NBER WORKING PAPER SERIES

PRIVATE RETURNS TO PUBLIC OFFICE

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Working Paper 18095
http://www.nber.org/papers/w18095

NATIONAL BUREAU OF ECONOMIC RESEARCH
1050 Massachusetts Avenue
Cambridge, MA 02138
May 2012

We would like to thank Patrick Bolton, Ben Olken and seminar participants at the LSE-UCL development workshop, Columbia and Warwick University. In addition, Vikrant Vig would like to thank the RAMD research grant at the London Business School for their generous support. Kyle Matoba and Jane Zhao provided excellent research assistance. The views expressed herein are those of the authors and do not necessarily reflect the views of the National Bureau of Economic Research.

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NBER Working Paper No. 18095
May 2012
JEL No. D72,D73,D78

ABSTRACT

We study the wealth accumulation of Indian parliamentarians using public disclosures required of all candidates since 2003. Annual asset growth of winners is on average 3 to 6 percentage points higher than runners-up. By performing a within-constituency comparison where both runner-up and winner run in consecutive elections, and by looking at the subsample of very close elections, we rule out a range of alternative explanations for differential earnings of politicians and a relevant control group. The ``winner's premium'' comes from parliamentarians holding positions in the Council of Ministers, with asset returns 13 to 29 percentage points higher than non-winners. The benefit of winning is also concentrated among incumbents, because of low asset growth for incumbent non-winners.

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An online appendix is available at:
http://www.nber.org/data-appendix/w18095

1 Introduction

In economics and political science, there exists an enormous body of work — both theoretical and empirical — that examines the motivations of politicians. Models of politician behavior suggest many reasons for seeking office, including non-pecuniary benefits of public service, financial gains that accrue after leaving office, and both salary and non-salary earnings, legal or otherwise, while in office. Understanding politicians' motivations is crucial for modeling the pool of candidates - both the number and quality - that will seek office, and is also important for designing policies to constrain politician behavior while in office.

In this paper, we look at the understudied though widely discussed issue of non-salary earnings of public officeholders. We take advantage of data gathered via India's Right to Information (RTI) Act, which required all candidates standing for public office at all levels to disclose the value and composition of their assets. Disclosure was mandatory, with punitive consequences for misreporting. Using these records of politicians' asset holdings across two elections allowed us to calculate the asset growth of politicians that competed in consecutive legislative assembly elections.

The Indian media has made much of the average asset growth of politicians - 208 percent over a single election cycle, by one account.[1] But how does this rate of wealth accumulation compare to would-be politicians who failed in their election bids? Looking simply at the average growth of assets fails to account for unobserved skills, resources, or inside information that politicians may have access to, which are independent of holding office. And the average gains to public office may obscure vast differences across politicians - if legislators do extract high financial benefits from public office on average, which ones obtain the largest gains?

In our analysis, we focus on the subset of elections where both winner and runner-up

[1] http://www.hindustantimes.com/India-news/Mumbai/Access-to-key-info-makes-city-politicians-rich-Study/Article1-745426.aspx

from the same constituency run in two consecutive elections, allowing us to calculate asset growth for plausibly comparable political candidates. When we further limit our sample to very close elections, we argue that our findings are very unlikely to be driven by unobserved ability differences between winners and runners-up. In our baseline specifications, we find that winning politicians' assets grow at a rate that is 3 to 5 percent per year faster than that of runners-up when we employ a basic regression framework; the "winner's premium" is slightly higher for politicians winning in close elections (we consider winning margins of 10, 5, and 3 percentage points). When we use a regression discontinuity design, we estimate a winner's premium of 6 percent.

This average benefit masks considerable candidate-level heterogeneity. Most strikingly, the asset growth of high-level politicians - members of the Council of Ministers (COM) - is 13 to 16 percent higher relative to control candidates, a difference that holds for very close elections. Our regression discontinuity estimates imply a 29 percent premium relative to control candidates. This is despite the fact that COM members earn virtually identical salaries to other legislators. Once we control for obtaining a COM position, the winner's premium is much more modest, and statistically indistinguishable from zero, implying little financial benefit of public office for most legislators.

Further, we find that there is a large difference in the winner's premium between incumbents and candidates that had not previously held public office. There is little financial return to winning for first-time politicians. Indeed, the point estimates imply a negative return for non-incumbents, suggesting that their private sector outside options are comparable to or even higher than the returns obtained through public office. By contrast, for incumbents our estimate of the winner's premium is 12.6 percent, primarily because of the very low returns earned by incumbents that lose in their electoral bids. This provides suggestive evidence that career politicians have relatively weak earning opportunities relative to public office.

A pair of robustness checks provide some evidence that our results are not driven by selection problems. In the first of these, we focus on contests between pairs of politicians

where both had competed and been winner or runner-up in the two elections prior to 2003. We argue that these "seasoned" politicians are unlikely to be affected by selection concerns, and we obtain similar (though larger) estimates for the winner's premium using this subsample. We also look at a quasi-experiment in the state of Bihar where a hung parliament in February 2005 resulted in a follow-up election in October of the same year. By looking at candidates that won in February but lost in October, and vice-versa, we argue that we come as close as possible to providing a causal estimate of the returns to public office. The Bihar quasi-experiment also yields similar (though somewhat larger) estimates of the winner's premium, relative to our main analysis.

Overall, our findings suggest little return to holding office for most politicians, while high-level positions generate very high returns. This is broadly consistent with a tournament model of politics in the spirit of Lazear and Rosen (1981), where participants compete for the high returns that only a small fraction of entry-level politicians will attain. Further, our results on how the winner's premium is affected by incumbency indicate that becoming a career politician may results in weaker private sector outside options.

In interpreting our findings, a few comments and caveats are in order. Most importantly, our results necessarily account only for publicly disclosed assets, and hence may serve as a lower bound on any effect (though we note that non-politicians may also engage in hiding assets for tax purposes). This makes it all the more surprising that the data reveal such high returns for state ministers. Additionally, we measure the returns to holding public office only while a politician is in power. To the extent that politicians profit from activities like lobbying and consulting after leaving office, we may consider our estimates to be a lower bound on the full value of holding public office. Further, even if we assume transparent financial disclosure, the relatively modest returns from winning public office do not imply the complete absence of corruption among lower-level politicians. Given the low salaries of legislators, they may be required to extract extra-legal payments merely to keep up with their private sector counterparts. That is, what we aim to measure here is the financial returns of politicians relative to private sector opportunities, and cannot directly measure the extent

of illegitimate financial returns of elected officials.

Our work contributes to the literature on politicians' motivations for seeking public office. There exist numerous theoretical models describing politician motivation and behavior. These include the seminal contributions of Barro (1973), Ferejohn (1986) and Buchanan (1989), as well as more recent work by Besley (2004), Caselli and Morelli (2004), and Matozzi and Merlo (2008). A number of recent studies examine empirically the role of official wages in motivating labor supply, including Ferraz and Finan (2011) and Gagliarducci and Nannicini (forthcoming) for Brazilian and Italian mayors respectively; Kotakorpi and Poutvaara (2011) for Finnish parliamentarians; and Fisman et al (2011) for the Members of the European Parliament. Diermeier et al (2005) further consider the role of career concerns for Members of Congress in the United States. In contrast to these analyses that focus on the effect of official wages, we compare the general wealth accumulation of winning versus losing politicians to extract a measure of the broad financial benefits of holding public office, relative to private sector employment.

Our work also relates to several studies that attempt to infer the non-salary financial benefits of public office. Two recent papers examine the stock-picking abilities of U.S. legislators over different time periods, and with widely disparate results - Ziobrowski et al. (2011) reports high positive abnormal returns for Senators and members of the House of Representatives, while Eggers and Hainmueller (2011) reports that Congress members' portfolios underperform the market overall, though outperforming the market for investments in donor companies and those in their home districts. Braguinsky et al (2010) estimate the hidden earnings of public servants in Moscow by cross-referencing officials' salary data with their vehicle registrations.

Several studies also examine the wealth accumulation of U.S. and British politicians. Lenz and Lim (2009) compare the wealth accumulation of U.S. politicians to a matched sample of non-politicians from the Panel Study on Income Dynamics. Their results suggest little benefit from public office. Using a regression discontinuity design, Eggers and Hainmeuller

(2009) finds that Conservative party MPs benefit financially from public office while Labour MPs do not. Finally, Querubin and Snyder (2009) examine the wealth accumulation of U.S. politicians during 1850-1880 using a regression discontinuity design and find that election winners out-earn losers only during 1870-1880. We view our work as complementary to these studies in several ways. First, we focus on a modern context where abuse of public office is plausibly a greater concern.[2] Further, the mandatory disclosures of all Indian candidates since 2003 help to mitigate selection issues that affect some of these earlier studies, and also concerns over the use of wealth information provided on a voluntary basis.

Our work is closest to the study of Bhavnani (2012), which also examines politicians' wealth accumulation in India based on mandatory asset disclosures. Given the similarities, it is important to note how our work is distinguished from Bhavnani's concurrent paper. Bhavnani's data include information on elections in 11 states, while we have a much more comprehensive database covering elections in 24 states. This affords a number of crucial advantages. Most importantly, we are able to include analyses that allow for constituency fixed-effects, which helps to rule out many explanations for the winner's premium based on unobserved differences across candidates. Our sample is also less vulnerable to selection concerns, since disclosures were matched across elections by hand rather than via a matching algorithm. Our specifications also differ in a number of ways - for example, we focus on assets net of liabilities, a standard measure of wealth, while Bhavnani focuses only on assets. This distinction is potentially important in the presence of, for example, preferential loan access of politicians which would mechanically inflate asset measures.

Finally, our work also contributes to the growing empirical literature that aims, often via indirect means, to detect and measure corruption (See Olken and Pande, 2012, for a recent survey). While we cannot detect corruption directly, the rapid wealth accumulation of higher-level officials in our dataset necessarily implies access to income beyond official wages.

The rest of this paper is organized as follows: Section 2 provides a description of relevant

[2] For example, Transparency International's Corruption Perceptions Index in 2000 ranked the United Kingdom and the United States as the 10th and 14th least corrupt countries out of the 91 countries in the Index. India ranked 69th.

political institutions and the data we employ, including those obtained through the Right to Information Act. Section 3 presents our estimation framework. Section 4 presents our empirical results, and Section 5 concludes.

2 Background and Data

We use hand-collected data from sworn affidavits of Indian politicians running as candidates in state assembly elections (Vidhan Sabha). Prompted by a general desire to increase transparency in the public sector, a movement for freedom of information began during the 1990s in India. These efforts eventually resulted in the enactment of the Right to Information Act (2005), which allows any citizen to request information from a "public authority," among others. During this period, the Association for Democratic Reforms (ADR) successfully filed public interest litigation with the Delhi High Court requesting the disclosure of the criminal, financial, and educational backgrounds of candidates contesting state elections.[3] Disclosure requirements of politicians' wealth, education and criminal records were de facto introduced across all states beginning with the November 2003 assembly elections in the states of Chhattisgarh, Delhi, Madhya Pradesh, Mizoram, and Rajasthan. The punishment for inaccurate disclosures include financial penalties, imprisonment for up to six months, and disqualification from political office.

Candidate affidavits provide a snapshot of the market value of a contestant's assets and liabilities at a point in time, just prior to the election when candidacy is filed. In addition to reporting own assets and liabilities, candidates must disclose wealth and liabilities of the spouse and dependent family members. This requirement prevents simple concealment of assets by putting them under the names of immediate family members, and henceforth, our measure of wealth will be aggregated over dependent family members. Further, criminal records (past and pending cases) and education must be disclosed. While the relationship linking wealth, education, and criminal activity to election outcomes is interesting in its own

[3] http://adrindia.org/about-adr/

right, we focus in this study on the effect of electoral victory on wealth accumulation over an election cycle, of five years on average. Since reporting requirements are limited to those standing for election, asset growth can only be measured for re-contesting candidates, i.e., those that contest - and hence file affidavits - in two elections. Therefore, our study is limited to elections in the 24 states which had at least two elections between November 2003 and December 2011, covering about 94 percent of India's total electorate. Table 1 lists the 24 states in our sample along with descriptive information corresponding to the first of the two elections.

The primary sources for candidate affidavits are the GENESYS Archives of the Election Commission of India (ECI)[4] and the various websites of the Office of the Chief Electoral Officer in each state. The archives provide scanned candidate affidavits (in the form of pictures or pdfs) for all candidates, though links to a few affidavits are non-functional. A sample affidavit is shown in Online Appendix A. Except for the nine elections prior to October 2004, we are able to collect these data from the websites of the National Election Watch which, in collaboration with ADR, provides digitized candidate affidavits.[5] We extended the dataset by collecting data for the remaining nine elections directly from the scanned affidavits.

In a first step, among all the candidates that contest in the first election in each state, we filter out the winners and runners-up (our control group) using the Statistical Reports of Assembly Elections provided by the Election Commission of India (ECI).[6] We then match these winners and runners-up with candidates that contest in the subsequent election in that state. Due to large commonalities among Indian names as well as different spellings of names across elections, matching was done manually. Overall, we are able to manually match a total of 3622 re-contesting candidates (2303 winners and 1319 runners-up) based on variables such as name, gender, age, education, address, and constituency, as well as a family member's name (usually the name of the father or spouse).[7]

[4] http://eci.gov.in/archive/
[5] http://www.myneta.info/
[6] http://eci.gov.in/eci_main1/ElectionStatistics.aspx
[7] A probabilistic matching algorithm, based on variables such as name and age, proved to be inefficient. To provide an example, in the Tamil Nadu Election of 2006, there are 2 runners-up with identical names

Of these initial 3622 matched candidates, we were unable to locate affidavits for both elections for 53 candidates because of broken weblinks and hence discard them from our sample. Further, we filter out candidates with affidavits that are poorly scanned, have missing pages, or handwriting that is too unclear or ambiguous to get a clear picture of a candidate's reported financial situation. This drops a total of 561 candidates, or about 15.7 percent of the remaining sample matches.[8] Next, we verify suspicious values and, since our main focus is on growth in wealth, remove candidates that list significant assets without corresponding market value information, leaving a sample of 2944 matched candidates (1872 winners and 1072 runners-up). Of these 2944 candidates, we have 633 constituencies in which both the winner and the runner-up re-contest in the following election. This is shown by state in the last 3 columns of Table 1.

From the affidavits, we compute the candidate's net wealth, defined as the sum of movable assets (such as cash, deposits in bank account, and bonds or shares in companies) and immovable assets (such as agricultural land and buildings) less liabilities (such as loans from banks), aggregated over all dependent family members listed on the affidavit. Finally, we remove candidates with negative or extremely low net asset bases using a cutoff of beginning net worth of Rs 100,000, and Winsorize net asset growth at the first and 99th percentiles.[9] This leaves us with a final sample of 2741 matched candidates (1754 winners and 987 runners-up) of which 1100 are constituency-matched pairs, i.e., we have 550 constituencies in which both the winner and runner-up recontest.

We define a *Criminal Record* dummy equal to one if the candidate has pending or past criminal cases at the time of the first election, and measure education based on years of schooling (*Years of Education*). In addition to information gathered from candidates' affi-

(RAJENDRAN.S), Age (56), and education (10th Pass) despite being identifiably distinct candidates. We also commonly encountered differential spellings of names between elections, for instance, Shakeel Ahmad Khan (Bihar, 2005) and Shakil Ahmad Khan (Bihar, 2010).

[8] Affidavit availability and quality differs somewhat across states and tends to be slightly worse in the earlier years. For example, out of 54 matched candidate in Delhi (2003), 27 percent of affidavits are unavailable or of very poor quality.

[9] None of these adjustments materially changes the quantitative nature of our results. Our findings are very robust to using different cutoff values (e.g., Rs 500,000), trimming instead of Winsorizing, or no adjustment at all.

davits, we also collect data on election victory margins and incumbency from ECI's Statistical Reports of Assembly Elections. The reports also allow us to classify constituencies as Scheduled Caste (SC), Scheduled Tribe (ST), or "general" constituencies. SC and ST constituencies are reserved for candidates classified as SC or ST in order to promote members of historically under-represented groups. That is, general candidates cannot compete in these SC/ST-designated constituencies. We also distinguish among winning candidates based on whether they held significant positions in the state government, using an indicator variable for membership in the *Council of Ministers*, the state legislature's cabinet.

As a measure of state-level opportunities for political rent extraction, we obtain a measure of state-level corruption using the index reported in the 2005 Corruption Study by Transparency International India. This report constructs a corruption index for 20 Indian states based on perceived corruption in public services using comprehensive survey results for over 10,000 respondents. The index takes on a low value of 240 for the state of Kerala and a high of 695 for Bihar. Our sample covers 17 of the 20 states for which an index value is available and we rescale the original measure by dividing it by 100. Finally, we collected a cross-section of state legislature salaries during 2003-2008, and use the *Base Salary* of politicians to examine more formally whether official salaries are an important determinant of wealth accumulation. As we note in the introduction, these official salaries are likely too low to account for the high levels of wealth accumulation of some politicians.

Table 2 lists definitions of the main variables used in the analysis and in Table 3, we show some descriptive statistics for our constituency-matched sample of 1100 candidates (Panel A) as well as for a subsample of elections decided by close margins (Panel B). Average net assets are about Rs 9.7 million ($194,000 at an exchange rate of Rs 50 per dollar) for winners and Rs 10.1 million (about $202,000) for runners-up. As a point of reference, state legislators' salaries, including allowances, are generally well under Rs 1,000,000 (about $20,000) with relatively little variation as a function of seniority. Overall, winners and runners-up in our sample appear to be similar in age, education, and gender. The two groups differ based on incumbency - incumbents are less likely to win in this sample of

re-contestants, consistent with Linden's (2004) finding of an incumbency disadvantage for Indian politicians. The only other difference we observe is in net asset growth, which we will explore in much more detail throughout the paper. About 14 percent of winners are members of the state Councils of Ministers and 19 percent of the elections in our sample are from SC/ST-designated constituencies. Runners-up in the subsample of close elections tend to be slightly more educated than winners on average (14 years of educations vs. 13.8 for winners) though the median years of education is identical. Overall, based on these observables, runners-up seem to constitute a reasonable comparable control group.[10]

3 Empirical Framework

Before proceeding to our regression results, it is worth emphasizing what it is that we are attempting to measure as the returns to public office, and how our sample and specification plausibly serve to estimate this. We wish to measure the percentage annual growth rate of assets for an individual elected to public office, relative to the counterfactual where he was not elected:

$$\text{Ret. to Public Office} = \mathbb{E}(Netassetgrowth_i|Winner_i = 1) - \mathbb{E}(Netassetgrowth_i|Winner_i = 0)$$

Of course, we cannot measure winner versus loser growth rates for a given politician, but will rather make a comparison across observed winners and losers. We require that, conditional on observables, assignment to the winner category is independent of returns to winning, that is, $[\mathbb{E}(Netassetgrowth_i|Winner_i = 0), \mathbb{E}(Netassetgrowth_i|Winner_i = 1)] \perp Winner_i|\mathbf{X_i}$. For the sample of politicians as a whole, this condition clearly fails - for example, politicians that benefit most from winning will exert the greatest effort in campaigning, and those with different unobserved (i.e., not in $\mathbf{X_i}$) attributes may be of greater skill.

[10] On further investigating election expense for a subset of candidates, we also find no material differences between winners and runners-up. Election expenditure on each candidate is further limited by law to about Rs 1,000,000 in large states, and candidates generally receive lump sum grants from their political parties.

The subset of politicians that we may include in our analysis requires the further condition that they choose to run at the end of an election cycle, regardless of whether they won the first time around - otherwise, we observe only their initial asset levels, not their growth rates. Hence, what we can plausibly estimate is the following:

$$(\text{Ret. to Public Office}|Rerun = 1) = \mathbb{E}(Netassetgrowth_i|Winner_i = 1, Rerun = 1) - \mathbb{E}(Netassetgrowth_i|Winner_i = 0, Rerun = 1)$$

The independence of winning and the financial returns while in office is at least more plausible with this subset of the pool of candidates - if these returns were much lower for $Winner = 0$ candidates, they may choose not to run again. While this is a relevant subset of the pool of candidates - those that make a career of running for office - it is likely one for which the returns to public office are relatively high: if their outside options were sufficiently good, such candidates may choose not to run again conditional on losing. We discuss this in more detail in Section 4.4.

This does not necessarily mitigate concerns of unobserved skills correlated with winning, and also with earnings ability. To make the closest comparison of like candidates, we focus on a within-constituency comparison of winners and runners-up who choose to run in subsequent elections, $e = 1$ and $e = 2$. This plausibly holds constant labor market opportunities, and other local attributes affecting the earnings possibilities of winners and runners-up. That is, we estimate the following fixed effects regression:

$$Net\_Asset\_Growth_{wc} = \alpha_c + \beta * Winner_{wc} + log(NetAssets_{wc}) + Controls_{wc} + \epsilon_{wc} \quad (1)$$

where $w \in \{0, 1\}$ indexes winners and runners-up, c indexes constituencies, α_c is a constituency fixed-effect, and ϵ_{wc} is a normally distributed error term.[11] In our main empirical

[11] Note that an alternative formulation would be to 'first difference' the data, using the difference between winner and runner-up net asset growth for each constituency as the outcome variable, as a function of first-differenced covariates. For our main specifications, this approach yields virtually identical results to those presented here.

analysis, we present results on the full within-constituency sample, and also for the subset of winner/runner-up pairs where the election was decided by a relatively slim margin. We argue that the within-constituency close election estimation plausibly obviates many concerns of within-pair unobserved differences.

We also employ a regression discontinuity research design (RDD) as an alternative empirical strategy, which effectively estimates the winner's premium based on the winner-runner-up difference in close elections. Under the identification assumption that outcomes of close elections are random, the difference in asset growth rates of winners and losers can be causally attributed to holding public office.

The scatterplots and lines of best fit we show in our figures are produced using common methods developed in the regression discontinuity literature (e.g., DiNardo and Lee (2004), Imbens and Lemieux (2008) and Angrist and Pischke (2009)). Specifically, we are interested in the extent to which winning causes a discontinuity in asset growth residuals at the winning threshold. First we generate residuals by regressing growth in net assets on candidate observables, including net assets, gender, and age, but excluding winner dummy and margin. We next collapse the residuals on margin intervals of size 0.5 (margins ranging from -25 to +25) and then estimate the following specification:

$$\bar{R}_i = \alpha + \tau \cdot D_i + \beta \cdot f(Margin(i)) + \eta \cdot D_i \cdot f(Margin(i)) + \epsilon_i \quad (2)$$

where $\bar{R}_i$ is the average residual value within each margin bin i, $Margin(i))$ is the midpoint of margin bin i, D_i is an indicator that takes a value of one if the midpoint of margin bin i is positive and a value of zero if it is negative, and ϵ_i is the error term.[12] $f(Margin(i))$ and $D_i \cdot f(Margin(i))$ are flexible fourth-order polynomials. The goal of these functions is to fit smoothed curves on either side of the suspected discontinuity. The magnitude of the discontinuity τ is estimated by the difference in the values of the two smoothed functions

[12] To address heterogeneity in the number of candidates and residual variance within each bin, we weigh observations by the number of candidates, and alternatively by the inverse of within-bin variance. Results are similar in both specifications.

evaluated at zero.

4 Results

4.1 Graphical presentation of results

We first present a series of figures that provide a visual description of our results. In Figure 1 we plot the Epanechnikov kernel densities of the residuals obtained from regressing growth in net assets on candidate observables. Panel A uses the entire sample of constituency-matched candidates while Panel B only uses candidates that were within a margin of 5 percentage points.[13] In both cases, the Kolmogorov-Smirnov test for equality of the distribution function of winner and runner-up residuals is rejected at the 1 percent level and 5 percent level, repectively. These figures thus depict a differential effect of election outcomes on net asset growth between the treatment and control groups. In Panel C, we disaggregate winners into ministers and non-ministers and plot kernel densities of these two groups as well as the runners-up. The kernel density plots further suggest a long right tail for ministers, implying that a relatively small number of these high-level politicians generate very high asset growth. In Panels D and E, we disaggregate the sample based on whether an incumbent is standing for reelection in the constituency. Panel D shows winner and runner-up densities for the sample of constituencies where an incumbent was standing for reelection - the winner distribution is clearly shifted to the right, implying a greater winner's premium in races involving incumbents (a test for equality of the distribution function is rejected at the 1 percent level). Panel E shows densities for the subsample of non-incumbent constituencies - the winner distribution is now shifted to the left and a test for equality of the distribution function is rejected at the 10 percent level (p-value of 0.086). We investigate in greater detail the patterns of net asset growth among incumbents versus non-incumbents in our regression analyses below.

[13] The chosen bandwidth is the width that would minimize the mean integrated squared error if the data were Gaussian and a Gaussian kernel were used.

4.2 Regression Analyses

We now turn to analyze the patterns illustrated in Figure 1 based on the regression framework described in the prior section. We use the basic specification shown in Equation 1, which provides a within-constituency estimate of the winner's premium, and present these results in Table 4. In the first column, we show the binary within-constituency correlation between *Winner* and *Net_Asset_Growth*. The coefficient of 0.0296, significant at the 5 percent level, implies a winner's premium in asset growth of about 3 percent. Adding log(*Net Assets*) as a control in column (2) slightly lowers the point estimate to 0.0291, still significant at the 5 percent level. Column (3) adds controls for gender, incumbency, having a criminal record, as well as quadratic controls for age and years of education; the point estimate is 0.0265, significant at the 5 percent level. In columns (4) - (6) we examine the winner' s premium in close elections, defined by those where the vote share gap between winner and runner-up was less than 10, 5, and 3 percentage points. In each case, the winner's premium is estimated to be around 3 - 5 percent and significant at the 5 percent level. The point estimate increases for the 3 percent margin sample, where the coefficient on *Winner* is 0.0519 and significant at the 5 percent level (p-value of 0.012).

In Table 5, we consider the returns to office as a function of potential influence in government. In the first column, we add an indicator variable, *Minister*, denoting whether the constituency winner was appointed to the state's Council of Ministers. The point estimate on Minister is about 0.134, implying a 13.4 percent higher growth rate for Ministers relative to the runner-up candidates in their constituencies. Further, the coefficient on *Winner* drops to very close to zero. The point estimate is 0.01, with a standard error of 0.013, allowing us to reject a winner's premium of greater than 4 percent for those not appointed minister, at the 5 percent level of significance. The results are robust to looking at narrow victory margins, as indicated by the results in columns (2) - (4). In columns (5) and (6) we include the interaction of *Winner* and an indicator variable for whether a candidate's party was part of the state government; the small and insignificant coefficient on this interaction term suggests

no premium for merely being part of a ruling coalition.[14] The coefficient on *Minister* remains large and significant, implying extraordinary growth in wealth only for high-level positions. It is worth emphasizing that it is problematic to assign a causal interpretation to the correlation between Minister status and returns, since assignment to these posts is non-random. At the same time, the very large effect of holding a Minister position on asset returns is such that it is not easily explained by unobserved differences in abilities, and warrants further investigation in future work.

In columns (7) and (8) we disaggregate asset growth into *Movable Asset Growth* through holdings such as cash, bank deposits, and jewelry, and *Immovable Asset Growth* from land and building assets (see the full definition in the Data section). We see a sharp difference between the asset growth of Minister versus non-Minister politicians. The coefficient on *Winner* is a highly significant predictor of growth in movable assets, implying a winner's premium of 5.23 percent. The magnitude of the coefficient on *Minister* in (7) implies a further premium in movable asset growth of 4.2 percent, though this effect is not significant. For immovable assets, the Minister growth premium is 8.8 percent and significant at the 10 percent level, while the winner's premium is small in magnitude and statistically insignificant. Note that immovable assets constitute, on average, about three quarters of a candidate's total assets. If the asset growth of politicians is the result of extra-legal payments, this difference may simply reflect the fact that the scale of gifts is larger for ministers (e.g., cars versus buildings). It may also result from access to low cost purchase of land for high-level individuals as suggested by, for example, the case of Karnataka's former Chief Minister B.S. Yeddyurappa, who acquired land parcels at extremely favorable prices before selling them off to mining companies.[15] Such opportunities may only be available to high-ranking politicians.

In Table 6 we turn to assess how the winner's premium differs as a function of incumbency, by including the interaction term *Winner*Incumbent*. As suggested by the patterns in Fig-

[14] We also considered the effect of membership in the two main political parties - the Congress and the BJP - on the winner's premium. The *Winner*Congress* interaction was marginally significant and positive, while the interaction of *Winner*BJP* was negative, though not significant at conventional levels.

[15] "Ministers stole millions in Karnataka mining scam," *BBC South Asia*, July 21, 2011

ure 1, the winner's premium comes exclusively from incumbents. The coefficient on *Winner* is -0.053 and significant at the 5 percent level, implying that non-incumbent winners' asset growth is 5.3 percent *lower* than that of non-incumbent runners-up. The pattern is reversed for incumbents, where there is a winner's premium of nearly 12.6 percent (the sum of the coefficients on *Winner* and *Winner*Incumbent*). One plausible interpretation of this differential winner's premium by incumbency is that it reflects the relatively limited private sector options available to career politicians. Alternatively, it may result from the greater skill with which incumbents extract value from political office. The data are at least suggestive of the first of these explanations - the large winner's premium for incumbents is primarily the result of the low earnings of incumbents that are not returned to office: incumbent winners have a median asset growth of 0.205, virtually identical the median asset growth of non-incumbents overall (0.204), while the median asset growth of incumbent runners-up is 0.15.

4.2.1 Electoral Accountability

The extent that legislators extract financial returns from their positions may be limited by pressure from the electorate, particularly given the transparency afforded by the Right to Information Act. We emphasize that the asset growth calculations we perform here are based on data easily accessible via the internet, and their availability has been widely reported in the Indian media. In Table 7 we examine whether there is any effect of high asset growth on election outcomes, through the following specification:

$$Reelection_{wc} = \alpha_c + \beta_1 * Winner_{wc} + \beta_2 * Net\_Asset\_Growth_{wc} + \beta_3 * Winner_{wc} * Net\_Asset\_Growth_{wc} + \epsilon_{wc} \quad (3)$$

where $Reelection_{wc}$ is an indicator variable that takes on a value of 1 if the candidate won election $e = 2$ and 0 otherwise. While none of the coefficients are significant, the results point, if anything, in the opposite direction - the coefficient on *Net_Asset_Growth* is positive in Column (1), and its interaction with *Winner*, capturing the effect of asset growth among

election winners, is positive (Column 2). In results not reported, we also find that legislators who win by large margins do not earn a higher winner's premium. Such a specification is, however, subject to extreme problems of unobserved heterogeneity - the large margin may be because of a candidate's effort or political skill, confusing the interpretation of the *Winner*Margin* interaction. Finally, the negative coefficient on *Winner* is consistent with a negative incumbency effect in India that was already observed in Table 3.

4.2.2 Exploring Cross-sectional Heterogeneity

In Table 8 we examine heterogeneity in the winner's premium as a function of a number of other candidate characteristics. In column (1) we look at the effect of state-level *Corruption*. The coefficient on the interaction term *Winner*Corruption*, while positive and hence implying a higher winner's premium in more corrupt states, is not statistically significant. In column (2) we allow for a *Minister*Corruption* interaction; the coefficient on this term is positive, again implying a larger asset growth premium in more corrupt states, but also not significant. In column (3) we consider whether candidates with prior criminal records have a higher winner's premium. The coefficient on the interaction term is not significant.

In column (4) we consider the set of constituencies reserved for members of disadvantaged groups, so-called Scheduled Tribes and Castes (SC/ST). The interaction term $SC/ST\ Quota * Winner$ is significant at the 1 percent level, and implies a winner's premium in asset growth of about 8 to 9 percent for constituencies reserved for SC/ST candidates.

There are two primary explanations for the relatively high winner's premium for SC/ST-designated constituencies. First, since these seats are reserved for a subset of potential candidates, it may slacken electoral competition, allowing candidates to extract greater rents without fear of losing their positions. Alternatively, SC/ST politicians may have less lucrative private sector options as a result of discrimination, lower unobserved skill levels, or weaker labor market opportunities in SC/ST-dominated areas. While we cannot include both the direct effect of *SC/ST_Quota* and constituency fixed effects in a single specification, in

column (5) we look at the direct effect of SC/ST quotas with a coarser set of fixed effects, at the district level. There are approximately half as many districts as constituencies in our main sample. We find a very similar coefficient on the interaction term $SC/ST\_Quota * Winner$ in this specification - approximately 0.09 - while the direct effect of SC/ST_Quota is -0.073. That is, it would appear that among runners-up, SC/ST politicians fare significantly worse than other candidates, providing suggestive evidence that the differential SC/ST effect results in large part from different private sector opportunities.

In column (7), we examine the effects of candidates' education levels by including as covariates the logarithm of years of schooling as well as its interaction with *Winner*. We find a small positive direct effect of years of schooling, implying that for runners-up, asset growth is higher for more educated candidates. However, this is more than offset by the interaction term, log(*Years of Education*)**Winner*. The sum of the coefficients on log(*Years of Education*) and its interaction with *Winner*, while negative, is not significant at conventional levels. This is broadly consistent with highly educated candidates having better private sector opportunities, but not greater earning capacity as public officials.

We show the interaction of *Female* and *Winner* in column (6). The coefficient is positive, though not statistically significant. Finally, in column (8) we interact *Winner* with log(*Base Salary*). We find no evidence that the winner's premium is higher in states with more generous official salaries for legislators, implying that it is unlikely that official salaries play a major role in the differential asset accumulation of elected officials.

4.3 Regression Discontinuity Design

Our main empirical identification strategy is effectively based on a regression discontinuity design, with the winner's premium identified from the winner-loser differential in close elections . In this section, we explicitly model the value of winning using regression discontinuity methods, as described in Section 3. We first show a series of figures that depict our tests for discontinuities around the winning threshold, followed by an analysis of the magnitudes

of winner-loser discontinuities. Note that we follow the approach outlined in Section 4.1 by looking at net asset growth *residuals* which allows us to control for remaining differences in covariates of candidates as well as observed and unobserved constituency heterogeneity. The methodology in this section can thus be considered as *conditional RD*. Results are quantitatively similar when (unconditional) net asset growth in used.

In Figure 2, Panels A - E, we provide a visual description of this analysis and columns (1) - (5) of Table 9 provide the corresponding discontinuity estimates of the winner's premium.[16] Panel A shows the sample of all winners and corresponding runners-up. Our estimated regression indicates a jump in the residual values around the threshold. The point estimate of τ is 0.065, and statistically significant at the 1 percent level (t-statistic of 2.8). Panel B only includes ministers with corresponding runners-up - the point estimate of the discontinuity increases to 0.287 (t-statistic of 5.26), a result qualitatively similar to that of the regression analysis in the previous section, though somewhat larger in magnitude. On the other hand, the subsample of winners not appointed to a Council of Ministers and corresponding runners-up does not indicate a jump at all (Panel C) - the coefficient estimate of the discontinuity is 0.0265 with a t-statistic of 1.13. In Panels D and E, we disaggregate the sample based on whether an incumbent is standing for reelection in the constituency. Panel D shows results for the sample of constituencies where an incumbent was running for reelection. The coefficient estimate of the discontinuity is 0.08 and significant at the 1 percent level (t-statistic of 3.19). By contrast, for the sample of non-incumbent constituencies, we observe no jump at the threshold (the point estimate is 0.028 with a t-statistic of 0.79). Overall, these results are in line with those obtained from standard regression analysis.

Finally, in Figure 3 we plot kernel densities of age and log(Net Assets) for the sample of constituency-matched candidates that were within a *Margin* of 5 percentage points ("close elections"). Panel A plots age densities for winners and runners-up and Panel B plots densities for log(Net Assets). For both observables, the Kolmogorov-Smirnov test for equality of the

[16] Note that the apparent symmetries in the RD plots are the result of constituency fixed effects. Including constituency fixed effects allows us to control for observable and unobservable constituency-level heterogeneity, for example, differences in local labor markets or *SC/ST_Quota*.

distribution function of winners and runners-up cannot be rejected at conventional levels, providing some validation of our regression discontinuity design.

Based on these discontinuities, we can perform a simple back-of-the envelope calculation to to approximate the winner's premium in monetary terms. We do this by first calculating how winners' average wealth would have grown had they not won the election using the net asset growth rate of all constituency-matched runners-up, and then comparing this average to the level of wealth accumulation using the discontinuity estimates from the RD design. Overall, for *Winners* as a group, the estimated annual premium is approximately Rs 1,500,000 (USD 30,000). However, for *Ministers* the winner premium is significantly larger, about Rs 10,750,000 per year (USD 215,000). By comparison, state-level legislators have salaries that are much lower - generally under Rs 1,000,000 per year (USD 20,000). Further, these wealth accumulation increments are relative to candidates' initial assets that are, on average, only about Rs 10,000,000 (USD 200,000), implying a very large impact in percentage terms.

4.4 Addressing Selection

Our analysis compares the returns of winners versus runners-up in constituencies where both candidates run in two consecutive elections. While this sample allows us to include constituency fixed effects and thus control for local constituency-level omitted variables, it is important to consider whether these results are external valid for Indian legislators more generally.

At the outset, we note that the constituencies that constitute our sample - where both the winner and the runner-up contest both elections - are very similar on observables to constituencies where only one of the candidates recontests. Specifically, the mean electorate, percentage turnout, and percent SC/ST population for our winner/runner-up matched constituencies are not significantly different from the rest of the population. Candidates in these constituencies are also quite similar in attributes such as log of assets, age, and education.[17]

[17] For brevity, tables are not shown but are available from the authors upon request.

Thus, we believe that the local average treatment effects documented above can be likely generalized to the population.

As noted earlier, our identification strategy – comparing candidates from the same constituency in close elections – attempts to control for unobserved ability differences in candidates. By comparing the net asset growth of two otherwise similar candidates following an election where one prevails by a narrow margin, we may calculate the private returns to public office relative to a similar candidate that just lost the election. One significant concern with this approach, however, is that electoral victory may itself influence the probability of recontesting, and hence inclusion in the sample. Indeed, in Panel A of Figure 4, we find that runners-up have a lower probability of re-contesting the second election when compared to the corresponding constituency winners. The probability of recontesting is increasing in margin, with a clear discontinuity at zero.[18]

In considering how this differential exit rate may affect our results, we note first that it is not obvious *a priori* which direction any selection effect would bias our estimates. One one hand, winners and runners-up that re-contest the second election are plausibly more similar in terms of political ability than pairs where both contest the first election but one subsequently chooses not to contest the second election. In this case, one might expect that the ability differences between winners and runners-up are smaller in our sample of constituencies than those without matched winners/runners-up, hence biasing our results towards zero. [19] Alternatively, if candidates that exit have higher outside options compared

[18] In a separate analysis (not reported for brevity), we examine the recontesting decision of political candidates using a simple probit model. The dependent variable is one if we can match the candidate in a subsequent election and zero if we only observe a candidate at election 1. We conduct our analysis separately for the sub-samples of winners and runners-up, and find that candidates that win the first election are significantly more likely to re-contest in the subsequent election. For the sub-samples of both winners and runners-up, we find that wealthier and more educated candidates are more likely to rerun, whereas age is negatively related to the decision to re-contest. The only variable that affects both groups differently is the winning margin at the first election – runners-up who lose by wider margins are significantly less likely to re-contest, whereas for winners margin is not a significant predictor of running in the next election. There are two ready explanations for this difference - (1) if a candidate loses by a large margin, he may re-evaluate his chances of winning and not re-contest a second time, or (2) he may not get chosen to represent his party if he has shown little success in the previous attempt.

[19] Runners-up and winners in our sample have virtually identical chances of succeeding in the subsequent election (42.08 percent and 41.89 percent, respectively), providing further support for similar political ability of the two groups.

to candidates that decide to re-contest, neglecting the asset growth of unsuccessful candidates that do not rerun may bias our analysis towards finding an effect even when none exists.

4.4.1 Evidence from Seasoned Candidates

To further assess the influence that differential exit rates may have on the estimated winner's premium, we analyze a restricted sample of constituencies where both winner and runner-up are seasoned politicians, in the sense of both competing in at least two elections *prior* to the elections we consider in our analysis, and where both were either winner or runner-up in these earlier elections. Repeated contests of this sort between seasoned politicians is surprisingly common in our sample. We provide one illustrative example below for the Biswanath Assembly Constituency in the state of Assam. In this case, both candidates, Prabin Hazarika and Nurjamal Sarkar, have contested all elections since 1991 and have been either a winner or a runner-up in each instance. We argue that such career politicians are less likely to exit because of party decisions or a reevaluation of future electoral success - by construction, we include only politicians who have performed well as candidates in the recent past. This subset of active seasoned politicians arguably represent more comparable treatment and control candidates than the full sample of re-contesting politicians.

Biswanath Assembly Constituency (Assam)

Year	Winner	%age	Party	Runner-up	%age	Party
2011	Prabin Hazarika	45.51	AGP	Nurjamal Sarkar	44.09	INC
2006	Nurjamal Sarkar	41.76	INC	Prabin Hazarika	39.46	AGP
2001	Nurjamal Sarkar	48.55	INC	Prabin Hazarika	44.3	AGP
1996	Prabin Hazarika	42.62	AGP	Nurjamal Sarkar	31.76	INC
1991	Nurjamal Sarkar	46.49	INC	Prabin Hazarika	17.39	AGP

We focus our analysis on this set of active seasoned candidates in Panels B and C of Figure 4. In Panel B, we find no differential probability of re-contesting the second election; however, Panel C documents a jump in net asset growth rates around the winning threshold. The point estimate of the discontinuity is 0.12 and significant at the 5 percent level. This is consistent with differential exit rates of winners and runners-up creating a downward bias in

our main estimates on the returns to public office.

4.4.2 Evidence from Bihar's Hung Parliament

We conclude this section by presenting some results from a quasi-experiment, albeit one that involves a very limited sample of constituencies. In Bihar's legislative assembly election in February 2005, no individual party gained a majority of seats, and attempts at forming a coalition came to an impasse. As a result of this hung parliament, new elections were held in October/November of the same year.[20] In a significant fraction of these contests, repeated within less than a year of one another, the initial winner was defeated in the follow-up election. For these constituencies, we come as close as possible to observing the counterfactual of winners reassigned to runner-up, and vice-versa.

From the 243 constituencies contested in the February election, we sample those where both the winner and runner-up matched up again in the October election of the same year and emerged as winner/runner-up or runner-up/winner in this later election. This leaves a sample of 260 candidates (130 constituencies) for which we analyze the probabilities of winning the October election as a function of the winning margin at the February Election. Results are shown in the Table below:

Bihar February 2005	**Probability of Winning October 2005 Election**					
Winner	66.2%	63.2%	60.9%	58.6%	52.2%	50.0%
Runner-Up	33.8%	36.8%	39.1%	41.4%	47.8%	50.0%
Margin (February 2005)		$< 20\%$	$< 15\%$	$< 10\%$	$< 5\%$	$< 1\%$
Elections	130	117	110	87	46	10

Overall, winners in the February 2005 election won in the later contest only 66.2 percent of the time. Further, as on narrows the margin, this advantage decreases monotonically. At the 5 percent threshold, the probability of winning is statistically indistinguishable from

[20] Bihar was under the direct rule of India's federal government during this period.

50 percent for either candidate. This suggests a significant element of randomness to close elections in this sample.[21]

To further sharpen our empirical strategy, we compare the net asset growth of two groups – the *treatment* and *control* groups. The *treatment* group consists of candidates that were runners-up in the February 2005 election but won in the October 2005 contest, while the *control* group is comprised of candidates that were winners in February 2005 but runners-up in the October election. These cases where winners and losers were switched owing to the hung parliament provides a measure of the returns to public office with a relatively straightforward causal interpretation. We look at all such candidates whose winner status shifted between these two 2005 elections, and *also* chose to run again in 2010, so we can calculate their asset growth rates. The resulting set of candidates is relatively small - 25 winners and 26 runners-up - which limits the types of statistical tests one can perform on this sample. For this subset of candidates we find that the annual net asset growth of the *treatment* group is on average 12.76% higher than that of the control group, a difference that is significant at the 5 percent level. If we limit ourselves only to the constituency matched samples where winner and runner-up status switched and *both* candidates ran in the 2010 election, the sample is reduced to 11 constituencies - 22 candidates - and we find a difference in the net asset growth between winners and runners-up of approximately 6 percent, roughly similar to the magnitudes we observe with the full sample. Given the small sample size, the difference in asset growth for the sample of 22 candidates is not statistically significant.

5 Conclusion

In this paper, we utilize the asset disclosures of candidates for Indian state legislatures, taken five years apart at two points across a five year election cycle, and accessed through

[21] Recent papers by Snyder (2005), Caughey and Sekhon (2010), Carpenter et al. (2011), and Folke et al. (2011) critically assess regression discontinuity studies that rely on close elections. There remains an active debate on whether close elections can really be considered a matter of random assignment. If sorting around the winning threshold is not random, but close winners have systematic advantages, then the RD design may fail to provide valid estimates of the returns to office. The Bihar example provides at least suggestive evidence that close elections are relatively random in the context we consider in this paper.

the country's Right to Information Act. This has allowed us to compare the asset growth of election winners versus runners-up to calculate the financial returns from holding public office relative to private sector opportunities available to career politicians.

Our main findings suggest, at least in the Indian context, a relatively limited financial benefit of public office for most politicians. By contrast, we find a 13-29 percent growth premium for ministers in our sample, suggesting very strong earnings possibilities for higher-level politicians. Looking at election winners not appointed to the Council of Ministers, the asset growth premium for election winners is about one percent per year. Further, this premium is derived entirely from the winner-loser differential among incumbents, with incumbent runners-up earning unusually low returns when confronted with private sector job opportunities; for non-incumbents, the winner's premium is negative.

These findings have a number of implications for the modeling of the political process and politicians' behavior. First, our results suggest a sharp difference in the value of influencing legislators at different levels in the Indian hierarchy: the votes of individual legislators have relatively low value for private agents, while the influence of ministers is potentially very valuable. At least in financial terms, one may thus think about prospective politicians being motivated more by future rewards from gaining higher positions than by the initial returns of holding office. This is broadly consistent with a tournament model of politics in the spirit of Lazear and Rosen (1981), where participants compete for the high returns that only a small fraction of entry-level politicians will attain.

Our work also presents several possible directions for future work. Given the high returns we observe among ministers, it may be fruitful, with the benefit of additional data, to examine whether particular positions within the Council are associated with high rents. And while we do not observe a strong sensitivity of election outcomes to asset growth, one may assess whether electoral accountability is affected by voter exposure to asset data, in the spirit of Banerjee et al (2011). It may be interesting to explore the impact of the Right to Information Act itself: disclosure requirements may induce exit by winners that have extracted high rents,

in order to avoid possible corruption-related inquiries. Finally, we are unable in this work to uncover the mechanism through which asset accumulation takes place. We leave these and other extensions for future work, which will be enabled either by experimental intervention or the accumulation of new data via the Right to Information Act.

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Table 2: **Variable Definitions**

Variable	Description
Movable Assets (1)	Sum of (i) Cash, (ii) Deposits in Banks, Financial Institutions and Non-Banking Financial Companies, (iii) Bonds, Debentures and Shares in companies, (iv) NSS, Postal Savings etc., (v) Personal loans/advance given, (vi) Motor vehicles, (vii) Jewelry, and (viii) Other assets such as values of claims/interests as reported on the candidate affidavit. This item excludes the value of life or other insurance policies (which are usually reported at payoff values).
Immovable Assets (2)	Sum of (i) Agricultural Land, (ii) Non-Agricultural Land, (iii) Commercial Buildings and (vi) Residential Buildings ("Buildings and Houses"), and (v) Others as reported on the candidate affidavit.
Total Assets	Defined as the sum of (1) and (2).
Total Liabilities (3)	Sum of (i) Loans from Banks and Financial Institutions, (ii) Loans from Individuals/Entities and (iii) any other liability, as well as (vi) any dues reported on the candidate affidavit.
Net Assets	"Net Worth" of the Candidate. Defined as the sum of (1) and (2) minus (3). We remove candidates with extremely low net assets bases (Net assets below Rs 100,000 as of election 1).
Net Asset Growth	Annualized Growth in Net Assets over an election cycle. Winsorized at the 1 and 99 percentiles.
Winner	Dummy variable taking on a value of 1 if the contestant won election 1.
Minister	Dummy variable indicating whether the constituency winner was appointed to the state's Council of Ministers.
Margin	Vote share difference between winner and runner-up (scale of 0 to 100).
Incumbent	Dummy variable taking on a value of 1 if the contesting candidate won the preceding constituency election.
Education	Ordinary scale variable ranging from 1 to 9. We assign values based on the following education bands: 1 = Illiterate, 2 = Literate, 3 = 5th Pass, 4 = 8th Pass, 5 = 10th Pass, 6 = 12th Pass, 7 = Graduate or Graduate Professional, 8 = Post Graduate, 9 = Doctorate. This variable is missing if education information was not given.
Years of Education	Number of years of education the candidate has received.
Criminal Record	Dummy variable indicating whether the candidate has past or pending criminal cases.
Government	Dummy variable indicating whether the candidate's party is part of the ruling state government.
SC/ST Quota	Dummy variable indicating whether the constituency of the candidate is that of disadvantaged groups, so-called Scheduled Castes and Tribes (SC/ST).
Corruption Index	Survey-based state corruption index (based on perceived corruption in public services) as reported in the 2005 Corruption Study by Transparency International India. The index takes on a low value of 2.40 for the state of Kerala (perceived as "least corrupt")and a high value of 6.95 for Bihar (perceived as "most corrupt"). We rescaled the original index by dividing it by 100.
Female	Dummy indicating the gender of the candidate (1 = Female).
Base Salary	Monthly base salaries of MLAs. Collected from states' Salaries and Allowances and Pension of Members of the Legislative Assembly (Amendment) Acts, official websites, and newspaper articles.

Table 4: **Within-Constituency Effects of Winning the Election**

Notes: The regression equation estimated is: $Net\_Asset\_Growth_{wc} = \alpha_c + \beta * Winner_{wc} + log(NetAssets_{wc}) + Controls_{wc} + \epsilon_{wc}$. The dependent variable, $Net\_Asset\_Growth_{wc}$, is the annualized growth rate in net wealth. α_c is a constituency fixed-effect. $Winner_{wc}$ is the dummy for winning the election (e=1). $log(NetAssets_{wc})$ is the logarithm of the net assets of the politician. $Controls_{wc}$ include education (scaled from 1 to 9, with 9 being the highest), criminal record (dummy if a criminal record were present as of the first election), gender, age, and incumbency. The regression is also run for close elections (Columns 4-6), where the vote share gap between the winner and the incumbent was less than 10, 5, and 3 percentage points. Robust standard errors are given in parentheses. The reported constant is the average value of the fixed effects. Coefficients with ***, **, and * are statistically significant at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)	(3)	(4)	(5)	(6)
	Net Asset	Net Asset	Net Asset	Net Asset	Net Asset	Net Asset
Variables	Growth	Growth	Growth	Growth	Growth	Growth
Winner	0.0296**	0.0291**	0.0265**	0.0352**	0.0341**	0.0519**
	(0.0133)	(0.0123)	(0.0132)	(0.0137)	(0.0163)	(0.0203)
log(Net Assets)		-0.0716***	-0.0720***	-0.0720***	-0.0740***	-0.0825***
		(0.0086)	(0.0093)	(0.0106)	(0.0122)	(0.0146)
Education			-0.00777			
			(0.0065)			
Criminal Record			0.01			
			(0.0219)			
Female			-0.0748*			
			(0.0453)			
Age			-0.0047			
			(0.0076)			
Age^2			3.80E-05			
			(0.0001)			
Incumbent			0.0144			
			(0.0161)			
Constant	0.205***	1.291***	1.404***	1.291***	1.312***	1.436***
	(0.0094)	(0.1300)	(0.2350)	(0.1600)	(0.1840)	(0.2190)
Close Elections:				Margin $\leq$ 10	Margin $\leq$ 5	Margin $\leq$ 3
Observations	1100	1100	1060	740	436	268
R-squared	0.511	0.585	0.598	0.604	0.656	0.661

Table 6: **Incumbency**

Notes: The table shows results for the constituency fixed-effects regression model and investigates the effects of incumbency. Net asset growth of the politician is the dependent variable. Winner is 1 if the politician won election e=1 and 0 if the politician did not win. Incumbent is the dummy for incumbency. We also include an interaction term between Winner and Incumbent. Minister indicates whether the constituency winner was appointed to the state's Council of Ministers. Log(Net Assets) is the logarithm of the politician's net assets. Robust standard errors are given in parentheses. The reported constant is the average value of the fixed effects. Coefficients with ***, **, and * are statistically significant at the 1%, 5%, and 10% levels, respectively.

	(1)	(2)
Variables	Net Asset Growth	Net Asset Growth
Winner	-0.0455*	-0.0530**
	(0.0264)	(0.0262)
Incumbent	-0.0864***	-0.0819***
	(0.0312)	(0.0311)
Winner*Incumbent	0.203***	0.179***
	(0.0597)	(0.0596)
Minister		0.117***
		(0.0366)
log(Net Assets)	-0.0736***	-0.0737***
	(0.0086)	(0.0085)
Constant	1.356***	1.356***
	(0.1310)	(0.1290)
Observations	1100	1100
R-squared	0.596	0.604

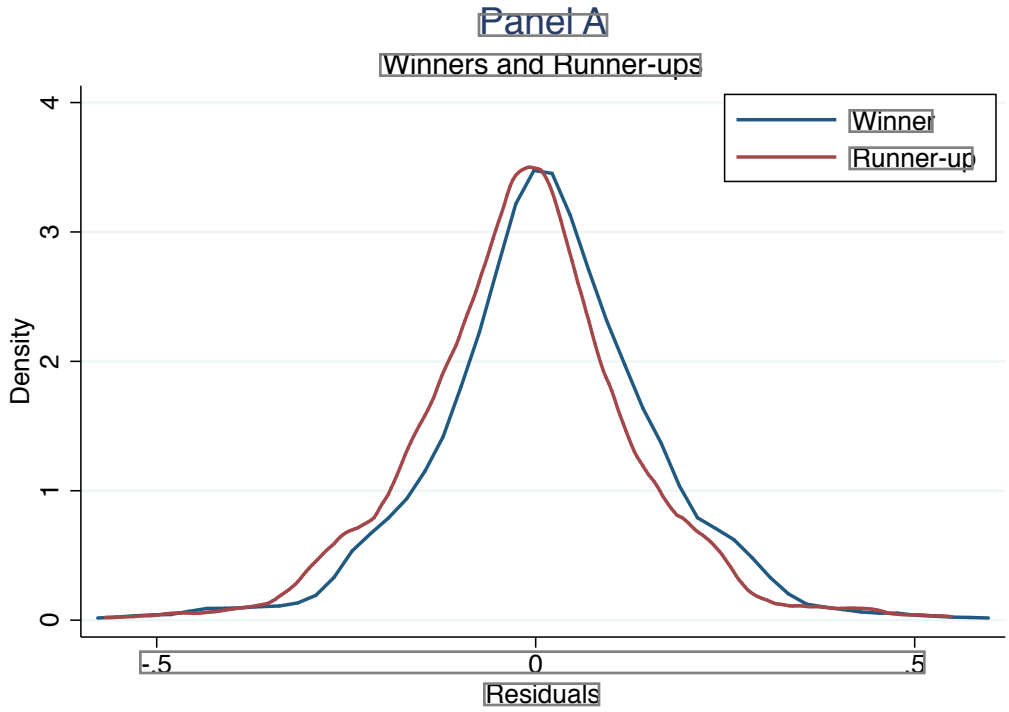
Table 7: **Effect of Asset Growth on Reelection**

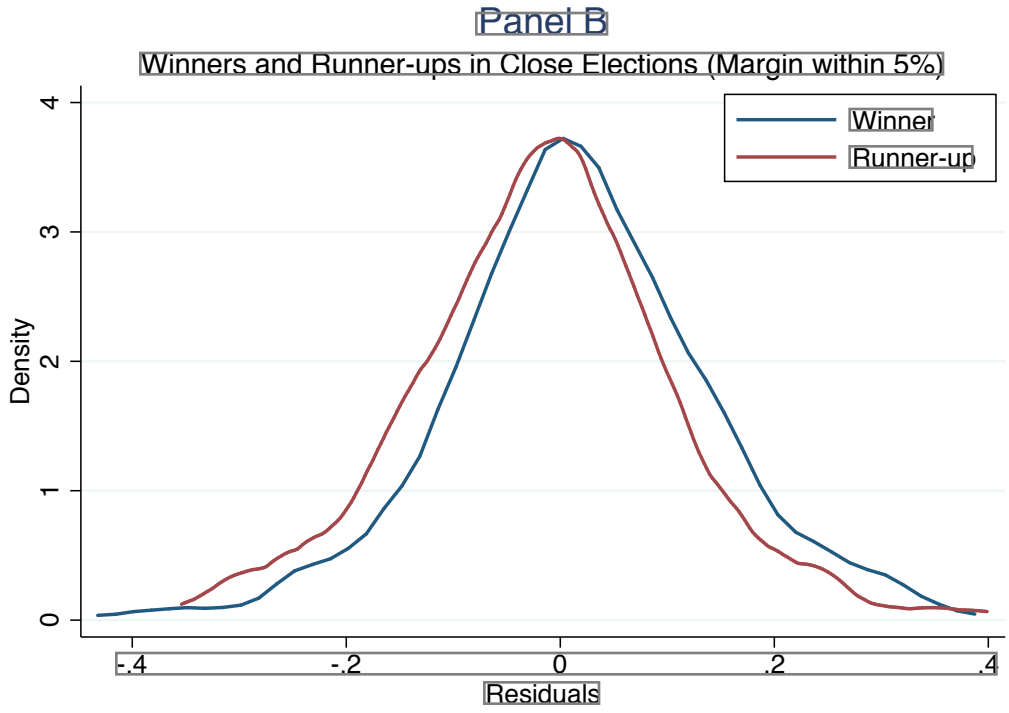
Notes: The following constituency fixed-effects model is run: $Reelection_{wc} = \alpha_c + \beta_1 * Winner_{wc} + \beta_2 * Net\_Asset\_Growth_{wc} + \beta_3 * Winner_{wc} * Net\_Asset\_Growth_{wc} + \epsilon_{wc}$ where $Reelection_{wc}$ is an indicator variable that takes on a value of 1 if the candidate won election $e = 2$ and 0 otherwise. Robust standard errors are given in parentheses. The reported constant is the average value of the fixed effects. Coefficients with ***, **, and * are statistically significant at the 1%, 5%, and 10% levels, respectively.

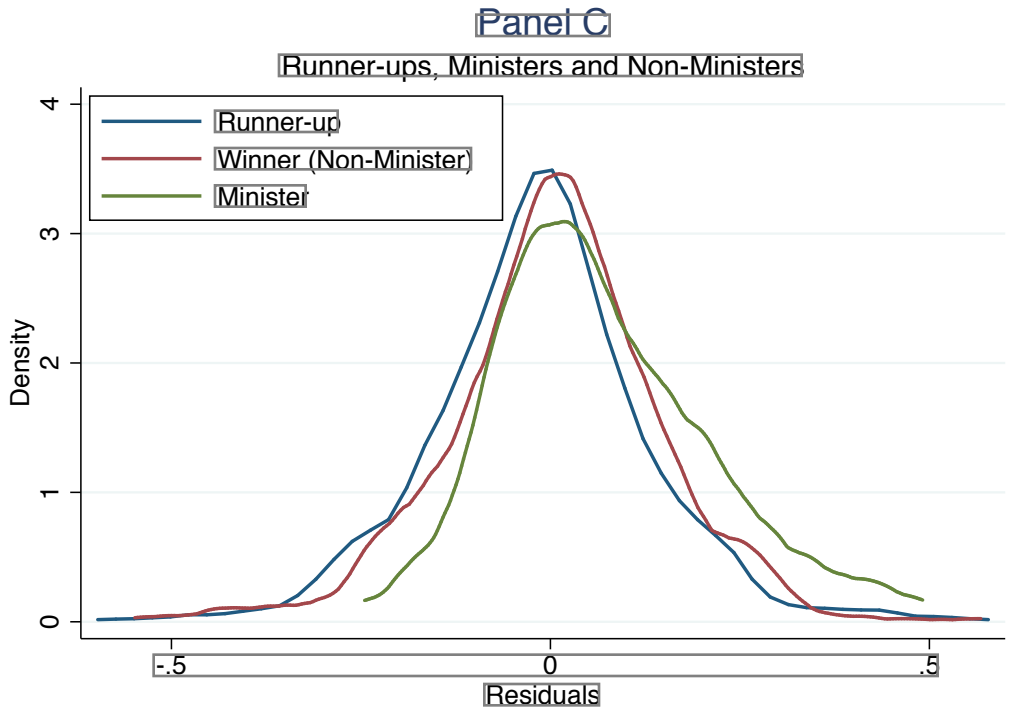
	(1)	(2)
Variables	Reelection	Reelection
Winner	-0.00608	-0.0593
	(0.0378)	(0.0639)
Net Asset Growth	0.141	0.0235
	(0.1190)	(0.1640)
Winner*Net Asset Growth		0.242
		(0.2360)
Constant	0.392***	0.416***
	(0.0362)	(0.0428)
Observations	1098	1098
R-squared	0.204	0.205

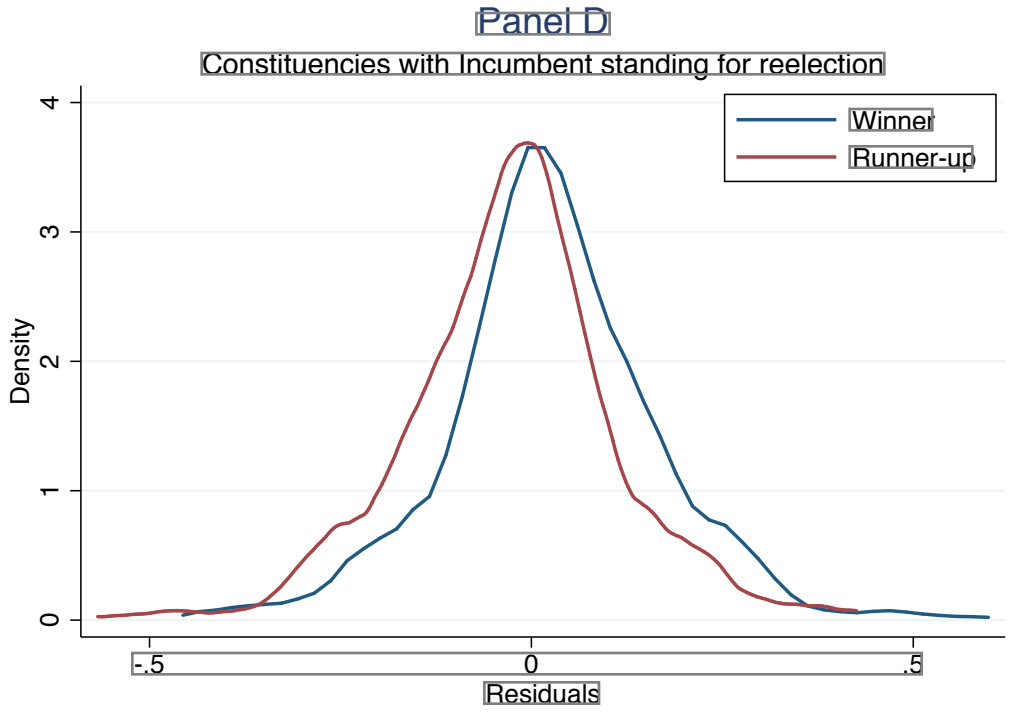
Figure 1: Kernel Densities of Asset Growth Residuals

Notes: This figure plots Epanechnikov kernel densities of residuals obtained from regressing growth in net assets on candidate observables (characteristics such as net assets, gender, and age but excluding winner dummy and margin) for the sample of constituency-matched candidates. Panel A uses the entire sample of constituency-matched candidates while Panel B only uses candidates that were within a margin of 5 percentage points ("close elections"). In both cases, the Kolmogorov-Smirnov test for equality of the distribution function of winner and runner-up residuals is rejected at the 1% level and 5% level, repectively. In Panel C, we further disaggregate winners into ministers and non-ministers and plot kernel densities of these two groups as well as the runners-up. In Panels D and E, we disaggregate the sample based on whether an incumbent is standing for reelection in the constituency. Panel D shows winner and runner-up densities for the sample of constituencies where an incumbent was standing for reelection - test for equality of the distribution function is rejected at the 1% level. Panel E shows densisties for the subsample of non-incumbent constituencies - test for equality of the distribution function is rejected at the 10% level.




Panel B
Winners and Runner-ups in Close Elections (Margin within 5%)
Winner
Runner-up
Density
0
1
2
3
4
-.4
-.2
0
.2
.4
Residuals


Panel C
Runner-ups, Ministers and Non-Ministers
Runner-up
Winner (Non-Minister)
Minister
Density
0
1
2
3
4
-.5
0
.5
Residuals


Panel D
Constituencies with Incumbent standing for reelection
Winner
Runner-up
Density
0
1
2
3
4
-.5
0
.5
Residuals

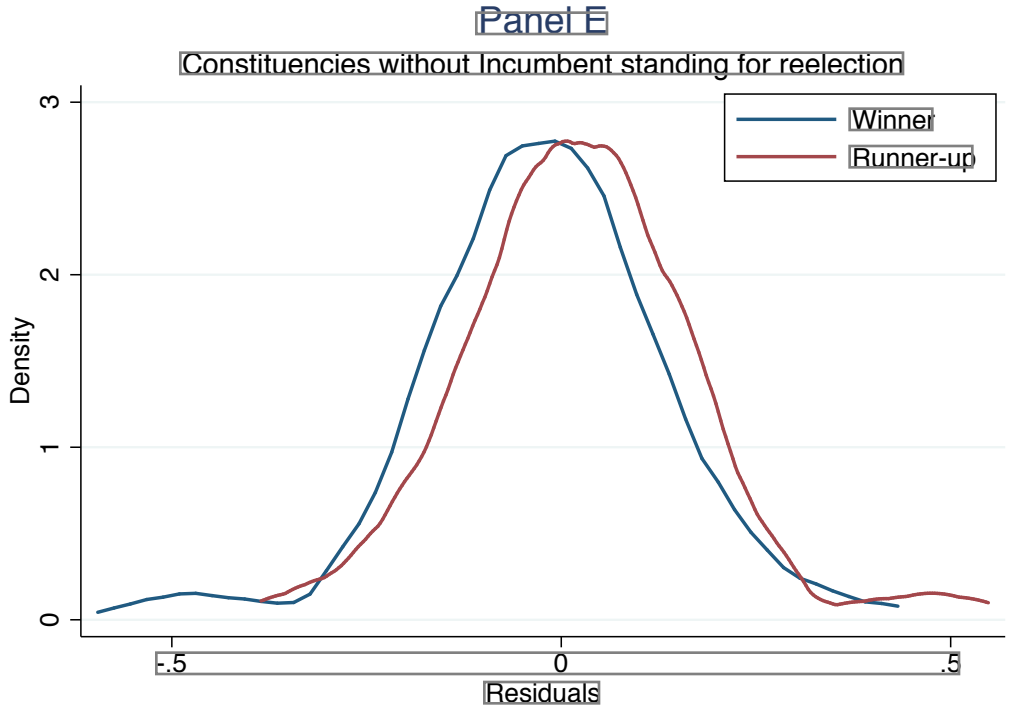
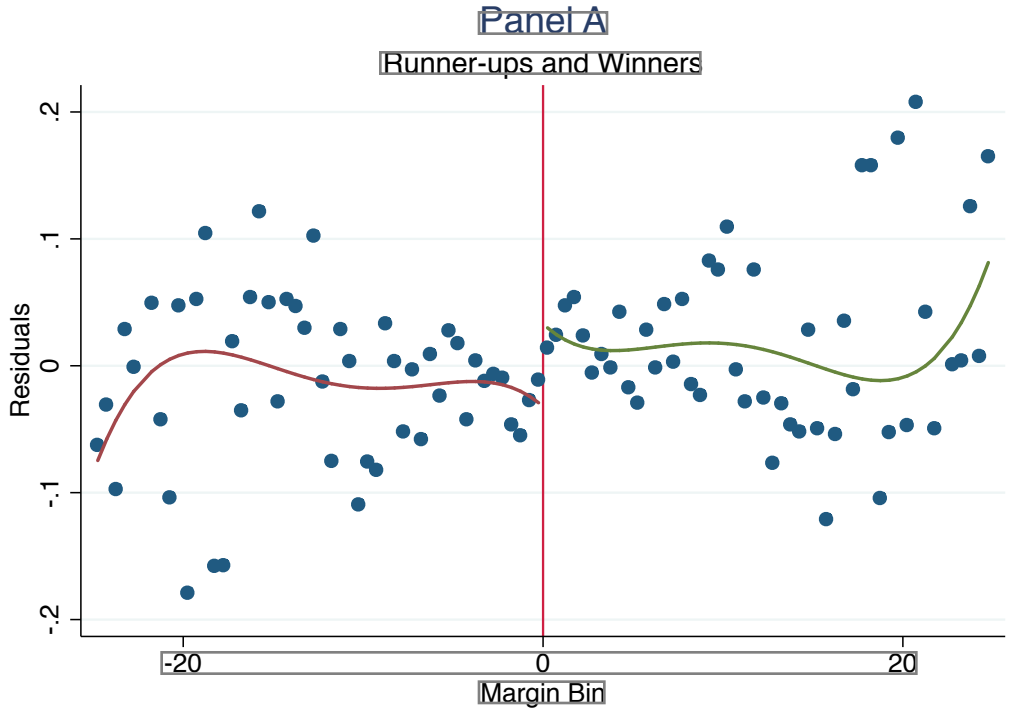
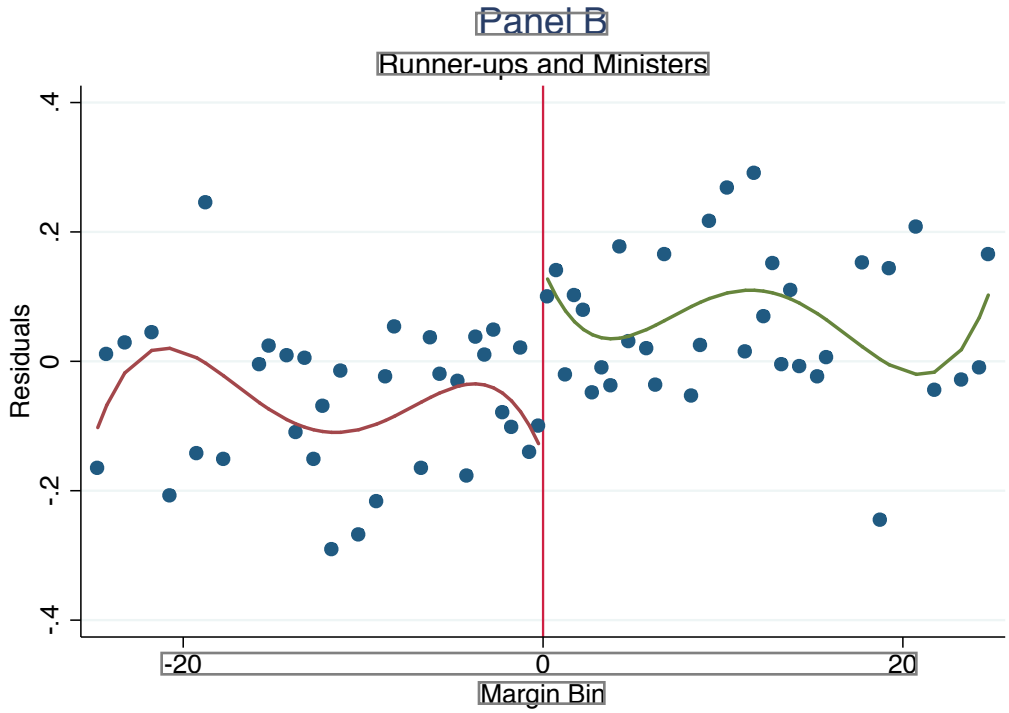
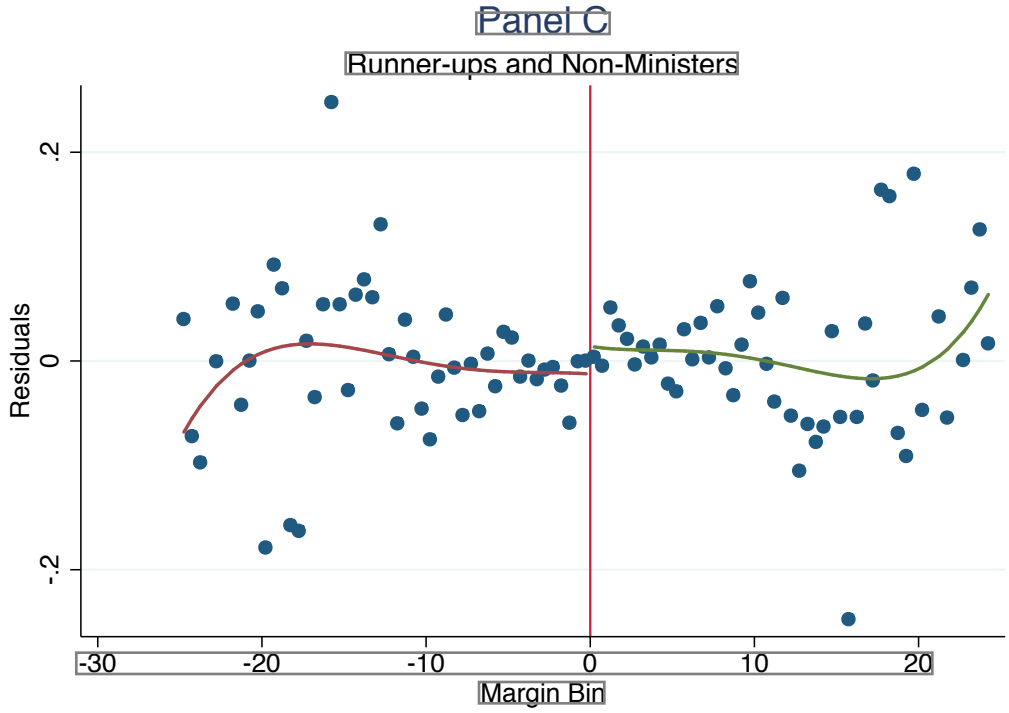

Panel E
Constituencies without Incumbent standing for reelection
Winner
Runner-up
Density
0
1
2
3
-.5
0
.5
Residuals

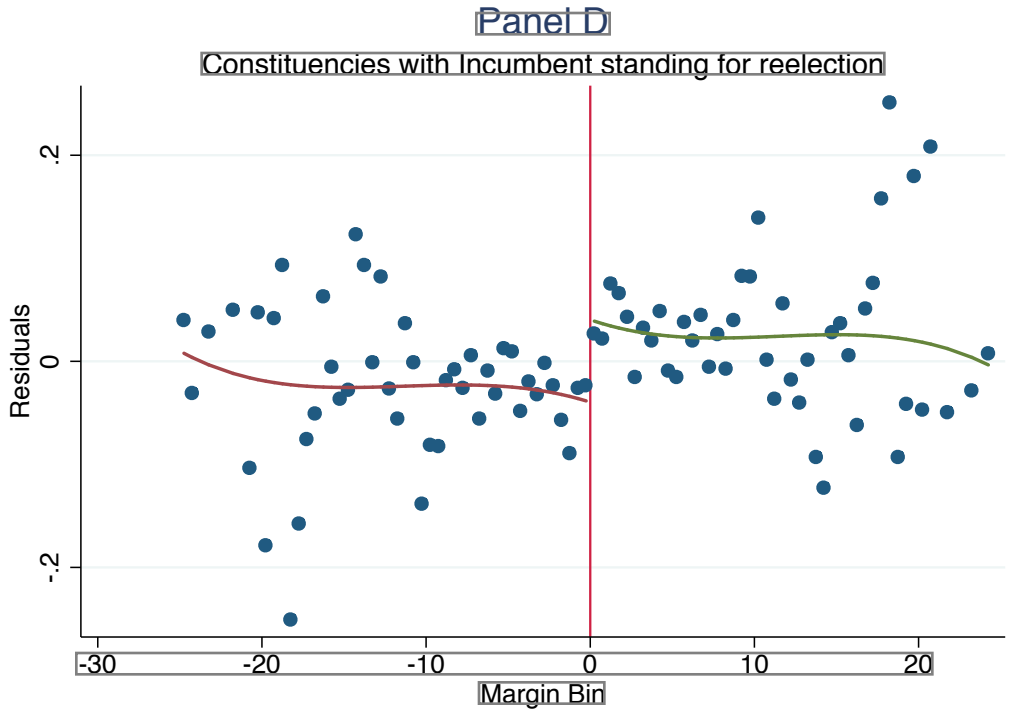
Figure 2: Regression Discontinuity Design

Notes: This figure investigates residuals obtained from regressing growth in net assets on candidate observables (characteristics such as net assets, gender, age and incumbency but excluding winner dummy and margin) as a function of winning margin for the sample of constituency-matched candidates. We first collapse residuals on margin intervals of size 0.5 (margins ranging from -25 to +25) and then estimate the following equation: $\bar{R}_i = \alpha + \tau \cdot D_i + \beta \cdot f(Margin(i)) + \eta \cdot D_i \cdot f(Margin(i)) + \epsilon_i$ where $\bar{R}_i$ is the average residual value within each margin bin i, $Margin(i))$ is the midpoint of the margin bin i, D_i is an indicator that takes a value of 1 if the midpoint of margin bin i is positive and a value of 0 if it is negative, and ϵ_i is the error term. $f(Margin(i))$ and $D_i \cdot f(Margin(i))$ are flexible fourth-order polynomials. Panel A shows results using the sample of all winners sand runners-up; Panel B only includes Ministers with corresponding Runners-up; Panel C only includes winners that were not appointed to the Council of Ministers with corresponding Runners-up. In Panels D and E, we disaggregate the sample based on whether an incumbent is standing for reelection in the constituency. Panel D shows results for the sample of constituencies where an incumbent was standing for reelection; Panel E shows the subsample of non-incumbent constituencies.




Panel B
Runner-ups and Ministers
Residuals
.4
.2
0
-.2
-.4
-20
0
20
Margin Bin


Panel C
Runner-ups and Non-Ministers
Residuals
.2
0
-.2
-30
-20
-10
0
10
20
Margin Bin


Panel D
Constituencies with Incumbent standing for reelection
Residuals
.2
0
-.2
-30
-20
-10
0
10
20
Margin Bin

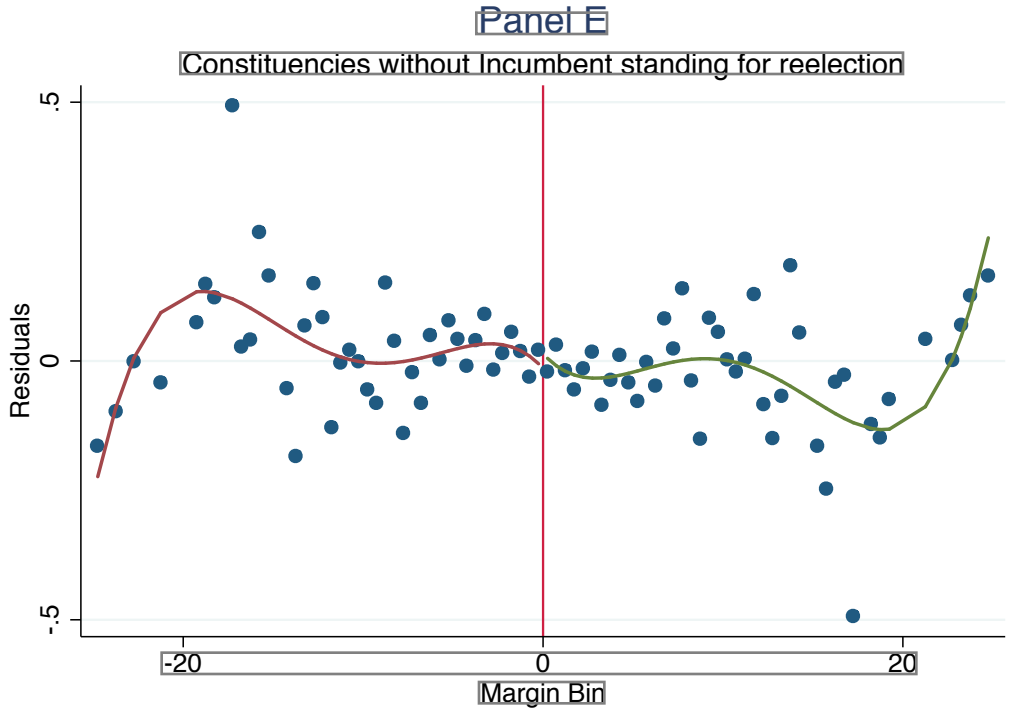
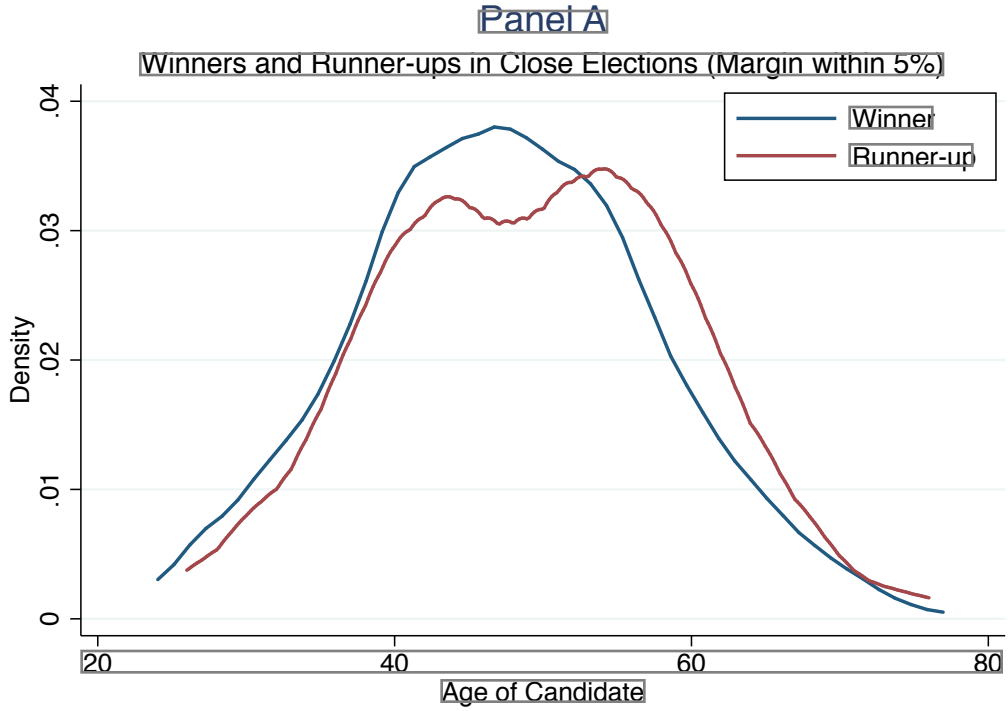

Panel E
Constituencies without Incumbent standing for reelection
Residuals
.5
0
-.5
-20
0
20
Margin Bin

Figure 3: Kernel Densities of Observables Characteristics in Close Elections

Notes: This figure plots Epanechnikov kernel densities of age and log(Net Assets) for the sample of constituency-matched candidates that were within a *Margin* of 5 percentage points ("close elections"). Panel A plots age densities for winners and runners-up and Panel B plots densities for log(Net Assets). For both observables, the Kolmogorov-Smirnov test for equality of the distribution function of winner and runner-up cannot be rejected at conventional levels.



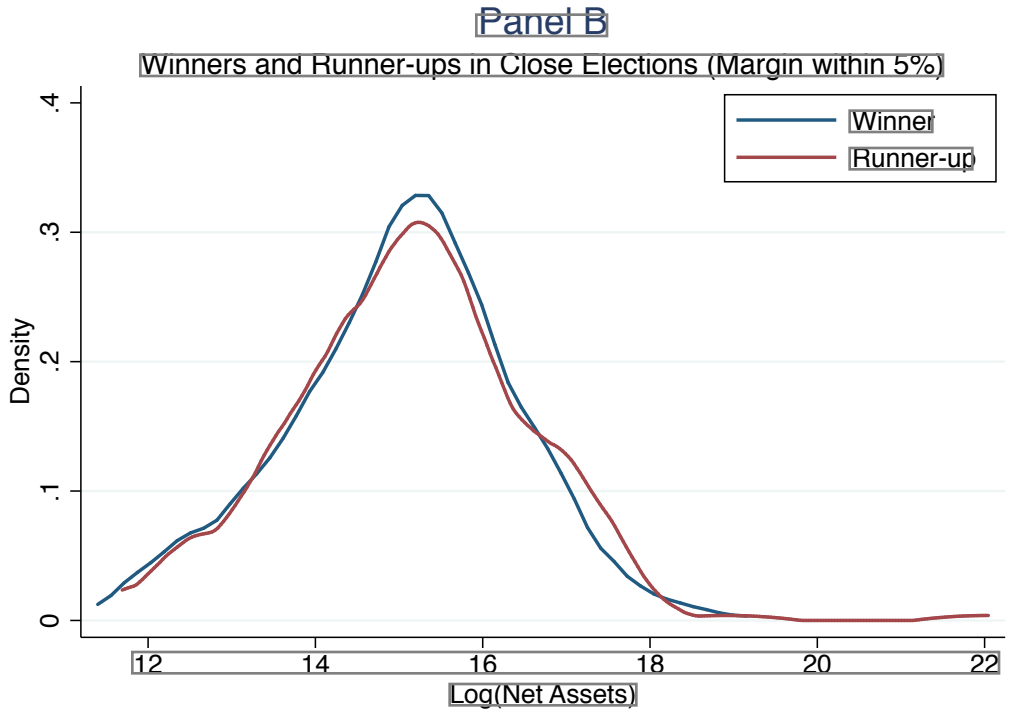
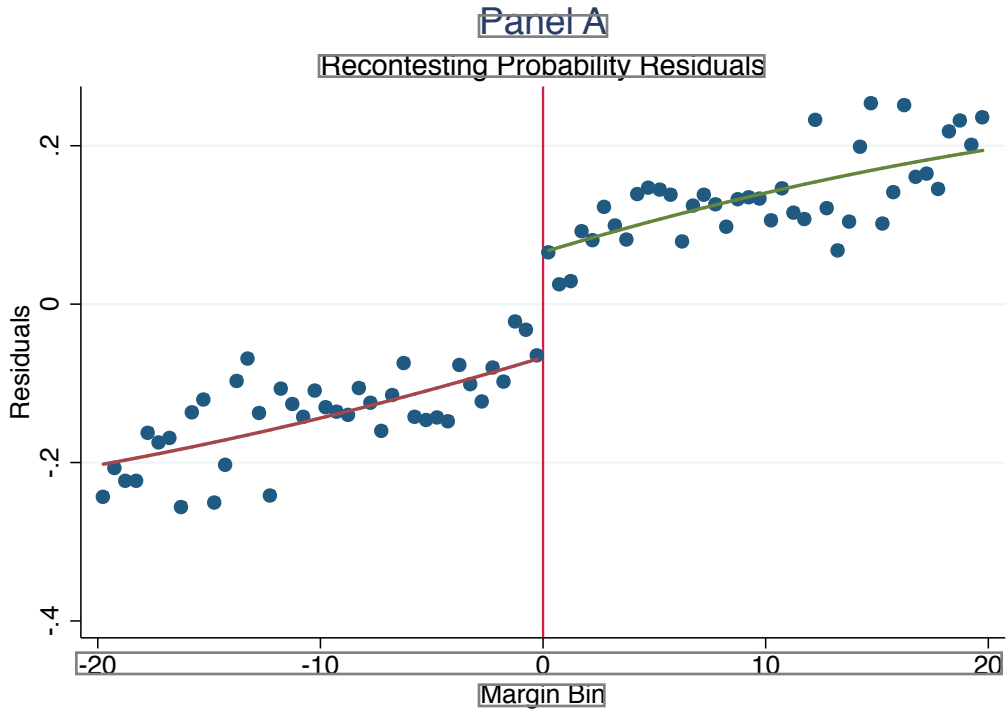
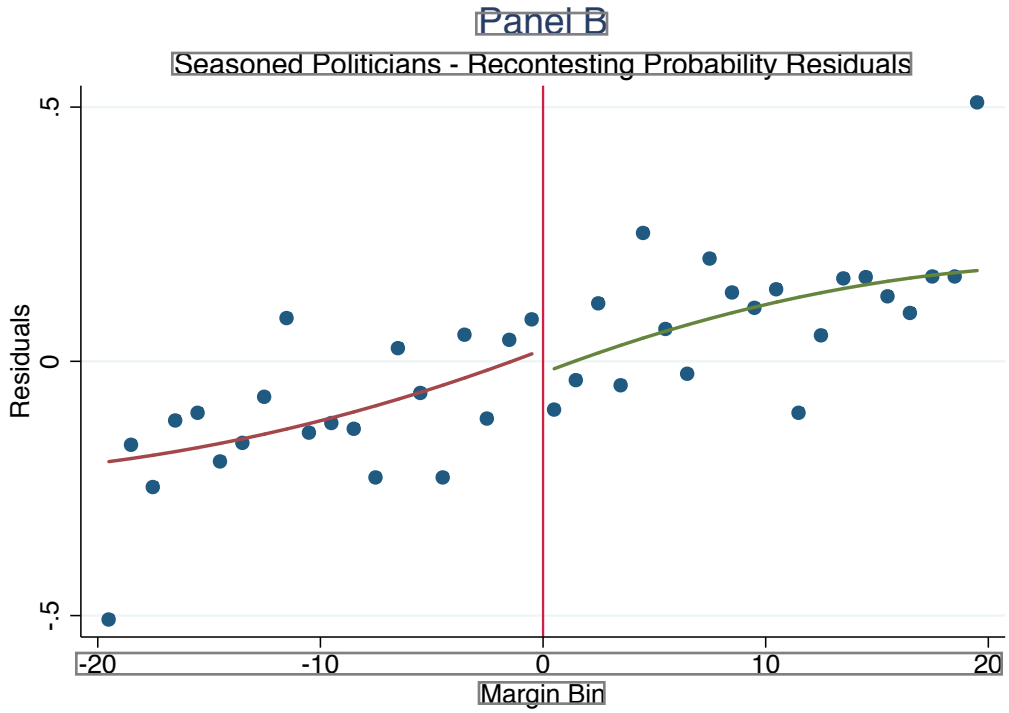
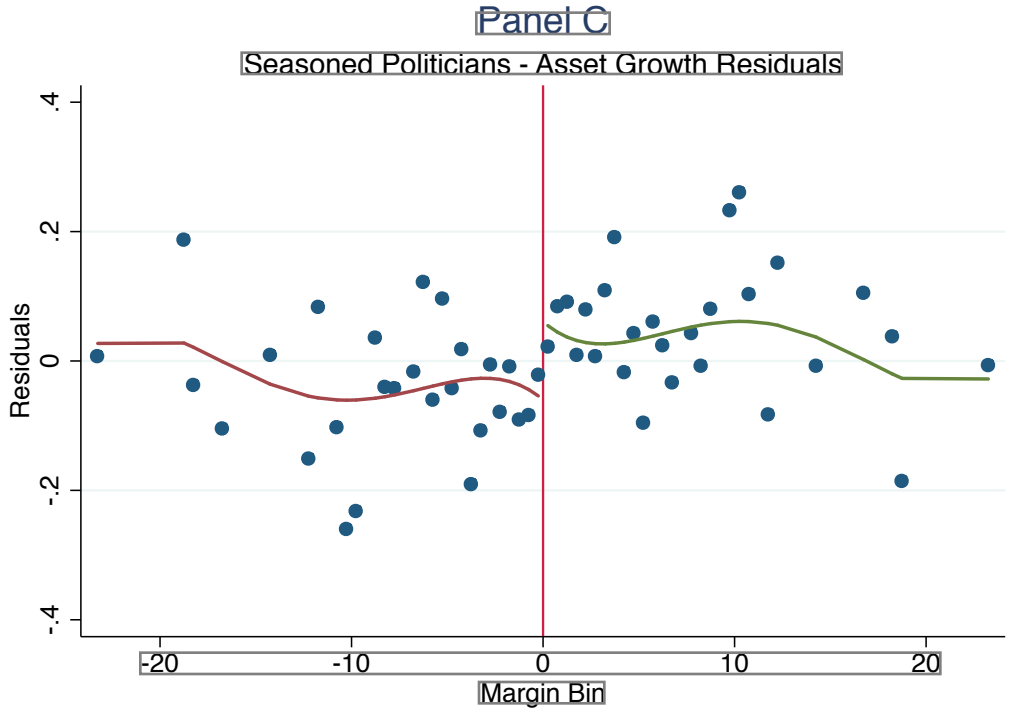

Panel B
Winners and Runner-ups in Close Elections (Margin within 5%)
Winner
Runner-up
Density
0
.1
.2
.3
.4
12
14
16
18
20
22
Log(Net Assets)

Figure 4: Recontesting of Candidates

Notes: We investigate recontesting decisions for winners and runners-up. In a first stage we obtain residuals from regressing a binary recontesting dummy on candidate observables (characteristics such as age, gender, incumbency but excluding winner dummy and margin) and constituency fixed effects. Residuals are then collapsed into margin bins and a polynomial is fitted to the data. In Panel A, we show results for the full sample (5246 candidates), indicating a significant jump in recontesting around the winning threshold (point estimate of 0.1328 with a t-statistic of 6.41). In Panel B, we show results for for the subsample of seasoned politicians (322 candidates) - no jump in recontesting can be detected around the threshold. In Panel C, we analyze net asset growth residuals for the subsample of seasoned politicians. The point estimate of the discontinuity is 0.1206 and significant at the 5% level (t-statistic of 2.19).




Panel B
Seasoned Politicians - Recontesting Probability Residuals
Residuals
.5
0
-.5
-20
-10
0
10
20
Margin Bin


Panel C
Seasoned Politicians - Asset Growth Residuals
Residuals
.4
.2
0
-.2
-.4
-20
-10
0
10
20
Margin Bin