ONLINE APPENDIX FOR
"Mobile Politicians: Opportunistic Career Moves and Moral Hazard"

Appendix 1- Table 1
Change in Parties' Seats in the Parliament by Parliamentary Term

Panel A: 19th term 1991- 1995

	Beginning of term	End of term
ANAP	115 (25.6%)	97 (21.6%)
DSP	7 (1.6%)	19 (4.2%)
DYP	178 (39.6%)	162 (36.0%)
RP	62 (13.8%)	38 (8.4%)
SHP	88 (19.6%)	44 (9.8%) *
Other Parties		26 (5.8%)
Independent MPs		42 (9.3%)
Not an MP anymore		22 (4.9%)
Total	450	

Panel B: 20th term 1995- 1999

	Beginning of term	End of term
ANAP	132 (24.0%)	130 (23.6%)
CHP	49 (8.9%)	51 (9.3%)
DSP	76 (13.8%)	59 (10.7%)
DYP	135 (24.5%)	89 (16.2%)
RP	158 (28.7%)	149 (27.1%) **
Other parties		31 (5.6%)
Independent MPs		34 (6.2%)
Not an MP anymore		7 (1.3%)
Total	550	

Panel C: 21st term 1999-2002

	Beginning of term	End of term
ANAP	86 (15.6%)	75 (13.6%)
DSP	136 (24.7%)	65 (11.8%)
DYP	85 (15.5%)	85 (15.5%)
FP	111 (20.2%)	84 (15.3%) ***
MHP	129 (23.5%)	123 (22.4%)
Other parties		91 (16.5%)
Independent MPs	3 (0.5%)	16 (2.9%)
Not an MP anymore		12 (2.2%)
Total	550	

Appendix 1- Table 1 (concluded)

Panel D: 22nd term 2002-2007

	Beginning of term	End of term
AKP	365 (66.4%)	352 (64.0%)
CHP	177(32.2%)	149 (27.1%)
Other Parties		22 (4.0%)
Independent MPs	8(1.5%)	20 (3.6%)
Not an MP anymore		7 (1.3%)
Total	550	

Panel E: 23rd term 2007-2011

	Beginning of term	End of term
AKP	341 (62.0%)	333 (60.5%)
CHP	112 (20.4%)	102 (18.5%)
MHP	71 (12.9%)	69 (12.5%)
Other parties		28 (5.1%)
Independent MPs	26 (4.7%)	8 (1.5%)
Not an MP anymore		10 (1.8%)
Total	550	

Notes: "Other Parties" are those that were not represented in the parliament at the beginning of the parliamentary term. "Independent MPs" are not members of any political party. MPs who lost their office because of resignation, expulsion, death, or taking another office such as the head of the state or governor of a city, are listed as "Not an MP anymore".

* SHP and CHP merged in February 1995 under the name of CHP. 44 MPs remained in CHP as the end of the 19th term December 1995.

** RP is shut down by the constitutional court in January 1998. Ex-members of RP started and joined a new party, FP. As of the end of the 20th term in April 1999, FP had 149 seats in the parliament.

*** FP is shut down by the constitutional court in June 2001. Its ex-members started a new party, SP. At the end of the 21st term in November 2002, 84 MPs were members of SP.

Appendix 1- Table 2
The Effect of Electoral Uncertainty on the Probability of Party Switching
***by MP's Education* (Conditioning on MP's Area of Study)**

	Whole Sample		MPs *with* MA or PhD		MPs *without* MA or PhD	
	(1)	(2)	(3)	(4)	(5)	(6)
Ranked 2nd or lower	0.034***		0.016		0.039**	
	(0.013)		(0.031)		(0.016)	
Margins of Victory (MV)		-0.001		0.003		-0.002**
		(0.001)		(0.003)		(0.001)
University Quality Score	-0.003**	-0.003*	-0.003	-0.003	-0.004**	-0.003
	(0.001)	(0.002)	(0.004)	(0.004)	(0.002)	(0.002)
Member of Gov't Party	0.070***	0.087***	0.063	0.102	0.081***	0.094***
	(0.018)	(0.020)	(0.048)	(0.067)	(0.022)	(0.024)
Elected from same	-0.113***	-0.112***	-0.110*	-0.145*	-0.119***	-0.114***
party before	(0.023)	(0.024)	(0.065)	(0.080)	(0.026)	(0.026)
Relative salary	0.047**	0.047**	0.208*	0.393**	0.047**	0.041*
	(0.019)	(0.021)	(0.114)	(0.188)	(0.022)	(0.023)
Party's Vote Share	-0.001**	-0.001	-0.000	0.001	-0.002***	-0.002**
	(0.001)	(0.001)	(0.002)	(0.002)	(0.001)	(0.001)
Seats	-0.006**	-0.007**	-0.004	-0.007	-0.008**	-0.007*
	(0.003)	(0.003)	(0.006)	(0.007)	(0.003)	(0.004)
Cabinet member	-0.024	-0.030*	-0.107***	-0.101**	-0.017	-0.019
	(0.017)	(0.018)	(0.041)	(0.047)	(0.021)	(0.021)
Freshman	-0.140***	-0.141***	-0.129**	-0.142*	-0.164***	-0.161***
	(0.024)	(0.025)	(0.065)	(0.076)	(0.028)	(0.028)
Age ≥ 50	-0.022*	-0.023*	0.014	-0.011	-0.041**	-0.039**
	(0.012)	(0.013)	(0.025)	(0.029)	(0.016)	(0.016)
Female	0.047*	0.035	-0.048	-0.068	0.072**	0.058*
	(0.026)	(0.026)	(0.041)	(0.047)	(0.034)	(0.034)
MA/PhD	-0.006	-0.003				
	(0.013)	(0.014)				
Basic Sciences	-0.006	-0.013	0.033	0.015	-0.002	-0.013
	(0.031)	(0.031)	(0.065)	(0.073)	(0.038)	(0.037)
Comp Sci, Elect Eng	0.032	0.025	0.004	0.000	0.037	0.022
	(0.033)	(0.033)	(0.084)	(0.081)	(0.041)	(0.039)
Other Engineering	0.009	-0.003	-0.031	-0.011	0.022	0.003
	(0.021)	(0.021)	(0.045)	(0.047)	(0.027)	(0.026)
Health Sciences	0.028	0.004	0.035	0.006	0.039	0.007
	(0.022)	(0.023)	(0.040)	(0.044)	(0.032)	(0.032)
Education	0.014	0.018	-0.724***	-0.722**	0.009	0.008
	(0.027)	(0.028)	(0.275)	(0.353)	(0.033)	(0.033)

Appendix 1- Table 2 (concluded)

	Whole Sample		MPs *with* MA or PhD		MPs *without* MA or PhD	
	(1)	(2)	(3)	(4)	(5)	(6)
Economics/Management	0.021	0.017	0.050	0.086*	0.021	0.012
	(0.020)	(0.021)	(0.043)	(0.052)	(0.026)	(0.025)
Law	-0.014	-0.019	0.010	0.013	-0.018	-0.025
	(0.022)	(0.023)	(0.058)	(0.056)	(0.027)	(0.026)
Observations	1594	1497	269	248	1144	1082

The outcome variable is *Party Switch* which takes the value of one if the MP's party affiliation at the beginning of the parliamentary term is different from their affiliation at the end of the term. Table presents the marginal effects obtained from probit regressions. The whole set of control variables are included in the regressions (as in Table 5). Robust standard errors clustered at the MP level are reported in parentheses. *, **, and *** indicate statistical significance at 10%, 5% and 1%, respectively.

Basic Sciences – graduates who major in sciences such as chemistry, physics, biology, astronomy, geology. **Comp Sci, Elect Eng** – graduates who major in computer engineering, electric or electronics engineering, and mathematics, statistics **Other Engineering** –engineering in all other fields such as industrial engineering, civil engineering, mechanical engineering, chemical engineering, agricultural engineering, forestry engineering, and architecture. **Health Sciences** – dentistry, medical doctors, pharmaceutics, veterinarian. **Education** – teachers, foreign languages, Turkish language, physical education majors, graduates of fine arts schools and conservatories. **Economics/Management** – graduates from departments of economics, management, marketing, accounting, finance, banking, trade, tourism management and graduates of related schools. **Law** – graduates of law school. **Social Sciences** – graduates from departments of geography, history, sociology, philosophy, and other social sciences, theology, political science, international relations, public administration, journalism. **Other** – graduates with other majors, undeclared/unknown majors, and graduates of military schools and police academy.

Appendix 2: Selection on Unobservables

In Table 6, we show that the rank of an MP on the party ticket increases his/her probability of party switching in tighter elections. In addition, our results in Table 7 suggest that election uncertainty increases the probability of party switching even among the top-ranked MPs. Although these findings support our hypothesis of a positive causal effect of election uncertainty on party switching, they do not rule out the possible bias due to selection into treatment based on unobservables.

Altonji, Elber and Taber (2005) suggested a method to account for the possible selection bias under the assumption that selection into "treatment" due to unobservable factors is equal to the selection into treatment due to observables. Specifically, they suggest estimating equations (A1) and (A2) below using bi-variate probit.

(A1) $Switch = \beta R2 + X\gamma + \varepsilon$

(A2) $R2 = X\delta + \omega$

where $Switch$ and $R2$ stand for *Party Switch* and *Ranked 2nd or Lower*, respectively. X is the MP's observed characteristics. β is the coefficient of interest. ε and ω are normally distributed, with zero mean and variance 1. Their correlation is ρ. The assumption of equality between selection due to unobservables and selection on observed factors is expressed as:

(A3) $\frac{Cov(\varepsilon, R2)}{V(\varepsilon)} = \frac{Cov(X\gamma, R2)}{V(X\gamma)}$

The left hand side of the equality (A3) is equal to ρ (as X is assumed to be not correlated with ε). Estimation is conducted iteratively. For the initial value of ρ, we estimate equations (A1) and (A2) with bivariate probit without any restrictions, and obtain an estimate for $\frac{Cov(X\gamma, R2)}{V(X\gamma)} = \rho$. We then estimate the system by imposing the restriction in (A3) using the estimated value of ρ. Each iteration provides a value of ρ to be used in the next step. After convergence is reached, the final estimate of ρ is -0.24. The marginal effect of *Ranked 2nd or Lower* in regression (A1) is 0.09 (bootstrapped std. err.: 0.02). This suggests that our estimate reported in Table 5 (0.026) is an underestimate of the true impact under the assumption of (A3) of Altonji et al. (2005).

Another procedure in Altonji, Elber and Taber (2005) provides an informal way to assess the selection bias. Specifically, this method provides a means to evaluate the magnitude of the selection bias required for a nill effect of *Ranked 2nd or Lower*. Inserting equation (A2) into (A1) yields:

(A4) $\quad Switch = \beta(X\delta + \omega) + X\gamma + \varepsilon = \beta\omega + X(\beta\delta + \gamma) + \varepsilon$

In this regression, the bias in the estimate of β is

(A5) $\quad plim(\hat{\beta} - \beta) = \frac{Cov(\omega,\varepsilon)}{V(\omega)} = \frac{V(R2)}{V(\omega)}[E(\varepsilon|R2 = 1) - E(\varepsilon|R2 = 0)]$[1]

To evaluate the bias, an assumption about $[E(\varepsilon|R2 = 1) - E(\varepsilon|R2 = 0)]$ is required. Altonji, Elber and Taber (2005) suggest:

(A6) $\quad \frac{E(\varepsilon|R2=1) - E(\varepsilon|R2=0)}{V(\varepsilon)} = \frac{E(X\gamma|R2=1) - E(X\gamma|R2=0)}{V(X\gamma)}$

which is equivalent to (A3). Assuming $V(\varepsilon) = 1$, the estimate of $E(X\gamma|R2 = 1) - E(X\gamma|R2 = 0)/V(X\gamma)$ will provide $E(\varepsilon|R2 = 1) - E(\varepsilon|R2 = 0)$. To consistently estimate γ, we estimate equation (A1) under the restriction $\beta = 0$. The bias in $\hat{\beta}$ can then be calculated using the formulation in (A5). This method leads to an estimate of -0.12 (std. err.: 0.05) of the bias on the coefficient of $Ranked\ 2nd\ or\ Lower$. In other words, if the influence of unobservables on MPs' ranks is same as the influence of the observed factors, then

[1] To see this note first that $Cov(\omega, \varepsilon)$=$Cov(\varepsilon, R2)$. Secondly, $Cov(\varepsilon, R2) = E(\varepsilon R2) - E(\varepsilon)E(R2) = E(\varepsilon R2) - pE(\varepsilon)$, where p is $E(R2)$. $E(\varepsilon R2) = E(\varepsilon R2|R2 = 1)p + E(\varepsilon R2|R2 = 0)(1-p) = E(\varepsilon|R2 = 1)p$. $pE(\varepsilon) = p[E(\varepsilon|R2 = 1)p + E(\varepsilon|R2 = 0)(1-p)]$. Therefore, $Cov(\varepsilon, R2) = p(1 - p)[E(\varepsilon|R2 = 1) - E(\varepsilon|R2 = 0)] = V(R2)[E(\varepsilon|R2 = 1) - E(\varepsilon|R2 = 0)]$.

our estimate constitutes a *lower bound* for the effect of election uncertainty on the probability of party switching.[2]

As a further robustness check, we implement the estimator discussed in Oster (2014). Oster (2014) relaxes the assumption of the equality of selection on unobservables and on unobservables proposed by Altonji et al. (2005). Specifically, the selection on unobservables is allowed to be proportional to the selection on observed factors. This modification alters the assumption in equation (A3) as follows:

(A7) $$\frac{Cov(\varepsilon, R2)}{V(\varepsilon)} = \theta \frac{Cov(X\gamma, R2)}{V(X\gamma)}$$

where θ represents the mentioned proportionality. The unbiased estimator derived by Oster (2014) is a function of the factors below:

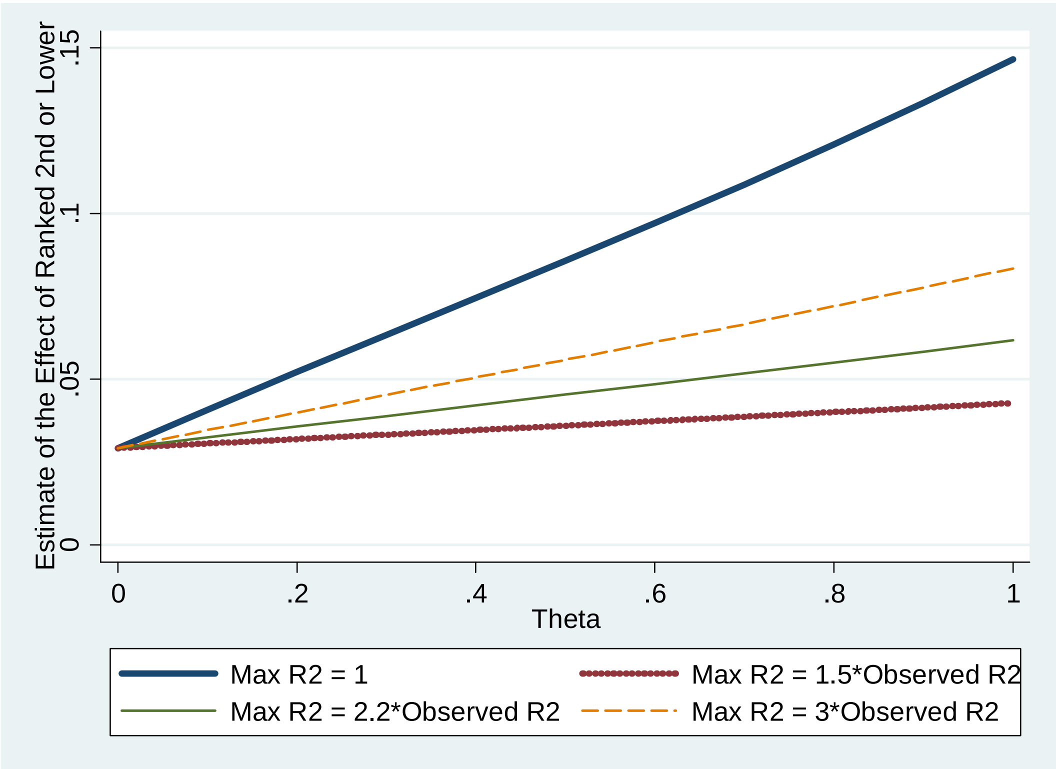
a. how the coefficient of interest changes when control variables are added to the regression
b. how R^2 of the regression changes when control variables are added to the regression
c. the maximum R^2 that could be achieved if all unobservables were also included in the regression.
d. the relative importance of selection into treatment due to unobservables versus observables (θ).

We estimated the items in factors (a) and (b) with OLS. By definition of R^2, its upper bound is 1. However, Oster (2014) makes a case that the upper bound of R^2 could be smaller in the presence of a random component or measurement error in the outcome variable. She finds that in majority of randomized trials (where selection due to unobservables is of little concern), the estimated effect does not change sign if maximum R^2 is set to 2.2 times the observed R^2. The factor (d), the relative importance of selection into treatment due to unobservables versus

[2] This means that for the true effect of election uncertainty (measured by *Ranked 2nd or Lower)* to be zero, the omitted variable bias must be positive (the opposite sign of selection on observables).

observables, requires an assumption of its value. In most cases θ is chosen to be between 0 and 1.

We estimated the bias-corrected point estimates of the effect of *Ranked 2^nd^ or Lower* for various values of proportionality (θ) and using alternative upper bounds of R^2 using the estimator in Oster (2014). The results are presented in the figure below. The vertical axis measures the estimated effect, and the horizontal axis measures the value of θ used to estimate the effect. The four lines represent the set of estimates with different values for upper bound of R^2. Specifically, the estimates that are depicted as the thick solid line are obtained when 1 is used as the upper bound of R^2. The dashed, solid thin and dotted lines represent the sets of estimates when the upper bounds of R^2 are 1.5, 2.2 and 3 times the observed R^2 (0.19).



The upward sloping lines suggest that the true impact of election certainty on party switching gets larger as the degree of proportionality (between selection on unobservables and on observables (θ) increases (alternatively, as the relative importance of selection into treatment due to unobservables versus due to observables gets greater). The estimator in Altonji, Elber and Taber (2005) is the special case of this picture with maximum R^2 and θ are both being 1. (This corresponds to the right-end of the thick solid line).

The analysis in this appendix section points to a positive effect of *Ranked 2nd or Lower* on party switching given that selection on unobservables and selection on observables are positively related as assumed by Altonji et al. (2005) and Oster (2014). For the true effect to be zero, selection on unobservables must move the coefficient of *Ranked 2nd or Lower* in the opposite direction of selection on observables. Furthermore, the relative importance of selection into being ranked low on the ticker due to unobservables must be at least as large as selection due to observables ($\theta \leq -1$). This is quite unlikely as the set of control variables we include in our regressions is not selected randomly. Rather it includes important determinants of both being low-ranked on the ticket and of party switching, as suggested by the previous papers. Oster (2014) argues that controlling for important confounding observables in the regression likely limits θ between 0 and 1.

Appendix 3: Regression Discontinuity Analysis

We investigate the robustness of our findings using a regression discontinuity design where we exploit the randomness introduced by the d'Hondt method. The candidates who are elected may change significantly, when the vote distribution is altered even marginally. In a subset of the districts this may lead to the election of low-ranked candidates of a party instead of the high-ranked candidates of another party (or *vice versa*). Consider the example given in Appendix 3 Table 1 (which is same as the Table 1 in the main text), where 5 parties compete for 7 seats. Under Vote Distribution 1, displayed in the top panel, the top-ranked candidates from parties B and C (B1 and C1), the top two candidates of Party D (D1 and D2), and the top three candidates of party E (E1, E2 and E3) are elected as MPs.

The list of these candidates is presented in the top panel of Appendix 3-Table 2 in the order in which they qualified to enter the Parliament from that district, which is determined by their quotients. Notice that while A1 (the first-ranked candidate of party A) is *not* elected under this vote distribution, E3 (the third- ranked candidate of party E) *is* elected. That is, vote distribution 1 resulted in an outcome where a low-ranked candidate (E3) has beaten a first-ranked candidate (A1). However, this outcome would change if 2 voters would vote for party A instead of voting party for D.

This new outcome is shown in Panel 2 of Appendix-3 Table 1, and the winning candidates are displayed in Panel 2 of Appendix-3 Table 2. Under this second vote distribution, A1 *is* elected, beating E3. In these examples, A1 and E3 are the *marginally elected MPs* under distributions 1 and 2, respectively, and their victory over other candidates depends on a small number of votes.

In our regression discontinuity design, identification is obtained based on the assumption that the marginally elected MPs became winners due to factors that are not correlated with unobserved determinants of party switching and that are out of candidates' or parties' control. If this is the case, the rank of the winning marginal candidate is as good as randomly assigned, and the marginally-elected MPs in different districts will constitute counterfactuals to each other. Specifically, we will be able to obtain the causal effect of the party-list rank by *comparing the party switching activity of first-ranked MPs to lower ranked MPs, both of whom are barely (marginally) elected*.

To implement this design, we first identify the *Cutoff Candidate* (the one who has the biggest quotient among those who are not elected) and the *Cutoff Quotient* (quotient of the Cutoff Candidate). In the two panels of Appendix-3 Table 2, the cutoff candidates under vote distributions 1 and 2 are A1 and E3, and the cutoff quotients are 10 and 11, respectively (see Appendix-3 Table 2). Our running variable *Margin of Victory* (MV) measures the difference between quotients of the elected candidates and the cut-off quotient. Specifically, we construct *Margin of Victory* of MP m who represents district d (MV_{md}) as follows:

(A8)

$$MV_{md} = \begin{cases} Q_{md} - CQ_d & \text{if MP } m \text{ is low-ranked on her Party's list in district } d \text{ and} \\ & \text{the Cutoff Candidate is first} - \text{ranked on his Party's list} \\ CQ_d - Q_{md} & \text{if MP } m \text{ is first} - \text{ranked on her Party's list in district } d \text{ and} \\ & \text{the Cutoff Candidate is low-ranked on his Party's list} \end{cases}$$

where Q_{md} is the quotient of MP_m who represents district d, and CQ_d is the quotient of the cutoff candidate in district d. We do not calculate MV_{md} for MPs whose ranks are same as the cutoff candidate.[3]

[3] That is, when they are both first ranked, or when they are both low-ranked in their party list.

By construction, MPs with positive (negative) values of MV_{md} are low (first) ranked. That is, in our design, zero is the discontinuity point where the treatment (*Low Rank*) turns from zero to one. MV_{md} measures how easily a low-ranked candidate is elected over a first-ranked candidate. This design is similar to the one employed by Gagliarducci and Paserman (2012), who investigated the gender impact of Italian mayors' probability of completing their elected term.

Appendix-3 Table 2 demonstrates the calculation of MV for the examples mentioned above. In the top panel of Appendix-3 Table 2, which is based on the vote distribution No:1 (presented in Appendix-3 Table 1), the margin of victory for the candidate E3 (the difference between E3's quotient and the cut-off quotient) is equal to +1. The MV for E3 is positive in this case, because E3 is a low (third) ranked candidate, and she is elected by beating a first-ranked candidate (A1). The bottom panel of Appendix-3 Table 2 is based on the vote distribution No: 2. As an example, consider the margin of victory for A1, which is equal to -1 (11-12). A1 is the first-ranked candidate on her party's list, who is elected by beating a low-ranked candidate. Notice that, for vote distribution No 1, displayed in the top panel of Appendix-3 Table 2, MV is not calculated for the first-ranked candidates (E1 and B1). This is because the cutoff candidate, A1, is also first-ranked. Similarly, MV is not calculated for low-ranked candidates in distribution 2, shown at the bottom panel of Appendix-3 Table 2, as the cutoff candidate is low-ranked as well.

To implement our design, we employ a local linear regression (Imbens and Lemieux 2008). Specifically, we first find the optimal bandwidth (*h*). This corresponds to choosing the sample of marginally-elected MPs based on their Margin of Victory. To pick the bandwidth, we use the methods suggested by Calonico, Cattaneo and Titiunik (2014) and Imbens and Kalyanaraman (2012). In the second step, we fit a regression line to both sides of the discontinuity point using only the observations within the optimal bandwidth. Specifically, we estimate the regression depicted below

(A9) $$Party\ Switch_{m,Pt} = \beta_0 + \beta_1 Low\text{-}Rank_{m,Pt} + \beta_2 MV_{m,Pt} + \beta_3 Low\text{-}Rank_{m,Pt} \times MV + \varepsilon$$

where $Low\text{-}Rank_{m,Pt}$ is an indicator that takes the value of one if the MP is ranked 2^{nd} or lower on her party's list, and MV is the running variable. The effect of being low-ranked on the probability of party switching is equal to the jump at the discontinuity point, and it is estimated by β_1.

RDD Results

Appendix-3 Figure 1 presents the characteristics of the sample we employ in the regression discontinuity analysis. The vertical axis measures the percentage of MPs who switched parties. The horizontal axis displays the running variable, *Margin of Victory* (*MV*) which is constructed using Equation (A8). Specifically, *MV* measures the difference in quotients of the winning candidates versus the cut-off candidate (who barely missed being elected). *MV* is positive (negative) for candidates who are elected as second- or lower- (first) ranked candidates, by beating a first- (lower) ranked candidate. The vertical line at *MV*=0 marks the discontinuity point. The dots indicate the MPs within bins of size 3% *MV*. The numbers above the dots are the numbers of MPs in the bins. For example, the dot with the number 55 just to the right of the discontinuity point indicates that there are 55 second-ranked MPs who are elected by beating a first-ranked candidate by a margin of 0 to 3%. As the vertical axis indicates, more than 20% of these MPs switched parties. Similarly, the dot with the number 88, located just to the left of the discontinuity point, implies that there are 88 first-ranked MPs who are barely elected after beating a lower-ranked candidate by a margin of less than 3%.

In Appendix-3 Figure 1, the smooth lines to the left and to the right of the discontinuity point are local polynomial fits of party switching based on *MV*. We fit lines for first-ranked and lower-ranked candidates separately. The lines suggest that probability of party switching decreases with the absolute value of *MV*. In other words, MPs who are elected more easily, or who faced less election uncertainty are less likely to switch parties regardless of their ranks. In addition, the jump in fitted values at the discontinuity point is positive. The magnitude of the jump is about 0.06.

We implement our design by estimating a local linear regression (Imbens and Lemiuex 2008). This method involves fitting a regression line to the data around the close neighborhood of the discontinuity point. Specifically, we choose a bandwidth, *h*, and estimate equation (A9) using the observations for which *MV* is in the interval (-*h*, *h*). The choice of bandwidth corresponds to determining the marginally-elected MPs. We use the optimal bandwidth choice methods suggested by Calonico, Cattaneo and Titiunik (2014) and by Imbens and Kalyanaraman (2012). These bandwidths are calculated to be 7.45 and 10.88 for the former and latter, respectively.

In Appendix-3 Table 3, we present the results obtained from estimating equation (A9) for the specified bandwidths. In columns 1 and 2 (3 and 4), we present the results from the regression that uses bandwidth 7.45 (10.88). Regressions in columns 1 and 3 also include the control variables. The variable of interest, *Low Rank*, is a dummy variable that takes the value of one if the MP is ranked second or lower in their party list. The coefficient of *Low Rank* is the estimate of the jump at the discontinuity point (*MV*=0). Results of all regressions show an increase in the probability of party switching at the discontinuity point.[4]

One of the conditions for internal validity of regression discontinuity estimates is the absence of the manipulation of the rating variable based on the treatment variable (McCrary 2008). This may be violated as our rating variable, *Margin of Victory,* is a function of the candidate's rank. Because of the allocation rule, first-ranked candidates have an advantage in elections over the second ranked candidates. Specifically, while each vote cast for their party increases the quotient of the first-ranked candidates by 1, it increases the quotients of the second-ranked candidates by 0.5. The advantage of the first-ranked candidates is demonstrated in Figure 1, where there are significantly more first-ranked candidates in our regression discontinuity analysis sample (to the left of the discontinuity point) in comparison to low-ranked candidates.

However, this does not constitute a problem in our design because candidates' quotients are free from *complete* manipulation, and they still incorporate a random component. Specifically, none of the candidates can fully manipulate their quotients as this would require coordination of tens of thousands of voters. McCrary (2008) suggests that designs that could involve partial manipulation of the running variable, such as ours do not suffer from identification problems.[5]

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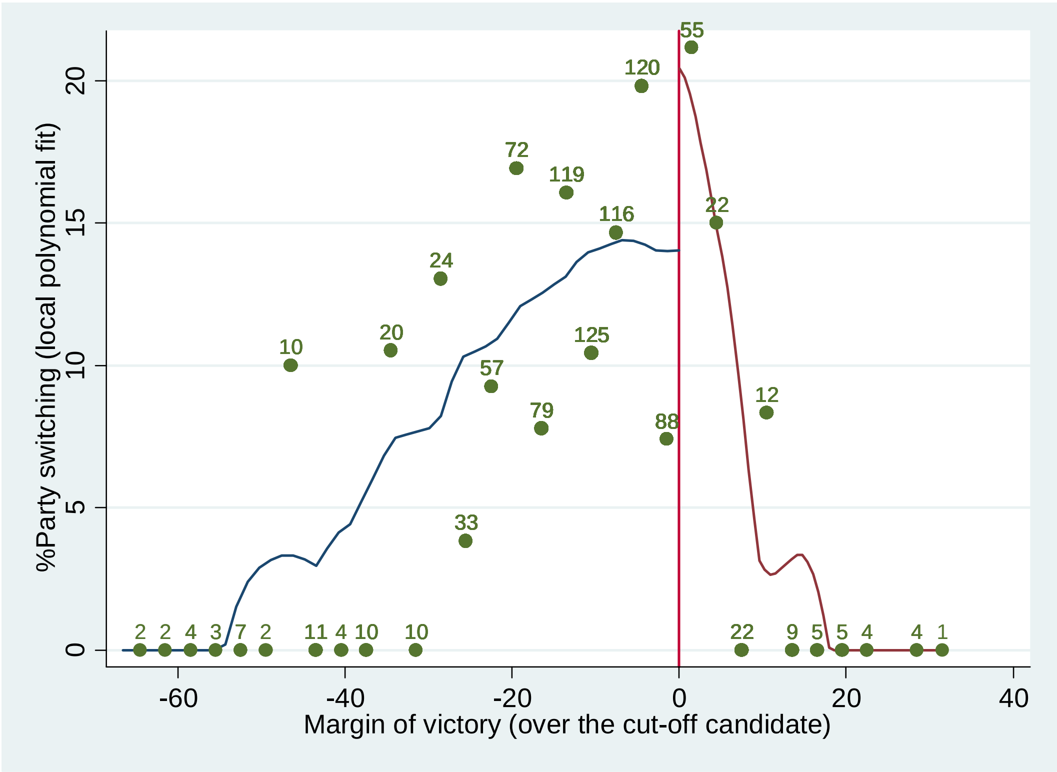
[4] All of the low ranked MPs in our regression discontinuity analysis sample are elected beating a first-ranked candidate. This implies their parties must have dominated the district. For example, if a second-ranked candidate of party A is elected beating the first-ranked candidate of party B, then party A must have obtained at least twice as many votes than party B. If parties nominate loyal candidates in districts where they dominate the votes, our estimates represent a lower bound.

[5] Complete manipulation of the rating variable may occur if individuals know the cut-off point and can fully control their rating variable. Essentially, complete manipulation leads to selection in/out of treatment. Partial manipulation occurs when the individual has some control over the rating variable, but there is some idiosyncratic component.

Appendix-3 Figure 1
Distribution of Party Switching among First Ranked versus Low-Ranked Candidates



Notes: The graph presents the sample used in the RD analysis. The vertical axis measures the proportion of MPs who switched parties. The horizontal axis is the running variable, Margin of Victory (MV), which is constructed using equation (A8). Specifically, MV measures the difference in quotients of winning candidates versus the cut-off candidate (who barely missed being elected). MV is positive for candidates who are elected as second or lower ranked candidates beating a first ranked cutoff candidate, and it is negative for candidates who are elected as first ranked candidates beating a lower ranked cutoff candidate. The vertical line at MV=0 marks the discontinuity point. The dots represent the MPs within bins of size 3% MV. The numbers above the dots indicate the number of MPs within a bin. For example, the dot with the number 55 just to the right of the discontinuity point indicates that there are 55 second-ranked MPs who are elected beating a first-ranked candidate by 0 to 3%. Smooth lines to the left and to the right of the discontinuity point are local polynomial fits of party switching based on MV.

Appendix-3 Table 1
Hypothetical D'Hondt Example

Panel 1 – Vote Distribution 1

Parties	Votes/1	Votes/2	Votes/3	Votes/4	Votes/5	Votes/6	Votes/7
A	10.0	5.0	3.3	2.5	2.0	1.7	1.4
B	**<u>13.0</u>**	6.5	4.3	3.3	2.6	2.2	1.9
C	**<u>19.0</u>**	9.5	6.3	4.8	3.8	3.2	2.7
D	**<u>25.0</u>**	**<u>12.5</u>**	8.3	6.3	5.0	4.2	3.6
E	**<u>33.0</u>**	**<u>16.5</u>**	**<u>11.0</u>**	8.3	6.6	5.5	4.7

Panel 2 – Vote Distribution 2
(2 individuals vote for A instead of D)

Parties	Votes/1	Votes/2	Votes/3	Votes/4	Votes/5	Votes/6	Votes/7
A	**<u>12.0</u>**	6.0	4.0	3.0	2.4	2.0	1.7
B	**<u>13.0</u>**	6.5	4.3	3.3	2.6	2.2	1.9
C	**<u>19.0</u>**	9.5	6.3	4.8	3.8	3.2	2.7
D	**<u>23.0</u>**	**<u>11.5</u>**	7.7	5.8	4.6	3.8	3.3
E	**<u>33.0</u>**	**<u>16.5</u>**	11.0	8.3	6.6	5.5	4.7

Panel 3 – Vote Distribution 3
(4 individuals vote for A instead of D)

Parties	Votes/1	Votes/2	Votes/3	Votes/4	Votes/5	Votes/6	Votes/7
A	**<u>14.0</u>**	7.0	4.7	3.5	2.8	2.3	2.0
B	**<u>13.0</u>**	6.5	4.3	3.3	2.6	2.2	1.9
C	**<u>19.0</u>**	9.5	6.3	4.8	3.8	3.2	2.7
D	**<u>21.0</u>**	10.5	7.0	5.3	4.2	3.5	3.0
E	**<u>33.0</u>**	**<u>16.5</u>**	**<u>11.0</u>**	8.3	6.6	5.5	4.7

Notes: The table presents three examples of how seats in a district with seven seats are allocated to five parties using d'Hondt method. Each panel depicts a separate vote distribution. The number of votes parties obtain is shown in the first column (1/1) in each panel.
d'Hondt method divides each party's votes by consecutive numbers up to the number of seats in the district (N). The columns "1/1", "1/2",… , "1/7" in the table present the quotients. The parties with the largest N quotients win the seats. In the examples above, the bold and underlined numbers are the largest seven quotients. The parties win as many seats as the number of largest quotients they have. For example, under vote distribution 1, parties B and C win one, D wins two and E wins 3 seats.

Appendix-3 Table 2
Calculation of Margin of Victory

Panel 1 – Vote Distribution 1

	District Rank	Candidate	Q	MV
Winners	1	E1	33	
	2	D1	25	
	3	C1	19	
	4	E2	16.5	16.5 – 10 = 6.5
	5	B1	13	
	6	D2	12.5	12.5 – 10 = 2.5
	7	E3	11	11 – 10 = 1
	8	**A1**	**10**	

Panel 2 – Vote Distribution 2
(2 individuals vote for A instead of D)

	District Rank	Candidate	Q	MV
Winners	1	E1	33	11 – 33 = – 22
	2	D1	23	11 – 23 = – 12
	3	C1	19	11 – 19 = – 8
	4	E2	16.5	
	5	B1	13	11 – 13 = – 2
	6	A1	12	11 – 12 = – 1
	7	D2	11.5	
	8	**E3**	**11**	

Notes: The table presents the construction of (MV) Margin of Victory variable (our running variable in the regression discontinuity analysis) for the vote distributions presented in top two panels of Appendix 3 Table 1. In both distributions, five parties (A, B, C, D, E) are competing for seven seats in a district with 100 voters. Q stands for the quotients. The candidates with highest 8 quotients are displayed. For example, E1 is the first ranked candidate in party E's list. Because there are 7 seats, the candidate with the eighth highest quotient is not elected. Such candidates who barely missed being elected are the *Cutoff Candidate*, and their quotients are the *Cutoff Quotient*.

Margin of Victory is the difference in quotients of winning low ranked candidates (ranked 2nd, 3rd, and so on) versus the first ranked cutoff candidate if the cutoff candidate is first ranked. If the cutoff candidate is low ranked, then the *Margin of Victory* is the difference between the cutoff quotient and the quotients of the winning first ranked candidates.

Appendix-3 Table 3
Effect of Low Ranks on Party Switching
(Regression Discontinuity Estimates)

	Bandwidth=7.45		Bandwidth=10.88	
	(1)	(2)	(3)	(4)
Low Rank	0.236**	0.203***	0.228***	0.118*
	(0.101)	(0.078)	(0.079)	(0.070)
Margin of Victory (MV)	-0.010	-0.028***	0.000	-0.001
	(0.009)	(0.010)	(0.005)	(0.005)
Low Rank × MV	-0.011	0.002	-0.023**	-0.026***
	(0.015)	(0.017)	(0.009)	(0.009)
Relative salary	0.046**		0.035**	
	(0.022)		(0.017)	
Party's Vote Share	0.001		-0.001	
	(0.002)		(0.002)	
Seats	0.007		0.003	
	(0.004)		(0.003)	
Elected from same party before	-0.168*		-0.177**	
	(0.091)		(0.085)	
Cabinet member	-0.100		-0.035	
	(0.082)		(0.063)	
Freshman	-0.222**		-0.213**	
	(0.092)		(0.086)	
Age>50	-0.074*		-0.074**	
	(0.043)		(0.031)	
Female	0.102		0.051	
	(0.109)		(0.078)	
School Abroad	0.039		0.047	
	(0.086)		(0.057)	
MA/PhD	-0.025		-0.037	
	(0.039)		(0.030)	
Observations	312	312	473	476

Notes: The outcome variable is *Party Switch*. This variable takes the value of one if the MP's party affiliation at the beginning of the parliamentary term is different from their affiliation at the end of the term. *Low rank* takes the value of 1 if the MP is ranked second or lower. *Margin of Victory* (*MV*) is the rating variable. The whole set of control variables are included in the regressions (as in Table 5 in the main text). Robust standard errors are reported in parentheses. *, **, and *** indicate statistical significance at 10%, 5% and 1%, respectively.