The Effect of Executive Service on Life Expectancy: Evidence from US Governors

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March 7, 2016

Abstract

In this paper, I extend recent work on the health effects of serving in stressful executive positions to US governors. Specifically, I compare the post-election survival of winning and losing candidates, using data collected on birth and death dates of almost all candidates who received 40-70% of the popular vote in elections from 1789-1960. I find modest support for negative effects of service that are considerably smaller than what has been documented in previous studies. To explain this finding, I use the much larger sample size available for US governors to evaluate the assumption in previous work of an electoral advantage for healthy candidates. The evidence reveals the opposite pattern—shorter life expectancies for candidates who win by large margins.

*Preliminary and Incomplete. Please contact the author before citing. I would like to thank Ron Lee for his help with this project. Allen Gurdus, Megan Lindgren, Qingping Feng, and Tyler Riederer provided valuable research assistance.

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The effect of political service on the life expectancy of politicians has been the subject of academic research and popular speculation for decades. A series of recent papers has returned to the topic, focusing on politicians in stressful executive positions, and using the life expectancy of losing candidates to estimate counterfactuals. The conclusion of this research is that losing candidates outlive winning candidates by strikingly large margins, suggesting a deleterious effect of service on the life expectancy of those elected to executive office.

In this paper, I expand the scope of this research to the comparison of US governors and losing gubernatorial candidates. Existing work has largely considered the experience of US presidents, vice-presidents and other countries’ heads of state, resulting in small sample sizes that limit the exploration of robustness and heterogeneity. A primary contribution of this paper is the collection of biographical data on almost all—over 97%—gubernatorial candidates who achieve a vote share of at least 40%. This allows me to compare the survival of over 3200 winning and losing candidates, a sample over 10 times larger than previous work on US presidents, and many times larger than studies of other politicians in executive roles. Using this larger sample, I can exclude candidates far from the vote margin required for victory, who are unlikely to be comparable to candidates who narrowly win or lose.

I find that the evidence for US governors does not support large differences in life expectancy between winners and losers, such as those found in the previous literature. Specifically, governors serving from 1789-1960 survived one-third of a year less than losing gubernatorial candidates from this era; the difference in survival is not statistically significant. This estimate is less than one-tenth the size of most estimates for US presidents and other countries’ heads of state, and the relatively tight confidence intervals exclude effects larger than a third the size found for these other groups. Governors elected to longer terms have died one-half year earlier than losing candidates; however, this estimate is also not significant.

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1 Table 1 summarizes the research dating back to 1946.
2 See Link et al. (2013), Borgschulte (2014), and Olenski et al. (2015).
When the sample is weighted by the inverse of appearances in a gubernatorial election, so as to reflect a population of individuals rather than candidacies, the estimated difference rises to 0.86 years of shorter life for governors, which is marginally significantly different from zero. As the sample is expanded (in ongoing work) to include candidates receiving 30-40% of the vote, and candidates in post-1960 elections, it is unlikely the estimates will increase to the magnitudes found for other politicians in executive positions.

What explains the differences in estimates between governors and other heads of state? One natural explanation is the difference in requirements of the officeholders; in other words, there may be limited external validity in the study of the holders of the very highest executive offices. It is difficult to assess this story directly, however, supplemental evidence in the governor’s analysis can shed light on alternative explanations. Using losing candidates to estimate counterfactual life expectancy depends on the assumption of similar life expectancy for the two groups before the election. Here, this assumption can be examined in the data, as the much larger sample permits examination of survival patterns within the groups of winners and losers. Gubernatorial candidates who receive above 70% of the vote show markedly shorter post-election survival than winners or losers who receive lower vote totals, casting doubt on the assumption. Across the distribution of candidates, each 10% increase in vote share predicts almost half a year decrease in survival. By throwing out the candidates who are far from the threshold (in this case, above 70%, though results are qualitatively similar for a 60% threshold), I reduce the scope for the bias associated with comparisons of candidates with very different electoral outcomes.

The answer to this question has important consequences that reach far beyond the popular appeal of the topic. The health impacts of stress play a central role in modern theories of health disparities, and a large literature in medicine, public health and social science has attempted to link stress to health and lifespan.

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3 An electoral advantage for healthy candidates would lead to an underestimation of the effects of service. Evidence for this assumption is discussed in Borgschulte (2014).
In much of social science, the dominant theory of the socioeconomic gradient in life expectancy is one in which psycho-social stress arising from social hierarchies deteriorates the health of lower-ranked individuals. As pointed out by Borgschulte (2014) and Link et al. (2013), a finding of shorter life for presidents and other heads of state complicates this theory, as they sit atop a large hierarchy, but may suffer direct, negative health effects of stress. Broader causal evidence for or against the rank-lifespan theory has been lacking, with the notable exception of Anderson and Marmot (2012), which finds a beneficial effect of promotion among Whitehall civil servants. The policy consequences of these theories are far-reaching: under the rank-lifespan theory, efforts to improve reduce inequality in life expectancy should be less focused on poverty, access to health care or other inputs into the health production function, and instead, focus directly on reducing inequality.

Setting aside broader health disparities, the life expectancy of executives has more immediate implications for the elite’s income, labor supply and other behaviors. If there are large health losses experienced by executives and others in key players in networks and industries, economic theory suggests they should receive higher pay as a compensating differentials for the lost health capital. As pointed out by Yen and Benham (1986) and Bertrand and Mullainathan (2003), executives may use autonomy to live a “quiet life,” avoiding these difficult decisions and stress. If negative health effects exist, heterogeneity in discount rates and preferences may induce selection into high-stress position. Thus, the question at hand speaks to deeper issues about the costs of leadership and stress, potential sources of income inequality, and the health effects of work.

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4 This theory is closely associated with the Whitehall study; see Marmot et al. (1991), Marmot (2004) and Cutler et al. (2006) for discussion.
1 Background

1.1 Previous Literature on Life Expectancy of Political Candidates

The first article formalizing the study of the life expectancy of politicians appeared in Metropolitan Statistical Bulletin in 1946. The Bulletin continued this line of research for the next 4 decades, beginning a 1976 article on the longevity of US presidents:

This year, as is usual in an election year, there has been renewed interest in the question of the effect on longevity of the burdens of office in what has been described as the world’s most demanding job — President of the United States.

Here, I discuss the literature on politicians who served as president, governor or head of government. The methods and conclusions of this research are summarized in Tables 1a and 1b.

Early articles in this area, written between 1946 and 1980 and summarized in Table 1a, generally compared presidents or governors to historical life tables. In other words, adjustment was made for the expected survival of the candidate for their cohort of birth and age at election. This method often found that presidents experienced shorter lives than expected. The first mention of the use of losing candidates as the counterfactual appears in a 1973 Perspectives in Biology and Medicine letter to the editor written by economist, journalist and author Nathaniel Weyl. This was followed by several other comparisons of presidents (and sometimes vice-presidents, too) to unsuccessful candidates. This line of work concluded that losing candidates outlived presidents, except in the case of the 1980 MetLife paper, which first adjusted for expected survival using a life table. Standard errors or confidence intervals are not reported in any of these papers.

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5 I should note that pre-1980 articles were somewhat difficult to uncover. Additional papers may exist, especially in these earlier years.

6 In general, it is unclear exactly which life tables were used in most of the papers. Presumably, the MetLife papers use tables maintained by the company for actuarial purposes.
More recently, the literature on the longevity of political executives has taken a turn through the pages of the *Journal of the American Medical Association*, *American Sociological Review*, and *British Medical Journal*; these papers are summarized in Table 1b. Shavelle et al. (2008) and Olshansky (2011) update the previous strategy of the MetLife Bulletin, using historical lifetables to compare the longevity of US presidents to other men of their age and cohorts. Olshansky (2011) finds that deceased presidents have survived slightly fewer years than expected; however, all surviving presidents have exceeded expected survival. On the basis of this evidence, he concludes that presidential service does not reduce life expectancy. Borgschulte (2014) points out that presidents are highly selected, and the comparison to the general population ignores many factors which would predict a longer life. Borgschulte uses a counterfactual of losing presidential candidates, and find that presidents suffer a lost year of life for each year of service, a difference which is statistically significant in most specifications. Link et al. (2013) performs a similar analysis, combining presidents and vice-presidents in their analysis of deaths from natural causes, finding that losing candidates exhibit lower mortality risk than successful candidates. Most recently, Olenski et al. (2015) compares the longevity of heads of state to losing electoral candidates, finding similar, large losses to executive service. In sum, recent work using unsuccessful candidates to estimate counterfactuals has found negative and significant effects associated with service, with most estimates in the range of 1 year of life lost for each year of service.

The study of the health effects of executive service is closely related to a broader set of papers documenting the life expectancy of other groups of prominent people. This literature is discussed in Borgschulte (2014) and Link et al. (2013). Interested readers are referred to those papers.

### 1.2 Counterfactual Estimation and Empirical Strategy

The variety of methods used in the previous literature calls for a careful discussion of counterfactuals before detailing the empirical strategy employed in this
paper. The primary problem in the identification of the causal effect of executive service on longevity is the estimation of the counterfactual — how long would the candidate have lived, absent election to office. The naive comparison of elected executives to members of the unelected population—as in the life tables method—combines the causal effect of service with the bias inherent in the non-random selection into candidacy. As discussed by a number of papers in this literature, the natural assumption is that elected executives are healthier than the general population, given the robust findings of a large socio-economic gradient in health and mortality for the last several hundred years. We can “solve” this problem (or at least, greatly reduce the bias) by estimating counterfactual life expectancy using a population of other privileged individuals drawn from the same time period and social standing as the politicians. With this in mind, previous research has focused on losing candidates as representative of the counterfactual population.

Despite the apparent improvement represented by the use of unsuccessful candidates to estimate the counterfactual, the comparison of winning and losing candidates may replace rather than resolve the selection problem. The selection question now becomes whether electoral success, conditional on nomination to the final round of balloting, is effectively unrelated to the life expectancy of the candidates. Borgschulte (2014) discusses this issue in terms of “class versus grit”: general election voters may prefer the candidate with some connection to the common man (grit), rather than the candidate with the highest social status (class). If this is the case, then the comparison of winners to losers is biased towards a negative effect of service. However, as healthier candidates possess many direct advantages in campaigning, and research has documented a preference for healthy leaders, previous work has proceeded with the assumption of an electoral bias for healthier candidates.

A specific variation of the class versus grit issue emerges when comparing incumbent or experienced candidates to electoral runners-up. If voters give sig-

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7This bias is likely to grow with age, as older candidates will be evaluated for predictors of shorter life expectancy in ways that younger candidates will not. This problem is discussed in Borgschulte (2014), and calls into question the use of life tables, even in a supplementary role.
nificant positive consideration to experience, then the weight placed on the candidate’s health may decline; experience may “crowd-out” health in the electorate’s preferences. This issue is particularly salient in Olenski et al. (2015), which includes only the final electoral victory of heads-of-state in the sample, effectively selecting a sample of politicians who are likely to have a non-longevity characteristic (experience) which may crowd out the electoral preference for health. One solution to this problem is the inclusion of controls for previous service. Controlling for previous service will be an imperfect solution if what is preferred by voters is not experience, but a willingness to sacrifice health and longevity in the process of service (i.e. voters prefer a certain “type” of experienced candidate). However, it is certainly preferable to control for previous experience, and dubious to remove from the sample all but the final appearance or victory of the successful candidates.

Behind these methodological issues lies a central obstacle: previous studies have suffered from small sample sizes, preventing the direct assessment of their assumptions and robustness to alternatives. Thus, the first contribution of this paper to the literature is the sample size to test various assumptions.

In this paper, I chart a clear path through these issues by defining a precise counterfactual, testing the assumptions embedded in this comparison, and considering heterogeneity in the effect. The analysis focuses on estimating the causal effect of winning election to the office of governor of the United States. The election is treated as the randomization device, and survival is measured from the date of the election. The effect should be thought of as the combined effects of all the consequences of electoral victory, including not only the direct effects of service on the health of the candidate (e.g. such as increased work and stress), but also the possibility of future elections, promotion to higher political office, increased prestige, etc. In the counterfactual, the candidate loses election, and experiences the combined effects of this treatment. Following Borgschulte (2014), I estimate

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8 This re-phrases the class versus grit issue to one of youth versus experience. Consider, for example, the quite ill FDR, who was re-elected in 1944 on the basis of his experience in office.
models of the form:

$$Survival_{it} = \beta_0 + \beta_1 I[Winner_{it}] + X_{it}B + \epsilon_{it}$$

In the primary specifications, I include all candidates who are “nearly elected,” or in other words, who receive a share of the vote close to the threshold that determines victory (in this draft the sample is restricted to candidates receiving 40-70% of the popular vote, discussed below). Thus, the sample is composed of candidates, rather than individuals, many of whom reappear several times. Multiple appearances of the same individuals creates a dependence in outcomes that can be accommodated through the use of clustered standard errors. The model also includes controls for variables defined before the election in $X_{it}$: age at election, political party, and previous terms of service.

This model delivers a parsimonious specification with an easily-interpreted linear effect. The coefficient $\beta$ represents the average difference in survival between winners and losers, conditional on the covariates. The units are years, so a coefficient of -1 implies that governors die one year earlier than a losing candidate. This can be interpreted as the causal effect of election to the office of US governor, under the assumption that the narrow runners-up are a good counterfactual for the experience of the governor, had they lost the election. An alternative, frequently adopted specification is the Cox-proportional hazards model. As expected, the results are qualitatively similar when using this specification.

1.3 Data

Data on election results and the lives of US governors comes from Glashan (1979) for candidates in elections from 1789-1960. Election data from later years was

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9 As a robustness check, candidates can be weighted by the number of appearances in the sample. This robustness check was suggested by Angus Deaton in Borgschulte (2014).

10 In this draft, the party variable takes 3 values, for Democrat, secondary party (usually Whig or Republican) and third party (such as Populist or Progressive).

11 Available on request, to be reported in future drafts.
taken from Congressional Quarterly.

By far the most challenging sourcing was data on the birth and death dates of the losing candidates. Each of these candidates required an individual search, with a research assistant instructed to record the source of the (usually online) information. [Dubin (2010)] and [Dubin (2013)] provide first names. In the best cases, the losing candidate was already in the dataset as the winner of another election, in which case they could be either matched to their biographical information in Glashan, or found on the webpage of the National Governor’s Association. Similarly, candidates who served in the US Congress appear in the Biographical Directory of the United States Congress, accessible at bioguide.congress.gov. After these convenient sources, a more diverse set of online sources was used. Political Graveyard is a website that tracks the life and death of US politicians, and appears frequently in the sources. Find A Grave (findagrave.com) is a website which photographs tombstones, and allows family members to enter biographical information about their loved ones. Google Books contains many books that detail the history of individual states, such as “A History of Kentucky and Kentuckians,” written by E. Polk Johnson and published in 1912. In some cases, family genealogical records were required, accessible on the public portions of Ancestry.com and Genealogy.com. In many cases, newspaper or election records could supply crucial identifying information, such as the candidate’s wife’s name, an unusual middle name or a date of birth, which could then be used to locate and verify information regarding the candidate’s death. In a number of cases in early US history, only a year or year and month of birth is available. In these cases, the midpoint of the missing values is assumed.

Data collection for this project is on-going. This draft makes use of data for candidates who receive 40-70% of the popular vote in elections from 1789-1960. Over 97% of these candidates have birth and death dates in the dataset (and an additional 1% are “missing at random” as a result of data entry issues.) One concern

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12 The data and sources used in the paper will be posted on my website before publication. You can contact me if you have questions before then.
with this type of project is that candidates who cannot be located in the search have different life expectancies than those who are located. For this sample, the potential bias is quite small. The estimates are qualitatively similar when using a more narrow window (i.e., 40-60%), at the loss of some precision in the estimates. Data collection for candidates with 30-40% and above 70% is in-progress, and appears in the analysis in a secondary role.

Summary statistics on age at election and death for the primary sample are reported in Table 2. Winning and losing candidates are effectively balanced on age, with a difference of 0.18 years between the groups. A t-test of the difference finds this is not significant. Both winning and losing candidates survive about 22 years after the election, with the average age at death between 72 and 73 years of age. By comparison, US presidents stand for election, on average, at 56 years of age, and survive about 18 years when their death is due to natural causes. The sample size of 3254 candidates is more than an order of magnitude larger than the sample of 112 US presidential candidacies to date.

2 Evidence from US Governors and Electoral Runners-up

Table 3 reports the results of the main analysis. Four specifications are considered for the primary 1789-1960 sample. The first column reports the results from a regression of survival on a polynomial in age at election and year of election. As winners and losers are relatively balanced across these dimensions, it should not be a surprise that the point estimate of -0.34 is quite close to the difference in means in Table 2. In the second column, adding the full set of controls for party, state and previous terms of service as governor has no effect on the estimate. Previous terms have an effect approximately one-half the size of the main effect, and is not significant. The third column considers robustness to weighting the sample by the inverse of candidate appearances, to address any influence the multiple appearances problem has on the point estimate. Weighting increases the standard

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13 Future work will explore robustness to setting the survival of missing observations to the maximum observed in the dataset.
errors, and although the point estimate more than doubles, the equality of the two estimates cannot be rejected. The fourth specification interacts the indicator for winning the election with the length of the term to which the governor is elected. The evidence is suggestive of an increase in prestige or social standing that is offset by years of service as governor, although neither coefficient is significantly different from zero or the baseline specifications.

The final two columns of the table use the full set of controls with different sample periods. The fifth column reports an effect of -1.1 years for governors elected before 1900. The effect is significantly different from zero, though it is not of the magnitude of previous estimates in this literature. The final column of the table adds deceased governors from the 1960-2000 era. Data collection is still in-progress on this group of candidates. Since the distinction between still-living candidates and candidates with missing death dates is challenging to establish, this sample restriction seems like a safe compromise. The difference between winning and losing candidates is -0.46 years, in line with estimates from the earlier era.

Figure 1 plots the survival of candidates by vote share. The dashed lines identify the 40% and 70% limits of the sample. As can be seen, the data in the middle of the vote share distribution cluster show relatively little relationship with the vote share; however, the data on the edges of the distribution display a clear negative relationship with the vote share. In particular, candidates who receive above 70% of the vote have noticeably lower survival than candidates in the middle of the distribution. The solid line is fit to the entire distribution of data, and the slope of -4.6 implies that each 10% increase in vote share predicts a decrease in survival of almost half a year. Adding the full set of controls to this regression does not change the estimated slope, implying that the shorter life expectancy of candidates receiving high vote shares is not driven by previous service, state, or age. Coefficients in both of these regressions are significant different from zero. Democrats and third-party candidates show the strongest (negative) relationship between vote share and survival.

The reported results does not censor or adjust estimates for assassination, a rel-
atively rare outcome for governors. Only one governor, William Goebel, elected in 1899 in Kentucky and killed in January of 1900, has been assassinated while in office. In addition, two other elected governors (Huey Long, Jr., elected in 1928 in Louisiana and assassinated in 1935, and Frank Steunenberg, elected in 1896 and 1898 in Idaho and assassinated in 1905) were assassinated after leaving office. Results are nearly identical when dropping these observations from the sample. Results are reported for all causes of death, since the risk of violent death is far from absent for losing candidates, especially for Southerners who lost elections in the decade before the Civil War. Future work will attempt to collect data on the violent deaths of candidates, in order to narrow the focus to stress-related causes of death.

Several other analyses of heterogeneity have been conducted. If stress extracts a toll, it may have larger effects on older executives. This can be tested by splitting the sample by age of the candidate, which has no effect on the estimates. Heterogeneous effects by party are difficult to interpret, given the difference in vote share-survival gradient. Third-party candidates appear to suffer a significant loss of life years from election; however, this group also exhibits the strongest correlation between vote share and survival across the entire distribution. All in all, there is minimal evidence of heterogeneity along these easily observed dimensions.

Future analysis should consider effects across various regions of the country, interactions with party of the president, state legislature and previous governors, term limits, and national events, such as the Civil War.

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14 Goebel was shot a few days before inauguration and survived just long enough to be sworn into office.
15 One territorial governor (Charles Bent, appointed in 1846 in New Mexico) was also assassinated in office. Appointees are not included in the sample.
16 Results available upon request.
3 Conclusion

In this paper, I compare the post-election survival of winning and losing gubernatorial candidates. In contrast to the large estimates of 4 years or more of lost life found for presidents and other heads of state, the differences in post-election survival are small and usually statistically indistinguishable from zero. Employing the much larger dataset of governors allows tests of the underlying assumption of an electoral advantage for healthy candidates, and some exploration of heterogeneity. I find that the healthy candidates assumption does not seem to fit the data, as candidates who win the largest share of the vote have shorter life expectancies than candidates who narrowly win or lose. As well, what losses are implied by the results are concentrated among governors who served prior to 1900. These results suggest that previous findings of health effects of executive service have limited external validity, and may not be robust to research designs that would be used with larger sample sizes.

Future work on this project will extend the results to governors elected in the last 50 years and candidates who received 30-40% of the vote, as well as consider heterogeneity by characteristics of the state and candidate.

References


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<tr>
<th>Date</th>
<th>Authors, Journal</th>
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<th>Population</th>
<th>Comparison</th>
<th>Finding</th>
<th>Notes</th>
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<td>1946</td>
<td>(none), MetLife Stat Bull</td>
<td>Does the Presidency Shorten Life?</td>
<td>Presidents, 1789-1946</td>
<td>General Population, Age/Cohort</td>
<td>Shorter Life: +2.9 years in 1789-1850, -2.9 years in 1850-1900, -8 years in 1900-1946</td>
<td>Largest effects in 1900-1946</td>
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<td>1971</td>
<td>(none), MetLife Stat Bull</td>
<td>Longevity of US State Governors</td>
<td>State Governors, 1901-1968</td>
<td>General Population, Age/Cohort</td>
<td>No (or small) effect: Governors live 0.6 years longer, Effects of +0.5 in 1900-1930 and +0.7 years in 1900-1968</td>
<td>First example of use of losers as counterfactual</td>
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<td>1973</td>
<td>Weyl, Prsp in Biology and Medicine</td>
<td>Letter to the Editor: Life Expectancy of Modern US Presidents</td>
<td>Presidents, 1789-1972</td>
<td>General Population, Adjusted Runners-up Candidates</td>
<td>Shorter life: Losers outlive winners by 5.0 years (dropping assassinated)</td>
<td>First example of use of losers as counterfactual</td>
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<td>1977</td>
<td>Gibert, Il Politico</td>
<td>Death and the American President</td>
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<td>Vice-presidents and Losing candidates</td>
<td>Shorter Life</td>
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<td>1977</td>
<td>Riccards, Pres Studies Qtrly</td>
<td>The Presidency: In Sickness and in Health</td>
<td>Presidents, 1789-1976</td>
<td>General Population, Adjusted Runners-up Candidates</td>
<td>Shorter life: Standardized mortality ratio of 1.29 for all ages, Includes all unsuccessful candidates with at least 1 electoral vote</td>
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<td>1980</td>
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<td>Longevity of Presidents, Vice-Presidents and Unsuccessful Candidates for the Presidency</td>
<td>Presidents, 1789-1979</td>
<td>General Population, Adjusted Runners-up Candidates</td>
<td>Shorter life: Standardized mortality ratio of 1.18 for presidents, 1.1 for vice-presidents and 1.32 for losing candidates</td>
<td>Includes all unsuccessful candidates with at least 1 electoral vote</td>
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*a Study did not include margin of error in estimates
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<td>2008</td>
<td>Shavelle, J Insurance Med</td>
<td>Underwriting the Presidents</td>
<td>Presidents, 1789-2007</td>
<td>General Population, Age/Cohort Adjusted</td>
<td>No effect: Standardized mortality ratio of 1.07 (95% CI: 0.76, 1.47)</td>
<td>Significantly shorter life for presidents elected in 1845-1929 period</td>
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<td>2011</td>
<td>Olshansky, J of Amer Med Assoc</td>
<td>Aging of US Presidents</td>
<td>Presidents, 1789-2009</td>
<td>General Population, Age/Cohort Adjusted</td>
<td>No effect: Deceased presidents die 0.3 years earlier[1]</td>
<td>Notes that living presidents have all exceeded expected survival</td>
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<tr>
<td>2014</td>
<td>Borgschulte, Unpub Mimeo</td>
<td>The Effect of Presidential Service on Life Expectancy</td>
<td>Presidents, 1789-2012</td>
<td>Runner-up Candidates</td>
<td>Shorter life: Censored Tobit effect of -3.8 years (95%CI: -0.1, 7.5)</td>
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<td>2014</td>
<td>Link et al, Amer Socio Review</td>
<td>Can Honorific Awards Give Us Clues about the Connection between Socioeconomic Status and Mortality?</td>
<td>Pres and VPs, 1789-2013</td>
<td>Runner-up Candidates</td>
<td>Shorter life: Hazard model effect of 1.53 (p&lt;0.1) for natural causes, 1.66 for all causes (p&lt;0.05)</td>
<td>Combined sample of presidents and vice-presidents</td>
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<td>2015</td>
<td>Olenski et al, Brit Med Journal</td>
<td>Do heads of government age more quickly? Observational study comparing mortality between elected leaders and runners-up in national elections of 17 countries</td>
<td>Heads of gov’t, 1740-2015</td>
<td>Runner-up Candidates</td>
<td>Shorter life: Hazard model effect of 1.23 (95% confidence interval 1.00 to 1.52) for all; loss of 2.7 years of life (95% CI from 0.6 to 4.8) for deceased</td>
<td>Does not drop assassinated subjects; drops all but last election for winners</td>
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Table 2: Age at Election and Death

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<td>3254</td>
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<td>Winners</td>
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<td>9.11</td>
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<td>Losers</td>
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<td>9.55</td>
<td>1295</td>
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<td>0.18 (t-test p-value: 0.58)</td>
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<tr>
<td>Winners</td>
<td>72.26</td>
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<td>1959</td>
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<tr>
<td>Losers</td>
<td>72.57</td>
<td>11.38</td>
<td>1295</td>
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Notes: Deceased 1789-1960 gubernatorial candidates receiving 40-70% of the popular vote.
## Table 3: Effect of Election

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<tr>
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<th>(1)</th>
<th>(2)</th>
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<th>(4)</th>
<th>(5)</th>
<th>(6)</th>
</tr>
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<td><strong>Winner</strong></td>
<td>-0.341</td>
<td>-0.343</td>
<td>-0.858</td>
<td>0.903</td>
<td>-1.099</td>
<td>-0.456</td>
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<tr>
<td></td>
<td>(0.393)</td>
<td>(0.396)</td>
<td>(0.496)</td>
<td>(0.876)</td>
<td>(0.462)</td>
<td>(0.383)</td>
</tr>
<tr>
<td><strong>Win x TermLength</strong></td>
<td></td>
<td></td>
<td>-0.579</td>
<td></td>
<td></td>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>(0.367)</td>
<td></td>
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<tr>
<td><strong>Previous Terms</strong></td>
<td>-0.172</td>
<td>-0.069</td>
<td>0.005</td>
<td>-0.090</td>
<td>0.025</td>
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<tr>
<td></td>
<td>(0.150)</td>
<td>(0.282)</td>
<td>(0.184)</td>
<td>(0.133)</td>
<td>(0.194)</td>
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<td>1823</td>
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<td>50</td>
<td>50</td>
<td>50</td>
<td>45</td>
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Notes: Difference between winners and losers in years survived post-election. Standard errors in parentheses. Columns (1)-(4) report results for the candidates in 1789-1960 who received 40-70% of the popular vote; birth and death data is available for 97.2% of these candidates. Column (5) restricts the sample to pre-1900 elections. Column (6) expands the sample to deceased candidates from elections up to 2000; future versions of the paper will expand this to include still-living candidates (who will be treated as censored observations). (1) contains only polynomials for age at election and year of election; Columns (2) through (6) add controls for party, state and previous terms of service. Column (3) weights candidates by the inverse of the number of appearances as a candidate. Column (4) adds an interaction with length of term. See text for further details.
Figure 1: Vote Share and Survival

Notes: Deceased gubernatorial candidates from 1789-1960 elections. Dashed lines identify sample used in primary analysis. Solid line is fit to all data; slope is -4.6 (s.e.=1.4; linear control for age at election, s.e. clustered by state).