Democrats, the difference between these estimates is not statistically significant.

Next, it is standard to test for discontinuity in the density. In our setting, where losers and winners are both included, the only plausible reason for a discontinuity in the density would

Table 1. The causal effect of election win on longevity, main results.

	Days alive after election			
	(1)	(2)	(3)	(4)
Election win	3110.78***	3170.44***	2095.64***	2109.83***
	(975.44)	(987.47)	(787.74)	(783.58)
Observations	1092	1092	1092	1092
Effective observations	477	461	518	514
Bandwidth	9.54	9.38	10.33	10.26
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Regression discontinuity results. We use Calonico *et al.* (2016) optimal bandwidth and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico *et al.* (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election, gender, and political party. ***$p < 0.01$, **$p < 0.05$, *$p < 0.1$.

be a difference in the probability of locating the date of death. We are able to obtain birth and death dates for 97 percent of all gubernatorial elections and while the assumption often holds in electoral settings (Eggers *et al.*, 2015), it could still be that we are more likely to be able to detect a candidate's birth and death date if they narrowly win the election. Due to this concern, we test for non-random sorting around the cutoff using the robust approach of Cattaneo *et al.* (2016).[1] Reassuringly, the test detects no evidence of sorting around the cutoff (p=0.56).

In the online appendix, we present a series of additional robustness checks. First, we investigate the robustness of the estimated effect to different bandwidths. The results remain positive and statistically significant for a wide range of bandwidths. Second, we further investigate the validity of the identifying assumption, namely that election outcomes are as good as random within the bandwidth, by testing for treatment effects at alternative cutoffs. Reassuringly, we find no evidence of significant treatment effects at these synthetic cutoffs. Third, we investigate the robustness of the results to various sample restrictions. Specifically, we test the validity of our estimates when we censor the outcome variable at the 2nd and the 98th percentile. This seems to only increase the point estimates, although not to a point where they are statistically different from our main estimates. Last, we also limit the sample to first time candidates. This reduces the sample size, but the estimates are similar to those reported above.

4. Concluding remarks

There is conflicting evidence in the literature linking political office to longevity. Building on a novel dataset with birth and death dates for close to all deceased gubernatorial candidates in elections in the period from 1945 to 2012, we provide evidence that holding political office has a positive causal effect on the longevity of the candidate. The identification strategy relies on a regression discontinuity design, and the parameter estimates imply that holding gubernatorial office increases longevity with 5–10 years. Our paper is the first to document a positive causal effect on longevity of holding political office and these results are robust to a wide variety of robustness checks and sample restrictions.

A common limitation of regression discontinuity designs that focus on close elections is external validity. Our results are by definition 'local', and they do not directly travel to other types of political office, such as the US presidency. One could argue that the job of president is inherently more stressful than that of US governor. On the other hand, the benefits in terms of status and lifetime income are arguably also larger. However, most types of political office are much more likely to resemble the job of governor than that of US president. For this reason, while we expect

[1]Results are similar when we use the test proposed in McCrary (2008).

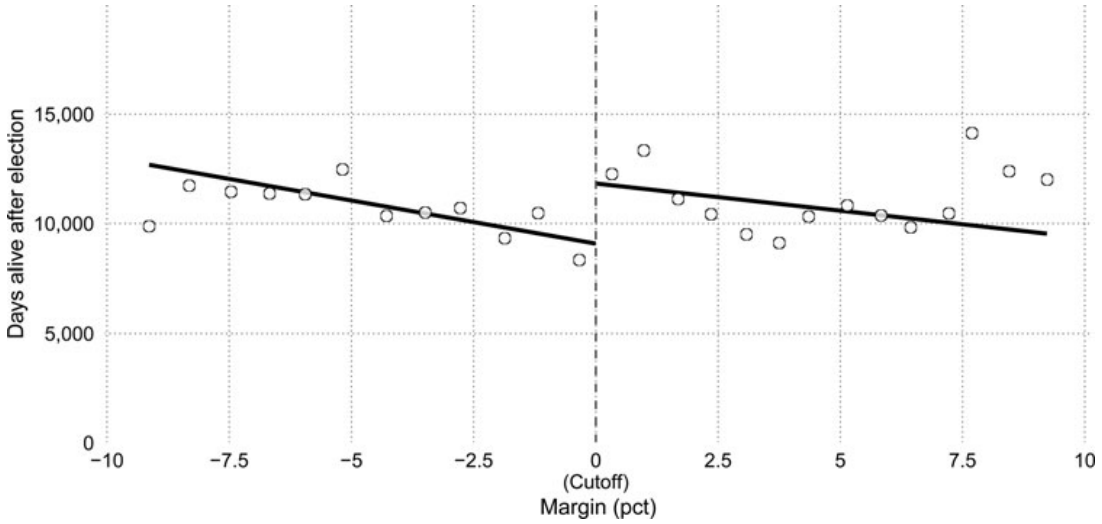

Figure 1. The causal effect of winning on longevity.

the health effects of political office to vary based on institutional settings, we consider it likely that our results have relevance to many other types of political office such as that of senator and parliamentarian. In addition, the candidates in the study are not necessarily representative of other candidates running in less narrow elections and one should be cautious with making strong inferences to all winning US governors.

As both winning and losing politicians in our sample on average live longer than their life expectancy, we can argue that the effect of holding office is most likely beneficial for office holders rather than causing a premature death for the losing candidates. That being said, additional fine-grained data on socio-economic characteristics of the politicians will enable better counterfactual inferences for the exact difference between actual longevity and life expectancy.

Last, our findings highlight the importance of considering effects of political office beyond the directly monetary advantages, and we consider this a fruitful avenue for future research.

Supplementary material. To view supplementary material for this article, please visit https://doi.org/10.1017/psrm.2019.63

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Supplementary materials: "Longevity Returns to Political Office"

November 17, 2019

1 Summary statistics

Table 1 contains summary statistics for all variables. From the table, we see that the candidates lived on average 10,309 days ($\sim$ 28 years) after the election. This is approximately 2.3 years longer than the life expectancy for the average American of the same age as the candidate at the time of the election. This supports the notion that candidates for political office are systematically different from the average citizen (Goldbaum, 2012), for example because they are richer or better educated, or because unhealthy citizens are less likely to run for office. We also see that there is considerable variation in the outcome variable, with one candidate having lived only 46 days after the election (i.e. this candidate died in office), whereas another went on to live 22,067 days ($\sim$ 60 years). Below, we show that the results are robust to the removal of such outliers. From the table we also see that the average candidate is slightly more than 52 years at the time of the election, that almost all of the candidates are male, and that we have almost complete balance in terms of party and geographic location of the candidates.

Table 1: Summary statistics

Statistic	N	Mean	St. Dev.	Min	Pctl(25)	Pctl(75)	Max
Candidate:							
Days alive after election	1,092	10,309.56	4,885.95	46	6,418.8	14,123.8	22,067
Days alive before election (imputed)	1,092	18,892.42	3,181.47	11,450	16,561	20,995.8	30,633
Days alive before election (not imputed)	1,066	18,899.55	3,179.42	11,775.00	16,550.50	21,003.25	30,633.00
Life expectancy	1,092	9,192.08	2,384.77	1,850.55	7,508.05	10,845.97	16,366.60
Female	1,092	0.02	0.14	0	0	0	1
Democrat	1,092	0.51	0.50	0	0	1	1
Republican	1,092	0.48	0.50	0	0	1	1
State:							
Per capita income	1,072	0.55	0.84	0.03	0.11	0.57	8.75
Population	1,092	3,783,555.00	4,231,732.00	145,000	900,000	4,536,000	27,102,238
Total expenditure	1,090	2,744,112.00	7,158,777.00	9,618.00	210,726.00	1,825,083.00	79,121,781.00
Census region: South	1,092	0.27	0.44	0	0	1	1
Census region: West	1,092	0.25	0.43	0	0	0	1
Census region: Northeast	1,092	0.28	0.45	0	0	1	1
Census region: Midwest	1,092	0.21	0.41	0	0	0	1

2 Placebo regressions

Table 2: Placebo regressions

	Estimate	Std. Error	Z value	P value
Candidate:				
Democrat	0.057	0.100	0.568	0.570
Republican	-0.051	0.098	-0.518	0.605
Female	0.002	0.017	0.092	0.927
Days alive before election (imputed)	-262.985	536.326	-0.490	0.624
Days alive before election (not imputed)	-300.820	541.487	-0.556	0.579
Life expectancy	332.041	404.349	0.821	0.412
State:				
Per capita income	-0.079	0.181	-0.438	0.662
Population	287,278.000	717,470.100	0.400	0.689
Total expenditure	918,591.700	1,131,286.000	0.812	0.417
Census region: South (dummy)	0.044	0.064	0.696	0.487
Census region: West (dummy)	-0.023	0.086	-0.271	0.786
Census region: Northeast (dummy)	-0.022	0.075	-0.291	0.771
Census region: Midwest (dummy)	-0.010	0.074	-0.142	0.887

3 Robustness of main results

3.1 Removing candidates with incomplete information

For a few candidates, we are only able to identify the year of birth or death, not the exact date of the event. In order to maximize coverage and statistical power, we impute the exact date of birth or death for these candidates as July 1 of the given year in the main analysis. Table 3 shows the results when these cases are removed. As can be seen, the estimated effects are similar to those reported in the main analysis.

Table 3: Main results without imputed cases

	Days alive after election			
	(1)	(2)	(3)	(4)
Election win	2825.56***	2880.58***	1964.87**	1986.74**
	(976.70)	(988.27)	(790.14)	(788.40)
Observations	1074	1074	1074	1074
Effective observations	501	491	519	514
Bandwidth	10.21	10.03	10.66	10.55
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Main regression discontinuity results when candidates for which the exact date of birth or death was imputed. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election, gender, and political party. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

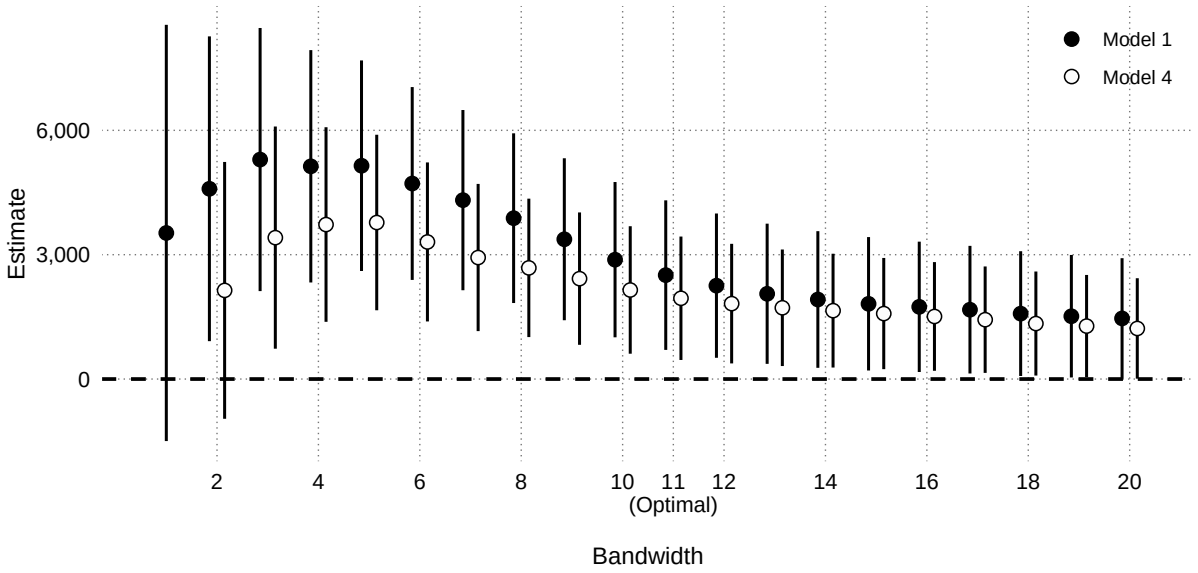
3.2 Different bandwidths

As picking an optimal bandwidth involves a bias-variance tradeoff, for small bandwidths the as good as random assumption is most likely to hold, leading to low bias. However, the effect can only be estimated on few observations, leading to high variance. We investigate the robustness of the choice of bandwidth by reestimating the raw treatment effect without controls, and the treatment effect when all controls are included (Model 4), under different bandwidths.[1] We again

[1]We are incapable of estimating the full model with controls due to lack of variation when the bandwidth is set at one percent.

apply bias correction and calculate robust standard errors. Results are presented graphically in Figure 1.

Figure 1: Robustness: Main result under different bandwidths



3.3 Removing outliers

There is substantial variation in the outcome variable. We make sure that our main results are not driven by a few number of outlier observations by censoring the number of days a candidate is measured to be alive after the election at the 2nd and 98th percentile of its distribution. Table 4 presents results of the RD analysis on this censored dataset. Reassuringly, our results only become stronger when estimated on the censored data, showing that our results are not driven by outlier observations.

3.4 Using only elections with open seats

The main analysis estimates the effect on the entire sample of candidates within the optimal bandwidth. In this sample, the same candidates can appear more than once, for example if they

Table 4: Main results without outliers

	Days alive after election			
	(1)	(2)	(3)	(4)
Election win	3388.61***	3465.03***	2388.28***	2411.46***
	(963.83)	(977.99)	(795.40)	(796.29)
Observations	1048	1048	1048	1048
Effective observations	445	442	482	476
Bandwidth	9.24	9.03	9.99	9.86
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Main regression discontinuity results when the outcome variable (days alive after election) is censored at the 2nd and 98th percentile. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election, gender, and political party. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

run as incumbents. We assess the validity of our results when we use only the sample of candidates from elections for open seats. This guarantees that none of the candidates appear more than once in the dataset, and that the sample of candidates include only candidates who have not been elected governor before. Table 5 reports the results when estimated on this restricted dataset. As can be seen from the table, making this sample restriction does not alter the results substantially although there is less statistical power. The table shows that the results also remain significant when we censor the data at the 2nd and 98th percentile of the outcome variable.

3.5 Main results when using a second order polynomial

The main analysis estimates the causal effect of holding gubernatorial office using local linear regression. In Table 6, we show the robustness to this choice of estimator by using a second order polynomial instead. We refrain from using higher order polynomials as they have been shown to have poor properties (Gelman and Imbens, 2014). Reassuringly, our results only become stronger when estimated with a quadratic polynomial instead of local linear regression.

Table 5: Main results when looking only at elections for open seats

	Days alive after election			
	(1)	(2)	(3)	(4)
Full sample				
Election win	2324.24**	2320.50**	1760.24*	1823.68**
	(1129.86)	(1132.21)	(905.46)	(901.57)
Observations	765	765	765	765
Effective observations	388	388	444	442
Bandwidth	10.96	10.99	12.84	12.76
Removing outliers				
Election win	2972.69***	3048.43***	2438.18**	2466.60***
	(1112.83)	(1119.92)	(946.74)	(927.96)
Observations	731	731	731	731
Effective observations	360	350	372	369
Bandwidth	10.37	10.16	11.00	10.87
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Main regression discontinuity results when we restrict the sample to include only elections for open seats. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election, gender, and political party. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

Table 6: Main results when estimated using a second order polynomial

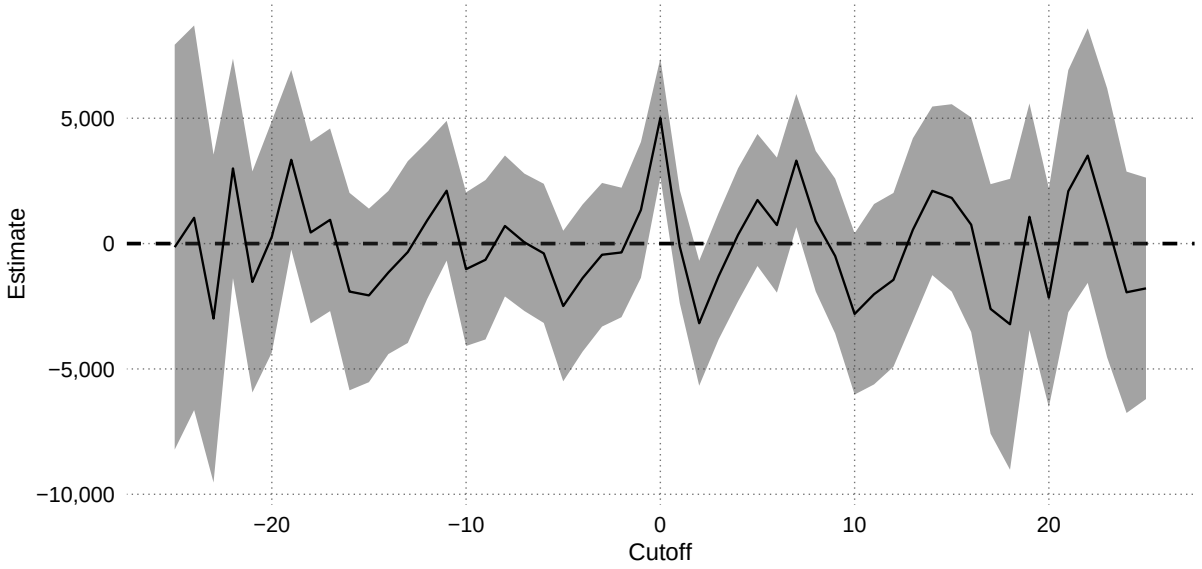
	Days alive after election			
	(1)	(2)	(3)	(4)
Election win	4090.02***	4085.41***	2552.30***	2547.09***
	(1126.77)	(1135.19)	(886.57)	(880.30)
Observations	1092	1092	1092	1092
Effective observations	654	653	726	726
Bandwidth	13.95	13.91	16.00	16.02
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Main regression discontinuity results when estimated using a second order polynomial. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election, gender, and political party. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

3.6 Alternative cutoffs

As an additional robustness check, we estimate the treatment effect at different synthetic cutoff points. Results are presented in Figure 2. Since there should only be a true discontinuity at zero, we should not expect to detect effects at other cutoffs. Reassuringly, we do not find evidence of any effects at these synthetic cutoffs.

Figure 2: Main result at alternative cutoffs



3.7 Results on 1945-1969 sample

As candidates from recent elections are more likely to be alive, we estimate the treatment effect on the sample with elections in the period from 1945 to 1969. This sample consists mostly of deceased politicians. The results remain significant through the different models.

Table 7: The causal effect of election win on longevity, 1945-1969

	Days alive after election			
	(1)	(2)	(3)	(4)
Election win	2204.71**	2183.94**	1665.03**	1656.03**
	(1094.04)	(1091.10)	(840.79)	(822.64)
Observations	713	713	713	713
Effective observations	426	436	467	480
Bandwidth	13.65	13.86	15.19	15.74
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Regression discontinuity results. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election, and political party. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

3.8 Results with no missing candidate information

Some politicians are included in our sample despite missing data on the death date of the contestant. To ensure this have no implications for the findings, we estimated the models on the sample where all candidates, i.e. candidates running against each other, had available data on death date. Noteworthy, this does not affect the main finding that winning office has an positive impact on longevity.

Table 8: The causal effect of election win on longevity, no missing data

	Days alive after election			
	(1)	(2)	(3)	(4)
Election win	3754.46***	3736.18***	2217.38***	2130.41***
	(1072.46)	(1075.05)	(819.16)	(803.56)
Observations	832	832	832	832
Effective observations	378	378	472	494
Bandwidth	9.20	9.23	11.56	12.11
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Regression discontinuity results. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include gender, life expectancy at the time of the election, and political party. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

4 Party heterogeneity

Last, we reestimate the main effects separately for candidates belonging to the two major parties. Several studies indicate that conservative politicians have larger pecuniary gains from office (Eggers and Hainmueller, 2009; Palmer and Schneer, 2016, 2015), and the effect on longevity might therefore also be larger for Republicans due to the income-health gradient. Results are presented in Table 9. The table reports inconclusive evidence. The raw estimates are larger for Democratic candidates, but when we include controls, the estimates are larger for Republican candidates. When we include both predetermined state and candidate controls, the estimate for Republican candidates is 50 percent larger than that for Democratic candidates, but the difference between the two estimates is not statistically significant.

Table 9: Main results by party

	Days alive after election			
	(1)	(2)	(3)	(4)
Republican				
Election win	2590.11**	3090.45**	3077.52***	3161.49***
	(1270.85)	(1334.36)	(1129.11)	(1143.83)
Observations	527	527	527	527
Effective observations	289	256	247	228
Bandwidth	11.90	10.26	9.89	9.30
Democrat				
Election win	3231.94**	2942.18*	1753.16	1723.29
	(1599.06)	(1578.87)	(1217.85)	(1215.35)
Observations	557	557	557	557
Effective observations	228	228	263	263
Bandwidth	9.12	9.17	10.67	10.73
State controls	No	Yes	No	Yes
Candidate controls	No	No	Yes	Yes

Main regression discontinuity results by party. We use Calonico et al. (2016) optimal bandwith and triangular kernel weights in all columns. All models use local linear regression and include the bias correction and robust standard errors of Calonico et al. (2016). State controls add indicator variables for the Census region of the state, and an indicator variable for whether the state has gubernatorial term limits. Candidate controls include life expectancy at the time of the election and gender. $^{***}p < 0.01$, $^{**}p < 0.05$, $^{*}p < 0.1$.

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