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To cite this article: Ajit Karnik, Mala Lalvani & Manali Phatak (2023): Political incumbency effects in India: a regional analysis, *Studies in Economics and Econometrics*, DOI: 10.1080/03796205.2023.2185666

To link to this article: <https://doi.org/10.1080/03796205.2023.2185666>



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Published online: 17 Mar 2023.



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Political incumbency effects in India: a regional analysis

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ABSTRACT

The significance of a study of political incumbency and the factors influencing it stems from the fact that it directly affects the behaviour of the incumbent political party and its accountability to the electorate. We use data on Parliamentary Elections in India from 1980 to 2014 to tease out evidence of incumbency advantage. We employ Regression Discontinuity Design (RDD) to estimate the incumbency effect. Our results indicate the absence of any incumbency effect when considering all elections in India together. This finding is at odds with the research reported so far. To explain our contrary result, we drilled down deeper to obtain a more granular view of the incumbency effect in India. We do this across various regions of India. The results show that north Indian states generally show strong evidence of incumbency disadvantage while south Indian states show strong evidence of incumbency advantage. We also show that incumbency advantage has increased over time

ARTICLE HISTORY

Received 21 September 2022
Accepted 6 February 2023

KEYWORDS

Elections; regression discontinuity design; Indian parliament; multi-party elections; incumbency effects

JEL CODE

D72; P48

1. Introduction

Political incumbency has been the subject of much investigation in numerous countries. By and large, the approach has been to estimate political incumbency effects at an aggregate level, that is, for a set of elections held in a country over a period of time. Very little effort has been made to examine if such political incumbency effects differ across the different regions of a country. This paper aims to take a step in this direction by investigating political incumbency effects across different regions of India.

Our review of the literature in this area, reported in the next section, reveals that much of the research carried out in rich democracies fails to examine the space dimension of incumbency effects. In fact, this lacuna is observed even in studies carried out in Latin America and India. We will point out that this is a major gap in the existing literature, and we will argue the case for taking a regional approach to studying incumbency, especially in a country as large as India.

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This paper adds to the discussion of incumbency effects in India using the Regression Discontinuity Design (RDD) methodology used by Linden (2004) and Uppal (2009). As stated above, the present study differs from the earlier ones in examining the incumbency effect across different regions of India. We will report that there are significant differences across regions. We find evidence of incumbency disadvantage in the northern states of India while states in the south of India display incumbency advantage. Further, we have sought to rectify some methodological lacunae in the earlier studies. Specifically, we bring to bear on our data some diagnostic tests and sensitivity analyses as recommended in the recent literature. We believe that such a comprehensive approach has not been employed in the studies on Indian elections so far.

The plan of the paper is as follows: Section 2 discusses the literature in this area of research. In Section 3, we discuss the Indian elections data we use for our study and the methodology employed. Section 4 discusses our estimation strategy to estimate the incumbency effect. Section 5 reports the results of our diagnostic tests and the incumbency effect estimated using RDD. Section 6 carries out sensitivity analyses to examine the robustness of our results. Section 7 concludes.

2. Literature on incumbency effects

The importance of incumbency has been the subject of much investigation in numerous countries. We first consider studies carried out for rich democracies and then go on to a consideration of other countries, including India. This discussion allows us to identify the gaps in the literature, which enables us to argue the case for examining regional incumbency in India.

2.1. Political incumbency in rich democracies

Erikson (1972) put forward the proposition that the advantage of incumbency was increasing in the USA, while Mayhew (1974) raised the possibility of marginal districts vanishing in US elections. These concerns are important because the increasing incidence of incumbency advantage during re-election reduces the pressure on legislators to be in touch with their constituencies. In response to these concerns, Ansolabehere et al. (1992) found that incumbency had, in fact, not increased and that “Incumbents as a class are about as likely to lose today as thirty years ago ...” (p. 35).

Incumbency advantage has been measured in different ways, the most common in some of the earlier studies being the “sophomore surge” and “retirement slump”. Holbrook and Tidmarch (1991) define sophomore surge as the advantage enjoyed by legislators running for their first re-election, while Stonecash (2010) defines “retirement slump” as the decline in partisan votes when an incumbent retires from office. Gelman and King (1990), however, find that the sophomore surge and retirement slump are biased estimates of the incumbency advantage, the former being an underestimate and the latter an overestimate of the true advantage. Levitt and Wolfram (1997) believe that the unobservable variable, namely the quality of the candidate or party, cannot be ignored in estimating incumbency advantage. More recent studies have invariably used the method of regression discontinuity design (RDD) to provide a careful measure of incumbency advantage. Lee (2008) is one of the most important papers that demonstrated the use of RDD. Considering data on elections to the United States House of Representatives over the period 1946–1998, Lee reported that party incumbency is found to have a significant causal effect on the probability that a political party will retain the district’s seat in the next Congress.

Incumbency advantage has also been estimated in elections in Germany, Canada and the UK. We first look at three studies from Germany. Ade, Freier, and Odendahl (2014) use data from German federal and state elections to assess heterogeneity in the incumbency effects of district representatives. They find that an incumbency advantage is only observable when a specific party is in government. Freier (2015) examines incumbency advantage for mayoral elections in Germany. The results show a causal incumbency effect of 38-40 percentage points in the probability of winning the next mayoral election. Hainmueller and Kern (2008) study incumbency effects in Germany's mixed electoral system, that is, single-member districts ("winner takes all") in one tier with proportional representation in a second tier. They find significant spill-over effects, in the form of sizeable and positive incumbency, from one tier to the other.

For Canada, Kendall and Rekkas (2015) examine changes in incumbency over time in the Canadian parliamentary elections from as far back as 1867. The main finding of this study is that the incumbency effect is much larger in the post-1950 period than in the earlier time period. The study of Eggers and Spirling (2017) for the UK has a lot of resonance for our study, mainly because India, like the UK, has a multiparty system, unlike in the US, where elections are fought primarily between two parties. Considering the three main political parties in the UK, the authors find that incumbency effects are stronger in close contests between Conservatives and Liberals than in contests between Conservatives and Labour.

2.2. Political incumbency in other countries

While the US and other rich democracies have, by and large, reported positive incumbency advantages, many other countries have reported strong anti-incumbency effects. Dix (1984) reports that there is a pronounced tendency for incumbents in Latin America to experience turnover or diminished vote share in subsequent presidential elections. Dix concludes that constitutional systems in Latin America are seen to be electorally responsive when they are allowed to function freely. Altman and Chasquetti (2005) look at the re-election rates in Latin America compared to the USA. While the rate for the USA in 1996 was reported as 83%, the highest rate in Latin America was 59%, reported for Chile in 1993 and the lowest rate was for Argentina in 1997 at 17%. Three possible factors affecting re-election rates are put forward: institutional characteristics of the electoral system, differences in district magnitudes and electoral volatility.

Klasnja (2016) and Klasnja and Titiunik (2017) have observed anti-incumbency in Brazil, while Roberts (2008), Pop-Eleches (2010) and Bernhard and Karakoc (2011) report it for post-communist countries in Eastern Europe. While the reasons for such divergent advantages to incumbents as compared to western democracies have not yet been clearly established, corruption and increasing rents associated with incumbency have been proffered as a possible explanation (see Klasnja, 2016; Klasnja & Titiunik, 2017).

2.3. Incumbency effects in India

Incumbency has been studied in the Indian context as well. This has been studied at the level of candidates and at the level of political parties. Echoing Matland and Studlar's (2004) distinction between turnover at the political party level and turnover at the level of individual candidates, Borooah (2006) provides a variety of possible perspectives in the Indian context: one, a vote against the ruling party at the federal government level (government incumbency); two, vote against the party in power in the state in which the

constituency is located (state government incumbency); three, vote against the incumbent party in that constituency (party incumbency); and, four, vote against the person who won the previous election (candidate incumbency).

As defined by Borooah above, party incumbency has been the focus of numerous studies in India. Borooah (2006) narrows the focus of incumbency effects on the electoral performance of India's most significant political party, namely, the Indian National Congress. While there are clear anti-incumbency factors working against the Indian National Congress from 1996 onwards, Borooah points to a general worsening of the party's electoral fortunes as the main reason for the losses of its incumbent candidates. Ravishankar (2009) also looks at the incumbency of the ruling parties and finds that members of the ruling party are more likely to lose in re-elections.

In contrast, Linden (2004) studies candidate incumbency for general elections held during the time period 1980–1999. The results indicate that incumbents in Indian national parliamentary elections starting in 1991 are at a disadvantage compared to candidates who did not hold office before contesting an election. Uppal (2009, 2011) estimates candidate incumbency effects in Indian state legislature elections from 1975 to 2003. The anti-incumbency effects of Linden (2004) are also confirmed at the levels of states elections. Despite Uppal (2009, 2011) focussing on elections in Indian states, these are studied at an aggregate level. Uppal does not consider incumbency at the level of individual states or groupings of states.

2.4. Importance of regional disparities in incumbency effects

Even though a lot of research has been carried out on studying incumbency effects in many countries, not much attention has been focussed on examining variations in these effects over the regions of a country. This may be a reasonable approach to take in the case of small countries with little disparity across regions, this neglect seems especially glaring for large countries. None of the studies done for India has carried out a regional analysis, an omission our paper addresses. The case for such regional analysis becomes very strong, especially if there is significant disparity across the regions of a country.

Since our research focuses on regional variation in political incumbency, we summarise in this sub-section the views that have been expressed about such variation in India. Disparities across Indian states have been noted along various dimensions such as health indicators, literacy rates, income levels, etc. For instance, Mukhopadhyay (2015) reports the significant difference in the health indicators of southern states compared to other states attributing it to the superior governance in the former. Bakshi, Chawla, and Shah (2015) note that regional disparities have increased in India in recent years, with southern states of India as well as coastal states displaying better economic performance. In an early study, Bajpai and Sachs (1999) also distinguished states based on their adoption of economic reforms. Kumar and Subramanian (2011) show that divergence in the growth performance across States has continued during the 2000s and that there is a continued phenomenon of divergence or rising inequality across states. Sachs, Bajpai, and Ramiah (2002) suggest that coastal states are likely to perform better than states in the interior and also point out that southern states have outperformed other states on various social indicators.

All the studies listed in this section show that there is sufficient disparity or heterogeneity across the regions of India. Given this variation across regions, particularly in income and literacy levels, it stands to reason that political choices and the factors underlying

these will differ from region to region. This clearly makes for a strong case to take a regional, granular approach to studying incumbency effects in the country.

3. Methodology and elections data

RDD is a quasi-experimental design that permits the identification of treatment effects – whether the political party is an incumbent or not – when the assignment to the treatment changes discontinuously. The assignment to incumbency status changes as per an underlying variable, namely the margin of victory (MOV) in the previous election. The party that receives the higher share of votes in the previous elections becomes the incumbent for the next elections, while the party that receives a lower vote share loses its chance at incumbency. The focus of RDD is the threshold at which one of the parties becomes an incumbent and the other does not. However, one needs to abstract from the quality of the party, which may influence the result of an electoral contest. RDD focuses on close elections where one party narrowly wins the election and becomes the incumbent. It is assumed that the political parties possess similar characteristics in such close contests.

We represent the treatment referred to above as $INCUM_{i,t+1}^p$, where i refers to the constituency in which the election takes place, t is the time period and p refers to the party (either the winner or the runner-up). $INCUM_{i,t+1}^p$ is a binary variable whose values are determined by the margin of victory ($MOV_{i,t}^p$) in the previous election. The MOV is the difference in vote shares of the winner and the runner-up. This definition of MOV is very similar to that of Uppal (2009). If the margin of victory is positive in the election in period t , the party has its candidate in office during the election in period $t+1$. Thus:

$$INCUM_{i,t+1}^p = 1 \text{ if } MOV_{i,t}^p > 0$$

The outcome variable ($RESULT_{i,t+1}^p$) in Equation (2) refers to the outcome of elections in period $t+1$. It takes a value of 1 (if a party wins the election) and 0 (if the party loses). As per Equation (2), RESULT depends on the incumbency status of the party.

$$RESULT_{i,t+1}^p = \alpha_0 + \alpha_1 INCUM_{i,t+1}^p + \varepsilon_{i,t+1} \quad (2)$$

Remembering the earlier discussion on the quality of political parties on election outcomes, it is likely that α_1 will not provide an unbiased estimate of the effect of incumbency on election outcomes. The RDD approach controls for the quality of political parties by focussing on parties just above the threshold of victory in the elections and those just below, assuming that such parties would be similar in all respects except for incumbency status. Hence, Equation (2) should be estimated only for $|MOV_{i,t}^p| < \delta$, where δ is set to a sufficiently small value. Further, Equation (2) may be extended as follows:

$$RESULT_{i,t+1}^p = \alpha_0 + \alpha_1 INCUM_{i,t+1}^p + \alpha_2 MOV_{i,t}^p + \varepsilon_{i,t+1} \quad (3)$$

The linearity of Equation (3) is relaxed by adding polynomial functions of MOV (Lee and Lemieux, 2010). Different orders of the polynomial may have to be tried to judge the sensitivity of the results to the order of the polynomial (Gelman and Zelizer, 2015).

Graphically, the coefficient of $INCUM_{i,t+1}^p$ provides a jump in the regression line given by Equation (3) at $MOV_{i,t}^p = 0$. As Lee and Lemieux (2010) point out, if we wish to estimate the causal effect of incumbency at $MOV_{i,t}^p = 0$, we need to guess what the party's $RESULT_{i,t+1}^p$ would be while being an incumbent and non-incumbent at the same time (which, of course, never occurs). If all other factors that affect RESULT evolve smoothly at the cut-off ($MOV_{i,t}^p = 0$), the jump in the regression line could be understood as the causal effect of incumbency. This is important since, if other factors affecting RESULT also jump at

the cut-off, the estimate of α_1 in Equation (3) will be biased. The smooth evolution of other factors that might affect RESULT has been understood as an assumption of continuity of these other factors. As stated by De la Cuesta and Imai (2016), Lack of discontinuity in pre-treatment covariates at the threshold then represents empirical evidence for the continuity of the expected potential outcomes so long as all pre-treatment covariates relevant for the outcome of interest are measured and analysed (p. 383).

For the RDD to be valid, it is essential that individual parties are unable to manipulate the assignment to incumbency variable (Lee and Lemieux, 2010; see also De la Cuesta & Imai, 2016). In the context of an election, this means that the actions of thousands of voters determine the incumbency status, and there is no way in which parties can manipulate the outcome of their election. Parties may try to manipulate the outcome of their election (by actions including election fraud), but as long as this manipulation is imprecise, the RDD remains valid. We will conduct a test to examine the possibility of manipulating outcomes for our dataset.

3.1. Elections data

Our study of party incumbency covers India's national parliamentary elections from 1980 to 2014, yielding ten elections. One significant difficulty we faced in our data collection process was the merging and splintering of political parties and coalitions in India. Consequently, in numerous situations, it was challenging to determine party incumbencies. Appendix 1 lists the problems concerning mergers and splits in political parties and how we assess incumbency.

A further problem we faced was that, apart from the main parties in the fray, very few parties contested successive elections. This can create a severe problem in determining incumbency. Whether a party is an incumbent in elections in time period $t + 1$ is determined by the margin of victory in elections of time period t (see Equation 1 above). A problem, however, emerges when a party wins in time period t but does not contest the election in time period $t + 1$. To overcome this problem, we include only such elections in our dataset where the same two political parties have been winners or runners-up in successive elections in a constituency. An approach similar to ours has been employed by Ansolabehere, Hansen, Hirano, and Snyder (2007), who focus only on candidates that receive the top two vote shares.

After eliminating all elections that do not qualify as per the procedure described, we have 2180 elections spread across the states listed in Table 1. All the election data used in this paper are obtained from the reports of the Election Commission of India (various issues). Even though we have data on elections starting from 1980, our dataset begins from 1984 due to the presence of the lagged variable (Margin of Victory) in the estimated equation.

Table 1 reports the number of elections included in the dataset and the number of elections held during the time-period 1984–2014. The difference in numbers in the two columns arises from how we have chosen the elections for our analysis.

The major states listed in Table 1 account for the overwhelming number of elections in the datasets. Although the number of electoral contests held during 1998–2014 in the states was 4569, only 2180 qualify to be included in our dataset.

We next look at the success of incumbents in previous elections (elections in period $t - 1$) in the next elections (elections in period t). Table 2 reports these results.

Out of 2195 incumbents in the fray, 1286 (59%) won their elections, while out of the 2195 non-incumbents, 909 (41%) won their elections.

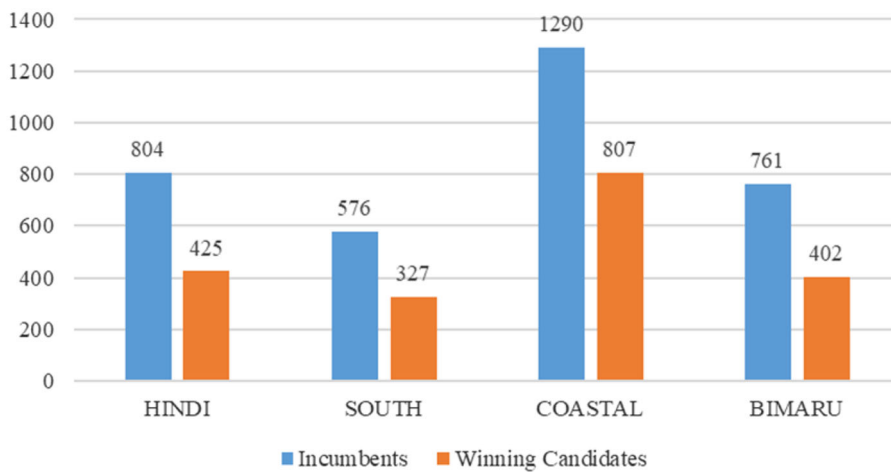
Table 1. Elections held in the state and elections included in dataset: 1984–2014.

State	Elections included in the dataset	Number of elections held during 1984–2014
Major states		
Andhra Pradesh (A.P)	227 (10.34)	378
Bihar (BIH)	148 (6.74)	442
Chattisgarh (CHA)	30 (1.37)	33
Gujarat (GUJ)	157 (7.15)	234
Haryana (HAR)	15 (0.68)	90
Jharkhand (JHA)	19 (0.87)	42
Karnataka (KAR)	120 (5.47)	252
Kerala (KER)	106 (4.83)	180
Madhya Pradesh (M.P.)	236 (10.75)	327
Maharashtra (MAH)	208 (9.48)	432
Orissa (ORI)	104 (4.74)	189
Punjab (PUN)	52 (2.37)	91
Rajasthan (RAJ)	152 (6.92)	225
Tamil Nadu (T.N.)	123 (5.60)	351
Uttar Pradesh (U.P.)	190 (8.66)	749
West Bengal (W.B.)	282 (12.85)	378
Sub-total (major states)	2169 (98.82)	4393
Smaller states		
Andaman and Nicobar (A.N.)	2 (0.09)	9
Arunachal Pradesh (AR.P)	3 (0.14)	18
Assam (ASM)	4 (0.18)	98
Dadra and Nagar Haveli (D.N.)	1 (0.05)	9
Daman and Diu (D.D.)	1 (0.05)	9
Manipur (MAN)	2 (0.09)	18
Uttaranchal (UTT)	13 (0.59)	15
Sub-Total (Smaller States)	26 (1.18)	176
Total	2195 (100.00)	4569

Numbers in parentheses are percentages to the total.

Table 2. Cross-tabulations between incumbents and winning candidates.

	Incumbents	Non-incumbents	Total
Winning candidate	1286	909	2195
Losing candidate	909	1286	2195
Total	2195	2195	

**Figure 1.** Distribution of incumbents and winning candidates.

We finally look at the distribution of incumbents and winning candidates across the regions of India. The regions we consider in [Figure 1](#) are HINDI, SOUTH, COASTAL and BIMARU, the details of which are presented in [Section 5.3](#). It may be noted that the total of incumbents and winning candidates in [Figure 1](#) will not match the totals in [Table 2](#) since the regions in the figure are not mutually exclusive.

The highest success rate for incumbents (incumbents who won the next elections) is 63% for COASTAL followed by SOUTH at 57% with BIMARU and HINDI at 53%. Our results will show in a later section that there is a significant incumbency advantage in COASTAL and SOUTH while there is an incumbency disadvantage in the other two regions.

4. Incumbency effect: estimation strategy

We will follow a three-step process to analyse the incumbency effect using RDD:

1. We first examine whether the political parties can manipulate the running variable (margin of victory) (Cattaneo, Jansson, & Ma, 2018). [Section 5.1](#) gives a brief explanation of the test.
2. The next step involves checking for the continuity of covariates which may have a relationship with the running variable and may vitiate the causal inference between the outcome variable and the running variable (De la Cuesta & Imai, 2016) in this regard. The covariates that we consider are discussed in a later section. [Section 5.2](#) explain this test.
3. The final step in our empirical exercise is to examine the effect of incumbency on the outcome variable (whether the candidate wins or loses in the election). This is reported in [Section 5.3](#). We make use of the procedures that have been described in Calonico, Cattaneo, and Titiunik (2012) and Calonico, Cattaneo, Farrell, and Titiunik (2017), wherein we report an estimate of the treatment effect at the threshold. The treatment effect is given by:

$$\tau = E[Y_i(1) - Y_i(0)|X_i = \bar{x}] \quad (4)$$

where X_i is the running variable and \bar{x} is the value at the threshold.

$$Y_i = \begin{cases} Y_i(0) & \text{if } X_i < \bar{x} \\ Y_i(1) & \text{if } X_i > \bar{x} \end{cases}$$

The running variable in our exercises is the margin of victory computed as the difference in vote shares of the top two parties in each election. Lee, Moretti, and Butler (2004) focus on close races in which the incumbent party had barely won the previous election. This is because, in all such close races, it is reasonable to assume that the winning and losing candidates are similar in every characteristic except with respect to their incumbency status. Hence, the outcome in the current election is *caused* by incumbency, which is determined in the previous election. As defined in [Equation \(4\)](#), the treatment effect is estimated in a small window around the cut-off point, which in our case is zero. A problem that crops up as we narrow the window around the cut-off is that the number of observations that get selected decreases, and estimation may likely fail (De la Cuesta & Imai, 2016). In our exercises, we estimate the incumbency effect for those elections which are determined by a margin of victory of at most 5%.

5. Results and findings

5.1. Manipulation of the running variable

The first part of our exercise is to ensure that the candidates cannot manipulate the running variable (Cattaneo, Jansson, & Ma, 2018). The main idea behind testing for manipulation is that, in the absence of manipulation, the density of the running variable should be continuous around the cut-off point. The null hypothesis is one of no manipulation, and failure to reject the null is evidence against manipulation. We have carried out this test at the aggregate and region levels. The regions we consider are discussed in Section 5.4.

We report in Table 3 our results for the manipulation test

The results of Table 3 show that none of the test statistics is significant, indicating no evidence of manipulation of the running variable.

5.2. Continuity of covariates

We have identified covariates which might have a bearing on electoral outcomes but are not themselves affected by the treatment. Lee and Lemieux (2010) point out that all the covariates determined before the realisation of the treatment variable should have the same distribution just above and below the cut-off. Hence, we have explored the possibility of imbalance in the pre-treatment covariates within a selected window around the threshold (De la Cuesta & Imai, 2016). We use the test developed by Cattaneo, Jansson, and Ma (2018). The idea underlying the test is that the distribution of the covariates for treatment and control units (i.e., between incumbents and non-incumbents) should be unaffected by the treatment within a given window. The difference-in-means test provides a point estimate of the treatment effect on the covariate. The continuity of the covariates requires that the treatment effect on the covariate should be zero. The covariates we consider are the following:

- a. The total number of voters registered in a constituency: Gerring, Palmer, Teorell, and Zarecki (2015) note that the degree of contestation in an election is affected

Table 3. Manipulation of the running variable.

Election/region	MOV: -5% to +5%
All elections	0.0033 (1.00) (N.Obs.: 1334)
HINDI = 1	-0.014 (1.000) (N.Obs.: 470)
HINDI = 0	0.1130 (0.91) (N.Obs.: 864)
SOUTH = 1	0.0374 (0.97) (N.Obs.: 404)
SOUTH = 0	0.0445 (0.97) (N.Obs.: 930)
COASTAL = 1	0.2084 (0.85) (N.Obs.: 790)
COASTAL = 0	0.0677 (0.95) (N.Obs.: 544)
BIMARU = 1	0.0346 (0.97) (N.Obs.: 442)
BIMARU = 0	0.0790 (0.94) (N.Obs.: 892)

The table reports the test statistic with p -values in parentheses.

N.Obs. refers to the number of observations.

See Section 5.3 for a discussion of regions.

- by electorate size. They estimate the effect of electorate size on contestation to be positive.
- b. Literacy rate of the state in which the election is held: Rozenas and Sadanandan (2018) point out that voting patterns in India may differ between literate and illiterate voters. Illiterate voters may likely waste their vote (by voting for local parties instead of national parties), especially in low-literacy constituencies.
 - c. Share of the rural population of the state where the election is held: The general perception is that issues facing rural populations in India differ from those faced by urban populations. This has been studied by Mukerji (2015) for India, by Roy, Parella, and Borden (2015) for Canada, and by Eisenberg (2020) for the USA.
 - d. Real per capita income of the state where the election is held: It is a standard tenet in the political economy that the income levels of voters drive their political preferences (Arunachalam & Watson, 2018). Hence, it makes sense to consider income levels as a covariate of election outcomes. Differences in voter preferences can also be seen across rich and poor states (Gelman, Shor, Bafumi, & Park, 2007). Bannerjee, Gethin, and Piketty (2019) point out that, in India, voting according to economic interests may be changing over time.

Our exercises report the difference-in-means test for the situation where the margin of victory is 5%, estimated for various regions of India. To conserve space, we do not report the detailed result of our difference-in-means test. We note that the results show no evidence of discontinuity in any of the covariates we have used. It may be pointed out that even though Caughey and Sekhon (2011) have cast doubts on the continuity of covariates in close elections, we see no evidence of their apprehension in our exercises.

5.3. Estimating incumbency effect: region-wise

Disparities across Indian states have been noted along various dimensions such as health indicators, literacy rates, income levels, etc. We have discussed, in an earlier section, the contributions on these disparities by Bajpai and Sachs (1999), Sachs, Bajpai, and Ramiah (2002), Kumar and Subramanian (2011), Bakshi, Chawla, and Shah (2015) and Mukhopadhyay (2015). Based on these contributions, we have created groupings of states to examine the incumbency effects. The groupings of states that we employ are labelled as:

1. HINDI, refers to states in which the majority of the population speaks Hindi. Generally, these states are located in the north of India.
2. SOUTH, refers to states in the south of India.
3. COASTAL, refers to states on the western and eastern coast of India.
4. BIMARU is an acronym that denotes the states of Bihar, Madhya Pradesh, Rajasthan and Uttar Pradesh. All these states have been laggards in the process of development.

Table 4 reports the region-wise incumbency effects for three MOV: $\pm 5\%$, $\pm 2\%$ and $\pm 1\%$. We do this to check the robustness of results that we obtain at the MOV of $\pm 5\%$.

Table 4 shows that three groupings consistently show significant incumbency effects at all three levels of MOV. These are HINDI, SOUTH and BIMARU. Figures A.1–A.3 in Appendix 2 show the incumbency effects for these three groups of states.

Table 4. Incumbency effect: region-wise.

Elections	MOV: $\pm 5\%$	MOV: $\pm 2\%$	MOV: $\pm 1\%$
All India	0.1336 (0.181) [1329]	-0.0656 (0.290) [531]	-0.1134 (0.307) [262]
HINDI	-0.8224 (0.291)** [469]	-0.9247 (0.304)*** [183]	-1.0855 (0.292)*** [78]
Non-HINDI	0.5253 (0.173)*** [860]	0.3895 (0.423) [348]	0.0916 (0.560) [184]
SOUTH	0.6884 (0.204)*** [404]	1.1951 (0.295)*** [154]	1.4170 (0.412)*** [78]
Non-SOUTH	-0.1235 (0.206) [925]	-0.0569 (0.325) [377]	-0.1153 (0.334) [184]
COASTAL	0.4115 (0.191)** [790]	0.3006 (0.468) [312]	-0.0502 (0.607) [168]
Non- COASTAL	-0.3727 (0.294) [539]	-0.2395 (0.370) [219]	-1.4709 (0.419)*** [94]
BIMARU	-0.7999 (0.294)** [441]	-1.0028 (0.305)*** [170]	-1.1040 (0.291)*** [74]
Non-BIMARU	0.5338 (0.175)*** [888]	0.4405 (0.415) [366]	0.0819 (0.543) [188]

Notes:

1. Standard errors are reported in parentheses
2. The number of observations are reported in brackets
3. *** = values are significant at 1% level; ** = values are significant at 5% level; * = values are significant at 10% level
4. MOV = Margin of Victory.

In the HINDI grouping, we find robust evidence of incumbency disadvantage. In the HINDI states, the narrative is driven by what happens in the state of Uttar Pradesh (UP) which accounts for 85 seats in the Parliament. Four political parties have played a role in UP, with the Congress dominating in 1984, the BJP in 1991, 1996, 1998 and 2014, and state-level parties in 1989, 1999, 2004 and 2009 (Election Commission of India, [various issues](#)). In the state of Rajasthan, BJP and Congress have dominated the political scene and have alternated in being the top party in the Parliamentary elections. No party has dominated in Bihar since the Congress won 48 out of 54 seats in 1984. After that, Congress has been a minor player in the state, with the total seats being split, more or less, equally between the BJP and the Janata Dal. Madhya Pradesh has weakened the incumbency disadvantage in UP, Rajasthan and Bihar, where the BJP has dominated, winning at least 65% of seats since 1996 except for 2009.

SOUTH is the next grouping which shows robust evidence of the incumbency effect. However, as compared to HINDI, the fate of incumbents is reversed in the SOUTH. In the SOUTH, the incumbency advantage is most affected by election results in Tamil Nadu and Kerala. Tamil Nadu politics is dominated by two state-level political parties, the DMK and ADMK ([Wyatt, 2013](#)) and how they align themselves with the national parties, namely the Congress and the BJP. In Kerala, only one of the two national parties, namely, the Congress, has played a dominant role, leading the United Democratic Front (UDF), which is opposed by the Left Democratic Front (LDF) ([Kumar, 2004](#)). The UDF has been winning easily (generally in more than 75% of the 20 constituencies) in Kerala in 1984, 1989, 1991, 2009 and 2014. This has naturally led to a significant number of incumbents winning re-election.

BIMARU is the third grouping to show a robust incumbency effect. The evidence is very similar to that of HINDI, which has exhibited a consistent negative incumbency effect.

Among the other groupings, the evidence of the incumbency effect is not robust to a reduction in MOV. NON-HINDI, COASTAL, and NON-BIMARU show a positive

Table 5. Region-wise incumbency effects: 1981–1999.

Region	MOV: $\pm 5\%$	MOV: $\pm 2\%$	MOV: $\pm 1\%$
All Elections	−0.1007 (0.259) [736]	−0.4230 (0.332) [266]	−0.4416 (0.336) [138]
HINDI	−1.1727 (0.138)*** [252]	−1.4056 (0.185)*** [88]	−1.1465 (0.062)*** [40]
Non-HINDI	0.3001 (0.298) [484]	−0.0555 (0.506) [178]	−0.0351 (0.668) [98]
SOUTH	0.4003 (0.374) [248]	1.3943 (0.345)*** [86]	0.8718 (0.997) [48]
Non-SOUTH	−0.3761 (0.274) [488]	−0.6384 (0.309)** [180]	−0.7263 (0.319)** [90]
COASTAL	0.1824 (0.274) [464]	−0.0259 (0.515) [170]	−0.1608 (0.646) [96]
Non-COASTAL	−1.1559 (0.151)*** [272]	−1.3534 (0.187)*** [96]	−1.1299 (0.081)*** [42]
BIMARU	−1.1801 (0.138)*** [250]	−1.4046 (0.185)*** [88]	−1.1465 (0.063)*** [40]
Non-BIMARU	0.2941 (0.297) [486]	−0.0555 (0.506) [178]	−0.0351 (0.668) [98]

Please see notes to Table 4.

incumbency effect that disappears as the MOV is reduced. On the other hand, for NON-COASTAL, a negative incumbency effect emerges at MOV of $\pm 1\%$ but is non-existent at $\pm 5\%$ and $\pm 2\%$.

5.4. Combined analysis: region-wise and time-wise

The previous section analysed incumbency effects across the regions of India. It would be interesting to examine if these incumbency effects have changed over time. We consider two time periods: 1981–1999 and 2000–2014. Table 5 reports these results for the time period 1981–1999, and Table 6 reports the results for 2000–2014.

Tables 5 and 6 show a clear pattern regarding incumbency advantages and disadvantages. From Table 5, we can see robust evidence of a negative incumbency effect in the groupings of HINDI, Non-COASTAL, and BIMARU. On the other hand, in Table 6, we see robust evidence of a positive incumbency effect in the groupings of Non-HINDI, COASTAL, and Non-BIMARU. Given that Table 5 deals with the time period until 1999 and Table 6 deals with the subsequent period, the results of these two tables clearly suggest that the negative incumbency effect has given way to a positive incumbency effect after 1999. Considering the elections in the HINDI region during both the pre- and post-1999 periods, we see that the percentage of incumbents winning elections is roughly the same at 53%, and yet the incumbency disadvantage has disappeared in the second time period. Much of this result is driven by the state of Chattisgarh (which did not exist as a state in the pre-1999 time period) in which 87% of incumbents won the elections during the post-1999 time period and by the state of Madhya Pradesh, where this percentage is 74% as compared to 50% in the previous time period. As far as the other states in this region are concerned, the performance of incumbents has worsened, which has cancelled out the strong pro-incumbency effects of Chattisgarh and Madhya Pradesh. Similar comments may be made for the groupings of BIMARU, and Non-COASTAL.

6. Sensitivity analysis

Imbens and Lemieux (2008) advise that inferences drawn from RDD analysis should be tested for sensitivity to the selection of the bandwidth. Pei, Card, Lee, and Weber (2018)

Table 6. Region-wise incumbency effects: 2000–2014.

Region	MOV: $\pm 5\%$	MOV: $\pm 2\%$	MOV: $\pm 1\%$
All elections	0.5259 (0.196)** [593]	0.3895 (0.475) [265]	−0.3414 (0.672) [124]
HINDI	−0.3010 (0.465) [217]	−0.1959 (0.693) [95]	−3.6608 (1.689)** [40]
Non-HINDI	1.4626 (0.174)*** [376]	1.2434 (0.230)*** [170]	0.9572 (0.131)*** [86]
SOUTH	1.7762 (0.316)*** [156]	0.5025 (0.488) [68]	1.9216 (0.471)*** [30]
Non-SOUTH	0.3738 (0.271) [437]	0.6487 (0.605) [197]	−0.8216 (0.785) [94]
COASTAL	1.4167 (0.248)*** [326]	1.3131 (0.371)*** [142]	0.2755 (0.370) [72]
Non-COASTAL	0.26661 (0.343) [267]	0.1252 (0.552) [123]	−0.9915 (0.838) [52]
BIMARU	−0.276 (0.485) [191]	−0.0304 (0.724) [81]	−3.6580 (1.637)** [34]
Non-BIMARU	1.4445 (0.171)*** [402]	1.2383 (0.240)*** [184]	0.9197 (0.124)*** [90]

Please see notes to Table 4.

further point out that the choice of the polynomial in RDD estimation can be as consequential as bandwidth selection. Finally, the choice of kernel (along with bandwidth) serves to localise the regression fit near the cut-off (Calonico, Cattaneo, & Farrell, 2020). Inferences from the RDD exercise should also be tested for sensitivity to the selection of the kernel. We have tested the sensitivity of our results with different choices of polynomials, bandwidths and kernels.

Bearing the above in mind, we have subjected our results to sensitivity analysis as follows:

1. Choice of the polynomial: Our results in Tables 4–6 employ a polynomial of order 2. We have also estimated the results of these three tables for polynomials of orders 1, 3 and 4. We can report that, by and large, the results reported have not changed when using polynomials of order 1, 3 or 4.
2. Choice of bandwidth: The results of Tables 4–6 are reported for bandwidth selection based on MSE (Calonico, Cattaneo, & Farrell, 2020). We have also estimated these results for bandwidth selected based on what Calonico, Cattaneo, Farrell, and Titiunik (2017) call *msetwo*, *msecomb2*, *certwo* and *cercomb2*. We can report that changing the basis of bandwidth selection leads to only very few instances where the coefficient has turned non-significant or where the p-value has increased.
3. Choice of the kernel: The results of Tables 4–6 are reported for the triangular kernel. These results were also estimated for the Epanechnikov and uniform kernels. Once again, there were only a few instances when the results with alternative kernels worsened as compared to those reported initially.

Detailed results of the sensitivity analysis are not reported here in the interest of conserving space.

7. Conclusions

A study of political incumbency advantage or disadvantage assumes importance in any democracy. High incumbency advantage is likely to lead to complacency on the part of elected representatives and, possibly, a lack of accountability to the electorate. On the

other hand, a large incumbency disadvantage will lead to excessive flux in policy-making and likely deprive the polity of experienced legislators. As far as India is concerned, the same political party ruled the country from 1947 to 1977. But, from 1977 until 2014, there have been eight changes in the ruling political parties.

Our paper has employed Regression Discontinuity Design (RDD) to estimate the incumbency effect at the regional level, a dimension which has been missing in the literature. We showed in our review of literature that almost all studies that have been done for rich democracies or other countries (including India) had ignored the possibility of variability in the incumbency effect across the regions of a country.

The studies for India have uniformly found evidence of anti-incumbency, both for the national parliamentary and state assembly elections. Borooah (2006) and Ravishankar (2009) studied party incumbency at the national parliamentary elections and found that ruling parties are more likely to lose re-elections. Linden (2004) studied candidate incumbency in parliamentary elections and found evidence of incumbency disadvantage. Uppal (2009, 2011) studied incumbency at state assembly elections and confirmed the presence of anti-incumbency effects. Even though Uppal studied Indian states, states are studied as a group and not individually. The exercises carried out in our paper have focussed on groupings of states. We believe that this disaggregated approach has provided us with a better understanding of incumbency in India as compared to the broad-brush approaches which are common in the literature.

For our exercise, we created various groupings of states which we labelled as HINDI, SOUTH, COASTAL and BIMARU. We have found that the group of HINDI-speaking states and the BIMARU states show strong evidence of incumbency disadvantage. In contrast, the grouping of SOUTH states shows strong evidence of incumbency advantage. The grouping of COASTAL states offers some indication of incumbency advantage, but this is not as strong as in the case of the SOUTH states.

Our final exercise examined region-wise incumbency over two time periods. The most significant result of this exercise shows that the incumbency disadvantage seen in the HINDI, Non-COASTAL, and BIMARU regions until 1999 disappears in the subsequent time period. On the other hand, groupings such as Non-HINDI, COASTAL, and Non-BIMARU, which had shown scant evidence of any incumbency effect, show a pronounced incumbency advantage from 1999 onwards. The results of these exercises clearly show the benefits of examining Indian elections at a granular level. This detail would have been lost if we had confined our analysis to the aggregative level.

Acknowledgements

The authors would like to acknowledge with thanks the valuable comments of the referees and the editor of the journal which helped improve the quality of the paper.

Disclosure statement

No potential conflict of interest was reported by the author(s).

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Appendix 1

The list given below is an indication of the problem we faced with respect to splits and mergers among Indian political parties. We also provide the rules that we followed in determining party incumbency.

- *1980 elections:* In 1977, the incumbent party was the Janata Party, which split in 1979 with a breakaway faction called Janata Party (Secular). This naturally created a problem of determining incumbency for the 1980 elections. As per the rules we followed, we have treated the Janata Party (Secular) as the incumbent party.
- *1984 Elections:* Janata Party (Secular) in 1980 had as its constituents the Janata Dal and the Samajwadi Party. Hence, Janata Dal or Samajwadi parties were treated as incumbents if the seat had been won by JP(S) in the 1980 elections
- *1998 election:* All India Indira Congress (Tiwari) [AIIC(T)] contested only in the 1996 elections and most members of AIIC(T) joined INC after AIIC(T) ceased to exist. For the 1998 elections, INC was considered as the incumbent party if the seat had been won by the AIIC(T) in 1996.

1999 elections: For these elections, Samata Party (SAP) had merged into Janata Dal (U) [JD(U)]. Hence, JD(U) was considered as the incumbent party if the seat had been won by SAP in 1998. Also, AITC (All India Trinomool Congress) was considered as the incumbent party if the seat had been won by WBTC (West Bengal Trinomool Congress) in 1998.

Appendix 2. RDD diagrams

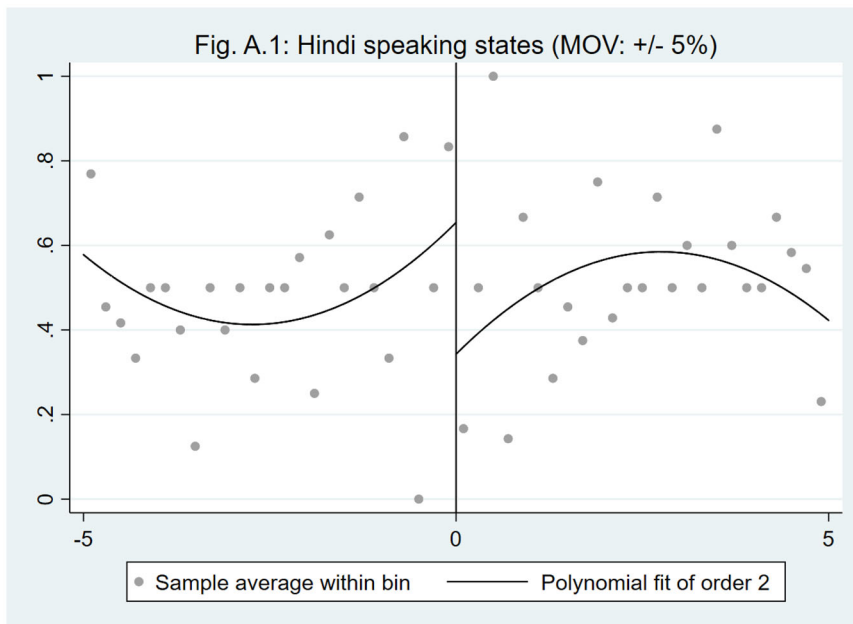


Figure A.1. Hindi speaking states (MOV: $\pm 5\%$).

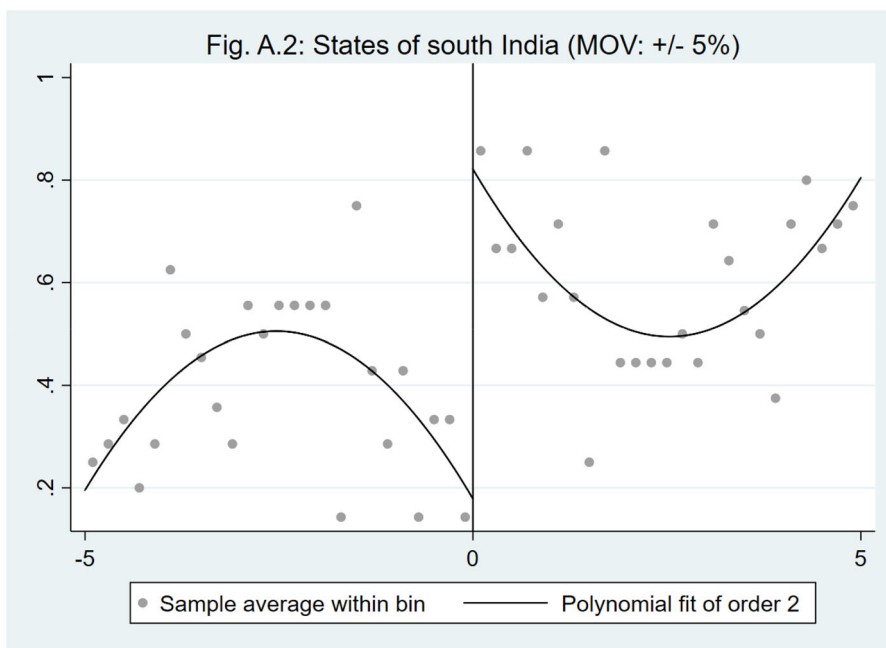


Figure A.2. States of south India (MOV: $\pm 5\%$).

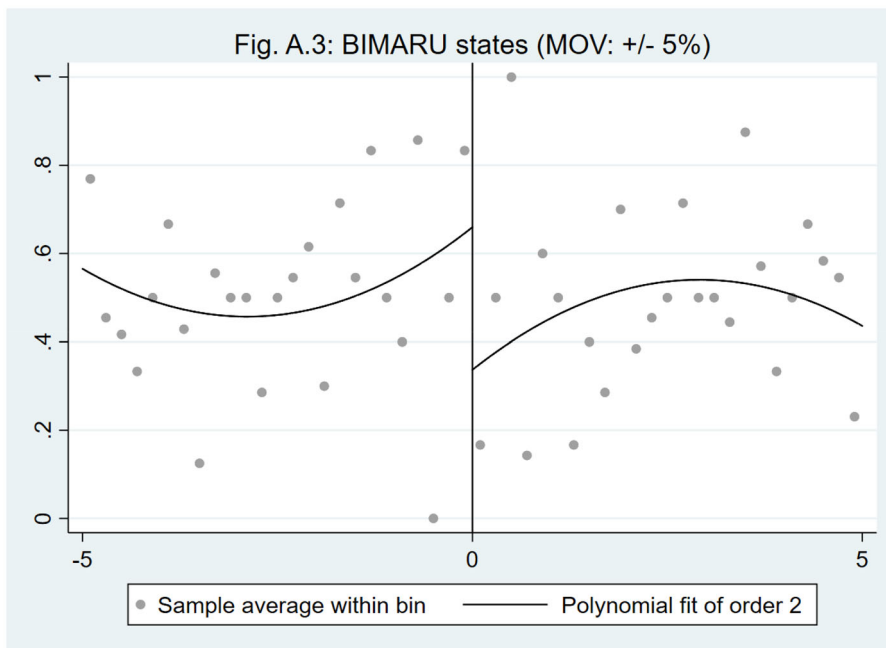


Figure A.3. BIMARU states (MOV: $\pm 5\%$).