

# Electoral Fraud and Strategic Electoral Reform

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Politicians can engage in electoral fraud and its redressal strategically. We uncover one mechanism through which this can occur - the incumbent control over the oversight of electoral laws and the decentralized implementation of these laws. We identify a form of electoral fraud in India, in which parties register non-citizens as voters to further their electoral prospects. Using a difference-in-difference type specification, we demonstrate that the percent change in the number of voters (electors) over the previous election, increased for constituencies closer to the Bangladesh border. We also demonstrate that the cleaning of electoral rolls to remove these voters was strategic i.e. the implementation of electoral roll cleaning was lax in a border state where the incumbent National Party and the State Party were allies and strict in a border state where the National Party and the State Party were non allies. Finally, we indicate towards a Curley Effect - poorer development outcomes in regions where non-citizens are used for electoral support.

Political parties have incentives to engage in electoral fraud to further their prospects. These incentives are particularly strong when electoral laws are weak or parties have control over the electoral system through control over the government, pointing towards the strategic nature of electoral fraud. Nevertheless, very little is known about how the institutional environment - the electoral system, affects the conduct of electoral fraud and its control.

Since electoral fraud limits representation, it is likely to have real effects beyond that of the electoral outcome. However, given that fraud is more probable in a weak institutional environment, it is often impossible to disentangle the effect of the institutional environment from that of electoral fraud. Thus, the extent that parties engage in electoral fraud strategically and the consequences such fraud may have for welfare, are both important questions in the literature.

In this paper, we uncover one mechanism through which parties can engage in strategic electoral fraud and its oversight - the incumbent control over the oversight of electoral laws and the decentralized implementation of these laws, that permits the incumbent to vary oversight regionally. By identifying electoral fraud and strategic electoral reform, and demonstrating lower development outcomes in regions with higher electoral fraud, we suggest that partisan control over the oversight of electoral laws can be problematic and

neutral, nonpartisan or bipartisan control over electoral systems might be important not only in reducing fraud but also in improving welfare.

More specifically, this paper identifies a form of electoral fraud in which parties use outsiders to increase electoral prospects. Our idea is similar to Fukumoto and Horuichi (2011) who use a novel difference-in-difference structure to identify how outside voters are used in municipal elections in Japan. In their natural experiment setting, the treatment is the timing of elections and the outcome is the change in the number of housing registrations. They detect that housing registrations see an artificial rise in the period prior to elections. Since residency is a requirement for voting, this rise prior to elections is an indication of fraud.

We also provide evidence of electoral fraud during the process of registration, but implement a different identification strategy. We demonstrate that political parties in select states in India (Assam and West Bengal) that share a border with Bangladesh, encourage the registration of non-citizens as voters in order to increase electoral prospects. If non-citizens are registered as voters, travel costs and other spatial frictions are likely to result in more non-citizens to be registered closer to the border. This allows us to identify electoral fraud, since we should not expect any such relationship if non-citizens are not registered on the electoral rolls. The use of distance to the border as an instrument for costs of travel/transport and spatial friction across countries is an accepted identification strategy in international trade literature;

we are unaware of it being used in detecting electoral fraud.

We also demonstrate strategic electoral reform i.e. strategic cleaning of electoral rolls. For the most part, literature on strategic electoral reform has focused on issues like redistricting, term limits and campaign spending, and has followed the empirical framework established by Gelman and King (1994). We present a natural experiment setting, which considers federal-state party alliance (as opposed to non-alliance) as a treatment.

Since the management and oversight function pertaining to national and state elections is performed by a national-level institution and the provision of documents for the purpose of registration as a voter is performed by state-level institutions, we exploit the possibility that the oversight function of the national institution on the state institution is determined by the relationship between the incumbent national party, and the incumbent state party. When the state party (through state-level institutions) engages in electoral fraud, and the national party (through the national electoral institution) implements oversight, this oversight is likely to be lax if both parties are allies and strict if both parties are non-allies.

We show this in the context of two border states - West Bengal (parties are non-allies), in which roll cleaning was strict and Assam (parties are allies), in which roll cleaning was lax, in the same electoral period. However, this could very well be a state-specific effect, for instance enforcement might be

easier in one state and harder in another. To control for this, we exploit another natural experiment - a switch in the relationship status between the state party and the national party between two elections in West Bengal. We find that the roll cleaning was lax when both parties were allies and became strict when the alliance broke, thus validating that the difference in the implementation was not on account of any regional differences or time-variant differences such as an improvement in the performance of the agency.

This approach is closely related to the literature on fiscal federalism - Central government transfers to the State government may be determined by re-election concerns of politicians. Arulampalam et al. (2009) extend the Dixit and Londregan (1998) model of redistributive politics to two levels of government. They demonstrate that swing states and states with parties aligned to the Central government receive higher grants than states that are non-swing and non-aligned. They empirically validate their prediction in the context of India, estimating that swing and aligned states receive 16 percent higher grants. In our case, the Central Government's implementation of electoral rules are subject to electoral concerns, similar to the case of fiscal transfers, resulting in stricter implementation for non-allied states and lax implementation for allied states.

Finally, we also present evidence that higher electoral fraud is correlated with lower development outcomes in both the destination country and the source country. Low skilled migration is largely considered to have negative effects

on the destination country through wage and public goods channels (See Gaston and Nelson, 2011 for a survey); we present evidence for the latter. The political mechanism at work is closer to the literature on the use of outsiders to reshape constituencies. Glaeser and Shleifer (2005) model this as the Curley Effect based on James Curley, a six time elected (1913-1953) mayor from Boston, who promoted the immigration of poor Irish communities to Boston to stay in power, at the cost of the native constituency. We are able to demonstrate the existence of the Curley Effect - development outcomes are lower in regions where non-citizens are used to increase electoral support. While we introduce an illegal component, this does not affect the broad insight that politicians can increase the relative size of their political base using distortionary policies.

The evidence that the development outcomes are lower in the source country is contrary to the positive effect on account of remittances, in the migration literature.<sup>1</sup> While we do not investigate this in detail, one hypothesis is that the departure of poorer and less-skilled individuals might reduce collective action for public goods provision, the welfare effects of which are not compensated by the remittances.

In the following section we provide the political context, followed by a description of the data, a discussion of our empirical strategy, the results and

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<sup>1</sup>Adams (2009) demonstrates that low-skilled immigrants send more remittances per capita to their home country than high skilled immigrants.

finally some concluding remarks.

## Qualitative Evidence

### Non-citizens in Electoral Rolls

One aftermath of the independence of India from colonial rule was its partition into India and Pakistan; Pakistan comprised of two geographically distant regions - East Pakistan (now Bangladesh) and West Pakistan. A variety of reasons including a repressive military dictatorship caused relations between East and West Pakistan to deteriorate, finally culminating into a full fledged secessionist movement in the late 1960s. In March 1971, the Pakistan Army began Operation Searchlight, a planned military mobilization to curb the Bengali nationalist movement in East Pakistan by taking control of its major cities in one month. The conflict escalated into a civil war, leading to the death of three million Bangladeshis and the fleeing of ten million refugees to India, according to official estimates from Bangladesh.<sup>2</sup>

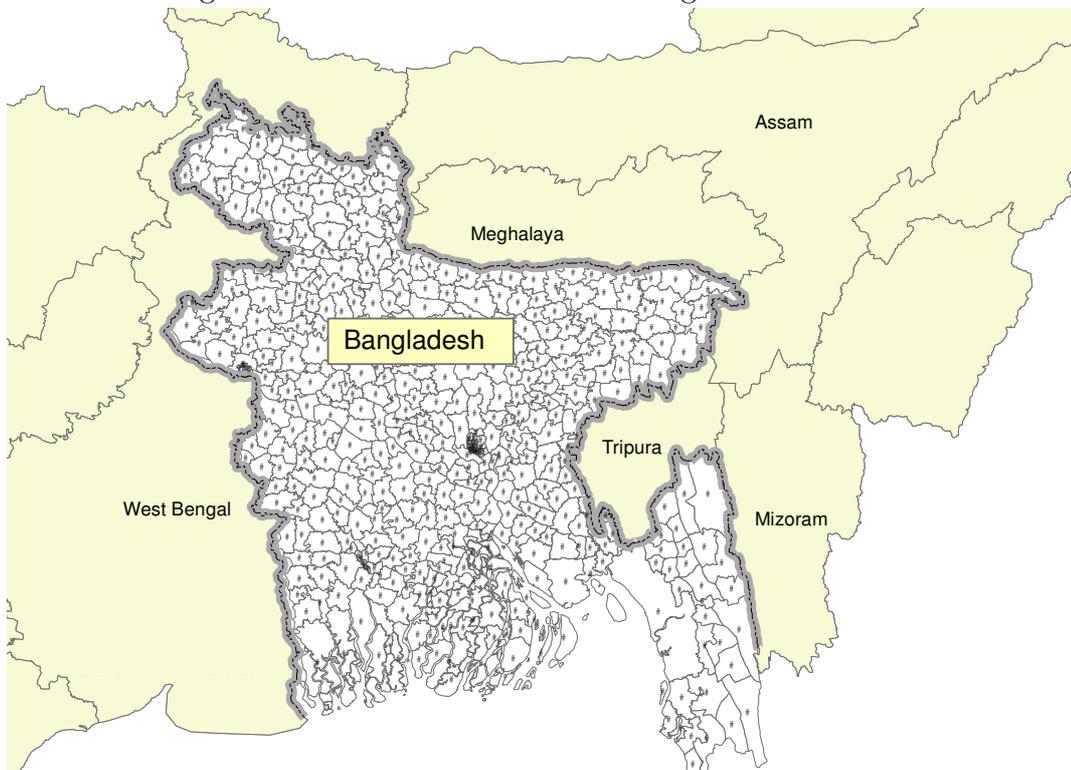
[Figure 1 here]

The 1971 refugees from Bangladesh were officially called “evacuees”, but were

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<sup>2</sup>While a proportion of the non-citizens might be from this group, we do not expect our basic mechanism (spatial friction/travel costs causing more non-citizens to be registered near the border) to change.

Figure 1: Indian States on India Bangladesh Border



treated as refugees requiring temporary asylum (SAHRDC, 1997). The Indian Government has not officially granted citizenship to the 1971 refugees as well as to other refugees from Bangladesh. Following this mass exodus, refugees have continued to move to India in subsequent decades, leading to periodic public outcry. Since the 1990s, particularly in the context of the State of West Bengal, political parties have complained regarding the use of non-citizens in voter rolls. From 2001 to 2011 (our period of inquiry), the Election Commission of India (ECI) received several complaints from political parties regarding the registration of non-citizens as voters near the India-Bangladesh border. As listed in Table 1, these were filed against the Communist Party of India - Marxist (CPIM), henceforth called the Left Government<sup>3</sup> in West Bengal in the State Assembly election cycles 2001-06 and 2006-11, against the Indian National Congress (INC) in the State of Assam in the election cycle 2006-11, and against the Left Government in the State of Tripura in the election cycle 2003-08. In 2009, the opposition Party in West Bengal conducted their own investigation and found 46,000 illegal voters in a constituency of Kolkata district (24 percent of the average constituency size and 2.3 percent of the district population), of which 11,320 held multiple election identity cards. In 2006, the head of the same Party claimed there are 20 million bogus voters in the state, amounting to 42 percent of the 48 million electorate in the State in 2006.

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<sup>3</sup>The CPIM is the biggest party in the Left Front, the coalition of Left parties in India. We use the Left and CPIM interchangeably.

[Table 1 here]

Table 1: **Pre-Election Party Complaints to EC Regarding Illegal Voters**

State	Years	By	Against
West Bengal	2006-2011	INC, AITC	Left
Assam	2010, 2011	BJP	INC
Tripura	2006, 2008	BJP, INC	Left
Meghalaya	None		
Mizoram	None		

All these complaints were filed against incumbents. West Bengal was governed by the same party for seven elections (1977 to 2011), Tripura for four elections (1993 to 2012) and Assam for two elections (2001 to 2012), as opposed to Meghalaya and Mizoram, where both incumbents have been in power for just one electoral period. Since a state-level institution has to be co-opted to participate in the electoral fraud, longevity is likely to increase co-option ability.

The implicated parties have another important characteristic. They are largely non-ethnic, non-regionalist, secular, national parties, which limits their ability to garner identity-based votes. Consequently, it might serve the interest of the Left and the INC to add non-citizens to the electoral rolls to compensate for their lower popularity amongst native residents. Datta (2004) conducted a survey amongst 50 undocumented immigrants from Bangladesh in two districts in West Bengal; 26.4 percent of the respondents mention the easy availability of ration card and enrollment in voter lists under political

patronage as an important factor in their choice of state, implying that patronage is provided to non-citizens. We also find that both these Parties are less popular in border areas, as revealed by their votes shares in the three elections from 2001 to 2011 (See Table 12 for Summary Statistics).

The non-implicated Parties, at least in this type of electoral fraud, are regional parties - All India Trinamool Congress in West Bengal, Asom Gana Parishad in Assam, and the Mizo National Front in Mizoram. Some of these parties like the Mizo National Front have their foundation in secessionist movements, which have disarmed and become political. Using non-citizens as voters is likely to alienate loyal constituencies for these parties, particularly when voters have limited information to be forward looking.

## **Bias of the National Electoral Agency**

While the execution of electoral fraud is a state level activity, the cleaning of electoral rolls is implemented by the ECI. For electoral reform to be strategic, the National Party has to co opt the ECI. Our period of investigation (2005-2010) overlaps with the most controversial period in the history of the ECI. It is marked by widespread discontent regarding the conduct of the ECI and claims of alleged bias in managing elections, by a majority of the opposition parties.

During this period, the ECI was headed by an incumbent National Party

loyalist - Naveen Chawla, with previous long-term affiliation with the Party.<sup>4</sup> In March 2006, the leading opposition alliance presented a memorandum asking for his removal from the ECI, due to his links with the National Party. It was signed by 200 Members of the Parliament.

In January 2009, the Chief Election Commissioner also recommended the removal of the Additional Commissioner to the President, alleging that he was partisan - sought to further the interests of the incumbent National Party. The charges included leaking confidential information and eliciting Party preference prior to important decisions. The Government of India, led by the National Party (INC), rejected the recommendation, instead promoted the Additional Commissioner to head the ECI as the Chief Election Commissioner. The ECI was strict in its implementation in West Bengal exactly during this period, which overlaps with the break in alliance between the National Party and the State Party.

## **Hostility Between the National Electoral Agency and the Opposition State Party**

The indication of bias is also evident from the communication between the CPIM in West Bengal and the ECI during the 2006-11 electoral cycle. It appears that the ECI was quite activist in its implementation of electoral

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<sup>4</sup>Inducted in 2005, as an Additional Election Commissioner and promoted in 2009, as the Chief Election Commissioner.

reforms in West Bengal. In August 2006, after the State Assembly Elections, the State Party prepared a long critique on the functioning of the ECI. This included questioning the deletions of names from the electoral rolls based on a Bangladesh citizenship plea.

*“During the West Bengal elections, a very large number of names, approximately 2.2 million, were struck off the electoral rolls...A large number of genuine Indian citizens - ordinary people, were in fact disenfranchised on this alleged Bangladeshi citizenship plea though they had documentary evidence to prove to the contrary.”*

The same document also complained about the use of paralimitary forces as opposed to local police to guard electoral booths. *“The other serious issue is the exclusive deployment of the Central Para Military Forces and the forces from other states within the polling booths and the poll premises. There were to be no state police deployed in the polling booths. This was an expression of no-confidence in the state police force...So great was the extent of the ECIs obsession with excluding polling personnel drawn from the state government employees, that personnel from the central government and central PSUs were made presiding officers even though many of them were not competent to discharge such duties.”*

In Assam, an opposition party (Bharatiya Janata Party), prior to the 2011 State Assembly Elections, complained that the National Party (INC) was

adding non-citizens to the voting list. The complaint argued that there was an abnormal rise in the number of voters in Assam in the 2010 electoral rolls - 16 percent, while the rise in voters at the national level was 1.6 per cent. The ECI did not take any action, that appears similar to its activist role in the case of West Bengal. In 2012, the National Party won in the Assam State Assembly Elections.

We proceed to empirically validate both electoral fraud and the strategic cleaning of electoral rolls. We start by describing our data.

## Data

### Electoral Fraud

To detect electoral fraud, our key outcome variable is  $DiffElectorate_{i,t}$  which is the percent change in the number of electors, compared to the previous election, in constituency  $i$  in period  $t$ . We construct this variable as  $((X_{t+1} - X_t) * 100) / X_t$ , where  $X_t$  is the number of electors in an assembly constituency  $i$  in period  $t$ . These figures are available from the Election Commission of India. The data pertains to two election cycles 2001 to 2006, and 2006 to 2011, giving us one value of  $DiffElectorate_{i,t}$  for each period. Since West Bengal underwent redistricting in 2008, our data for the second period for this state is from 2008 to 2011. However the number of additions in the

second period are greater than those in the first period, which addresses the concern that availability of two additional years might increase the extent of the fraud.

Our key independent variable is  $Distance2border_i \times Complaint_t \times NoAction_t$ , which is used as an instrument for the presence of non-citizens in electoral rolls (We do not have constituency level data on non-citizens). We generate the distance measure by calculating the distance of the midpoint of a geocoded constituency to the nearest border with Bangladesh. This unit is coded in decimal degrees, which at 25 degrees latitude (the average for West Bengal) is equivalent to 110.7 kms or 68.8 statute miles. For the latitude range within our region of study, the equivalent of one decimal degrees is approximately 111 kms. The India Bangladesh border is largely porous, comprising of fields, contiguous houses, non-paved paths, paved roads, waterways and highways. Hence, we have no strong reason to limit our distance variable to a formal international checkpoint.

$Complaint_t$  is a dummy variable at the state level (common for all constituencies in one state in one period). We collect data on complaints based on newspaper reports from 2001 to 2011, the period of our analysis. We find complaints in multiple newspapers pertaining but we limit the sources to those which quote one of the the following three news agencies as a source - PTI, UNI or ANI (See Table 16).  $Complaint_t$  is coded as one in three cases out of four.

$NoAction_t$  is a dummy variable at the state level to identify whether the ECI took a strict action or a lax action, based on whether the ECI conducted an intensive/special revision (strict) or a summary revision during the period of the alliance. This information is available on the ECI website and also reported in the newspapers. We use both sources and find strict action in West Bengal in the period 2006-2011.  $NoAction_t$  is coded as one in three cases out of four.

The socioeconomic and demographic control variables relating to gender, caste, literacy, population etc are compiled by Lokniti, Centre for the Study of Developing Societies (CSDS) from the 2001 Census of India. This data is available at the village level, which was aggregated to the constituency level by adding the data for all villages falling within a constituency. These variables are controlled for population (See Table 12 for summary statistics). The political control variables such as the size of electorate and votes received by the incumbent are collected from the State Assembly Election results published by the ECI.

## **Strategic Electoral Reform**

To demonstrate strategic electoral reform, our key outcome variable is the same -  $DiffElectorate_{i,t}$ . The key independent variable is  $Distance2border_i \times Alliance_t \times ElecFraud_t$ .  $Distance2border_i$  is coded as above.

$Alliance_t$  is a state level dummy variable, coded as 1 in the period in which the party in power in the State Assembly and the party in power in the National Assembly are allies, either post-electoral or pre-electoral and 0 otherwise. We do not control for the difference in post-election or pre-election alliance.  $Alliance_t$  is coded as 1 in three cases out of four.

$ElecFraud_t$  is a state level dummy variable coded as 1 in the period in which electoral fraud is detected using the our estimation framework described below.  $ElecFraud_t$  is coded as 1 in three cases out of four.

We use the same control variables described above. The summary statistics are presented in Table 12.

## Development Outcomes

To demonstrate the relation of the distance to border to development outcome -  $Y_{i,t}$ , our dependent variable of interest, we have a limited number of proxy variables at the constituency level in India. These include literacy rate, urban proportion, proportion in agriculture and non-working proportion. These are aggregated from village level data in the Census of India, 2001. The main independent variable is  $Distance2border_i$ , described above.

To demonstrate the effect on Bangladesh, our dependent variables of interest are again, development variables for Bangladesh at the sub district level.

We access geocoded data from two sources - the Small Area Estimates of Poverty and Inequality (SAEPI) database 2005 from the Center for International Earth Science Information Network (CIESIN), Columbia University, where we get data on headcount poverty and the Bangladesh Bureau of Statistics (BBS) where we get data on literacy rate (BBS Bangladesh Case Study, 2005) and population growth rate. The main independent variable is  $Distance2border_i$ , which is a similar distance measure for sub-districts in Bangladesh, coded using the geocoded CIESIN dataset.

## **Empirical Strategy**

### **Selection of States and Election Cycles**

We restrict our analysis to three elections (two election cycles) and two states, West Bengal and Assam, out of five, that share a border with Bangladesh, for a number of reasons. Both these states share the same election cycle, and hence the same party in power in the National Assembly, unlike the remaining three states (See Table 13). This allows us to control for the national party in power. Both states have not changed the state party in power (incumbent) for our period of interest - 2001 to 2011 (INC for Assam and Left for West Bengal). This allows us to control for incumbency effects. Given these controls, we can structure our empirical strategy as a natural

experiment.<sup>5</sup>

## Detection of Electoral Fraud

Our empirical approach is guided by the fact that using non-citizens for electoral fraud is limited by spatial costs, thus making it easier to register non citizens nearer to the border than further away. Hence, we consider a significant relationship between distance to the border and the number of new voter registrations as evidence of electoral fraud.

The lack of this relationship cannot be considered as the non-existence of fraud because the ECI can take strict action that neutralizes the relationship. Hence, to ensure that we distinguish between non-existence of fraud and existence of fraud and strict action by ECI, we use another indicator of fraud - complaints by political parties regarding illegal registration of voters by any other party. A complaint is public information as evident from the observation that news agencies report on these complaints extensively and parties share this information, arguably for electoral benefits. In response, the ECI can take strict action by conducting intensive/special revision of electoral rolls.<sup>6</sup> The ECI can also ignore the complaint by not undertaking

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<sup>5</sup>However we run placebo regressions for all border states and do not find any significant border effect.

<sup>6</sup>Types of Roll Revisions

1. Intensive: Enumerators visit every household.
2. Summary: Enumerators invite claims and objections. No individual visits are made.
3. Intensive and Summary: Summary revision is made with verification at the household

any strict action. A strict action is observable, since the ECI responds to complaints by publicly announcing a schedule for undertaking roll cleaning. It is possible that political parties make false complaints. Similarly it is possible that the ECI implements strict action, independent of the receipt of complaints. Both these strategies can complicate our estimation framework.

[Table 2 here]

**Table 2: When Can Fraud Be Detected: Causal Framework**

	ECI Takes Strict Action	ECI Doesn't Take Strict Action
Complaint Made $\cap$ True	1. Not Detectable	2. Detectable
No Complaint Made $\cap$ True	3. Not Detectable	4. Not Detectable
Complaint Made $\cap$ False	5. Not Detectable	6. Not Detectable
No Complaint Made $\cap$ False	7. Not Detectable	8. Detectable

We assume that the ECI does not take strict action unless a complaint is received. We motivate this assumption based on evidence that it is expensive to take strict action. We support our assumption by arguing that in all instances in our data where a strict action was undertaken, it was preceded by a complaint (See Table 1). This assumption allows us to eliminate 3, 4, 7 and 8 in Table 2.

We also assume that a party never files a complaint unless it is true. We make

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level.

4. Special: Intensive revision is made for specific constituencies and for unforeseen circumstances.

In most cases, intensive and special types of enumeration can reveal whether identity cards are fraudulent, addresses are incorrect, photographs do not match or unusually more number of persons are registered at the same address. Since special/intensive enumerations are expensive, they are rarely carried out. This reduces the risk of detection of electoral fraud of the kind, we suggest.

this assumption by arguing that making false complaints imposes a cost on the party in the same election cycle. To validate this, we collect information on all complaints made to the ECI regarding electoral fraud in these regions within two election cycles.<sup>7</sup> We find four complaints in three states, all against incumbents. We verify that these complaints are true by finding a negative and significant relationship between distance to border and change in the size of the electorate in all cases. We find no relationship between the two variables in election cycles in which no complaints are received (See Table 17 for placebo regressions). This assumption also means that electoral fraud is observable to both parties and that parties report electoral fraud when they see it. We support this by arguing that competing parties have better access to information about opposition fraud than the ECI, on account of informal networks. In several instances as documented above, parties have collected data on non-citizen voters and submitted them to the ECI. This assumption allows us to eliminate 5 and 6.

Together, these assumptions reduce our causal framework to the following estimation equation, for which we employ an OLS model.

$$\begin{aligned}
 \text{DiffElectorate}_{i,t} = \text{constant}_{i,t} + (\text{Distance2border}_i \times \text{Complaint}_t \times \text{NoAction}_t)\alpha_1 \\
 + \beta_i + X_{i,t}\gamma + \epsilon_{i,t}
 \end{aligned}
 \tag{1}$$

where  $\text{DiffElectorate}_{i,t}$  is a percent change in the number of electors in

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<sup>7</sup>Since the election cycles vary in different regions, the period ranges from 1998 to 2011.

$Election_t$  over  $Election_{t-1}$  in constituency  $i$ ,  $Distance2border_i$  is the euclidean distance of the constituency from the Bangladesh border,  $Complaint_t$  is a dummy for the election cycle in which the complaint was made,  $NoAction_t$  is the dummy for the election cycle in which no action was taken against the complaint,  $\beta_i$  are district fixed effects,  $X_{i,t}$  are a set of  $k$  explanatory variables and  $\alpha_1$  is the coefficient of interest that captures the percentage point increase in the number of electors for constituencies located closer to the Bangladesh border.<sup>8</sup>

The following table specifies the basis on which we conclude that electoral fraud has occurred.<sup>9</sup>

[Table 3 here]

**Table 3: Indication of Fraud in Data: Expected Value of  $\alpha_1$  (Estimate on Distance to Border)**

	ECI Takes Strict Action	ECI Doesn't Take Strict Action
Complaint Made $\cap$ True	$E[\alpha_1] \approx 0$	$E[\alpha_1] < 0$

<sup>8</sup>For state specific effects, we add a state dummy.

<sup>9</sup>In our estimates for West Bengal in Period 2, even when the ECI takes strict action, we find that  $\alpha_1$  is less than 0, though the value is less significant than when the ECI didn't take strict action in Period 1. One reason for  $\alpha_1$  not becoming insignificant in the second period could be the persistence of the mechanism facilitating electoral fraud from the previous period.

## Strategic Electoral Reform

The first part of our empirical strategy dealt with the identification of electoral fraud. Here we develop a strategy that identifies whether electoral roll cleaning was strategic. In other words, we validate whether the removal of non-citizens registered as voters was strict or lax, based on whether it benefited the National Party. Roll cleaning is considered strict when the ECI substantially reduces the effect of the electoral fraud in the period in which the complaint is made. Roll cleaning is considered lax when the ECI did not reduce the effect in the election cycle in which the complaint is made.

Our identification strategy exploits a natural experiment caused by a break in the alliance of the party in power in the State Assembly (West Bengal) with the party in power in the National Assembly. As described in Table 4, we estimate the relationship between  $DiffElectorate_{i,t}$  and  $Distance2border_i$  in the period in which a complaint is received and, the State Party and the National Party are allies, and the period in which a complaint is received and, the State Party and the National Party are no longer allies, due to a break in their alliance. As a control, we use another state - Assam, where the relationship did not break, since the National Party and the State Party were the same.

[Table 4 here]

Table 4: **Break in Alliance as a Natural Experiment**

Period → Border State ↓	2001 to 2006	2006 to 2011
Assam $E[\alpha_1]$	Ally $\cap$ No Complaint $\approx 0$	Ally $\cap$ Complaint $< 0$
West Bengal $E[\alpha_1]$	Ally $\cap$ Complaint $< 0$	Non-ally $\cap$ Complaint $\approx 0$

For our baseline estimates, we employ an OLS model, specified as follows,

$$\begin{aligned}
 DiffElectorate_{i,t} = constant_{i,t} + (Distance2border_i \times Alliance_t \times ElecFraud_t)\alpha_1 \\
 + \beta_i + X_{i,t}\gamma + \epsilon_{i,t}
 \end{aligned}
 \tag{2}$$

where  $DiffElectorate_{i,t}$  is a percent change in the number of electors in  $Election_t$  over  $Election_{t-1}$  in constituency  $i$ ,  $Distance2border_i$  is the euclidean distance of the constituency from the Bangladesh border,  $Alliance_t$  is a time fixed effect which equals 1 for the election cycle in which the national and the state party were in an alliance, and 0 for the period following the break in alliance,  $ElectFraud_t$  is a dummy for the election cycle in which we uncover fraud in the state,  $\beta_i$  are district fixed effects,  $X_{i,t}$  are a set of  $k$  explanatory variables and  $\alpha_1$  is the coefficient of interest that captures the extent to which the percent of electors change differentially for constituencies located closer to the Bangladesh border.

# Long Term Electoral Fraud and Development Outcomes in India and Bangladesh

## India

The use of non-citizens as vote banks, through illegal registration as voters, has been an important issue in West Bengal since the 1970s. Hence the Curley Effect (Glaeser and Shleifer, 2005) appears more relevant for West Bengal. The hypothesis suggests that poor immigrants reduce the development indicators in the border regions, due to distortionary policies (patronage) of the party favoring them.

Migrants can have a negative effect on the host country by reducing wages or public goods availability.<sup>10</sup> We have data for select development indicators - literacy, non working proportion, urban proportion and proportion dependent on agriculture in a constituency. Our reduced form regression for these measures of development is specified as follows

$$Y_{i,t} = constant_{i,t} + (Distance2border_i)\alpha_2 + \beta_i + X_{i,t}\gamma + \epsilon_{i,t} \quad (3)$$

where  $Y_{i,t}$  is a development outcome for 2001,  $Distance2border_i$  is the euclidean distance of the constituency from the Bangladesh border,  $\alpha_2$  is the

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<sup>10</sup>See Gaston and Nelson (2011) for a survey. The assumption is that immigrants are low skilled (hence perfectly substitutable with domestic low skilled labour) and receive access to the welfare state.

coefficient of interest that captures the extent to which the development outcome changes differentially for constituencies located closer to the Bangladesh border,  $\beta_i$  are district fixed effects, and  $X_{i,t}$  are a set of  $k$  explanatory variables. We perform the same tests for Assam, where we detect electoral fraud for one period. This allows us to test whether border regions are generally worse off, irrespective of the presence of electoral fraud.

## Bangladesh

We have no prior regarding the spillover effect of electoral fraud on Bangladesh's development. One hypothesis is that the migration of poor population, might increase the average income of border areas, a purely demographic effect. Another hypothesis is that the movement of poor population might reduce demand for the provision of public goods. A third hypothesis is that remittances from abroad might lead to higher welfare (Drinkwater et al., 2003). We have geo-coded data for select development indicators of Bangladesh. We use three measures of development - poverty headcount ratio, literacy rate (male and female) and migration. Our reduced form regression for each measure of development is specified as follows

$$Y_{i,t} = constant_{i,t} + (Distance2border_i)\alpha_2 + \beta_i + X_{i,t}\gamma + \epsilon_{i,t} \quad (4)$$

where  $Y_{i,t}$  is a development outcome for 2001,  $Distance2border_i$  is the euclidean distance of the sub-district from the Indian border,  $\alpha_2$  is the coefficient of interest that captures the extent to which the development outcome changes differentially for constituencies located closer to the Indian border,  $\beta_i$  are district fixed effects, and  $X_{i,t}$  are a set of  $k$  explanatory variables.

## Results <sup>11</sup>

### Baseline Effect on Registration of Electors

Our estimate for  $\alpha_1$  is -3.44 (-8.67 without demographic controls). This suggests that a 1 unit (111 kms) closeness to the Bangladesh border is associated with a 3.44 percentage point increase in the number of voter registrations, over the previous electorate. For a constituency with a population of one million, this implies an increase in 34,400 registrations as a result of a 111 kms or 68.8 miles proximity to the Bangladesh border.

[Table 5 here]

Our reduced form placebo regressions for the remaining three states sharing a border with Bangladesh where no complaint is received and no redistricting has occurred show that the border effect is insignificant in all cases and the

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<sup>11</sup>Tables 5 to 11 present the results. \*\*\* is significant at the 1% level, \*\* is significant at the 5% level and \* is significant at the 10% level. All regressions are OLS.

Table 5: **Baseline: Additions to Electorate and Distance to Border**

	1	2
<i>Distance</i> $\times$ <i>Complaint</i> $\times$ <i>NoAction</i>	-8.67*** (1.10)	-3.44** (1.18)
<i>Distance</i> $\times$ <i>NoAction</i>	-0.27 (1.03)	-0.90 (1.41)
<i>Distance</i> $\times$ <i>Complaint</i>	1.45 (1.04)	-3.10* (1.14)
Distance	omitted	omitted
Observations	840	546
District Fixed Effects	Y	Y
Demographic Controls	N	Y

estimates have the opposite sign in three out of four cases (See Table 17).

### State-specific Effect: West Bengal

In West Bengal, in the first election cycle (2001-2006), when the opposition party complained and no action was taken by the ECI, we find a statistically significant coefficient of - 5.06 on  $\alpha_1$ . This suggests that a 1 unit (111 kms) closeness to the Bangladesh border is associated with a 5.06 percentage point increase in the number of voter registrations, over the previous electorate.

During the second election cycle (2006 - 2011), when the ECI took action, we still find a statistically significant coefficient of -2.61 on the distance variable. This can be read as a decline in the extent of electoral fraud in the second period, when the alliance broke.

[Table 6 here]

Table 6: **West Bengal: Additions to Electorate and Distance to Border**

	(Alliance Period) <i>Electorate</i> <sub>2006–2001</sub>	(Non alliance Period) <i>Electorate</i> <sub>2011–2008</sub>
Distance2border	-5.06***	-2.61***
Standard Error	(1.3)	(0.58)
Observations	294	294
District Fixed Effects	Y	Y
Demographic Controls	Y	Y

### State-specific Effect: Assam

In Assam, during the first election cycle, when no complaints were made by any party, the coefficient is insignificant. This implies that there was no association between closeness to the border and registration of new voters.

[Table 7 here]

Table 7: **Assam: Additions to Electorate and Distance to Border**

	(Alliance Period) <i>Electorate</i> <sub>2006–2001</sub>	(Alliance Period) <i>Electorate</i> <sub>2011–2006</sub>
Distance2border	-0.84	-1.20**
Standard Error	(0.77)	(0.48)
Observations	126	126
District Fixed Effects	Y	Y
Demographic Controls	Y	Y

During the second election cycle, when an opposition party complained about the incumbent to the ECI, and the ECI did not take any action, we find a sta-

tistically significant coefficient of -1.2 on the distance variable. This suggests that a 1 unit (111 kms) closeness to the Bangladesh border is associated with a 1.2 percentage point increase in the number of voter registrations, over the previous electorate.

### **Strategic Electoral Reform: West Bengal**

We estimate a negative and significant coefficient of -3.54 on  $\alpha_1$ , implying that the effect of fraud during the alliance period in West Bengal is over and above the fraud in the non alliance period. The coefficient suggests that a 1 unit (111 kms) closeness to the Bangladesh border is associated with a 3.54 percentage point increase in the number of voter registrations during the alliance period over and above the value of 3.0 in the non-alliance period. This implies that a break in alliance with the party in power in the National Assembly, reduces the extent of electoral fraud, which we attribute to stricter roll cleaning by the national agency.

[Table 8 here]

Table 8: **Strategic Electoral Reform: West Bengal**

	1
<i>Distance</i> × <i>Alliance</i> × <i>ElecFraud</i>	-3.54** (1.39)
<i>Distance</i> × <i>Alliance</i>	-1.02 (1.69)
<i>Distance</i> × <i>ElecFraud</i>	-3.0* (1.35)
State Dummy	-3.22 (4.16)
Distance	omitted
Observations	546
District Fixed Effects	Y
Demographic Controls	Y

### **Effect on Development Outcomes in West Bengal: Testing the Curley Effect**

We show that the constituencies closer to the border are less literate, have a higher proportion of population in agriculture, less urban and have a higher proportion of non working population. Specifically, the results suggest that a one unit (111 kms) closeness to the Bangladesh border is associated with a 5.9 percentage point decrease in literacy rate, a 9.76 percentage point increase in the percent of population dependent on agriculture, a 20.58 percentage point decrease in urbanization, but a 3.10 percentage point decrease in non working population.

[Table 9 here]

Table 9: **Development Outcomes in Border Regions in West Bengal, India**

	(1)	(2)	(3)	(4)
	Literacy	Prop in Agriculture	Urbanization	Non-working pop
Distance2border	5.90**	-9.76***	20.58*	3.10*
Standard Error	(1.98)	(3.19)	(8.23)	(1.40)
Observations	294	294	294	294
District Fixed Effects	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y

### Effect on Development Outcomes in Assam

We perform the same tests for Assam, where electoral fraud is observed for one period (2006-2011). We show that the results are insignificant for all variables. This suggests that lower development is not simply a border effect.

[Table 10 here]

Table 10: **Development Outcomes in Border Regions in Assam, India**

	(1)	(2)	(3)	(4)
	Literacy	Prop in Agriculture	Urbanization	Non-working pop
Distance2border	-0.47	-0.05	0.96	-4.83
Standard Error	(5.13)	(2.69)	(1.48)	(8.46)
Observations	126	126	126	126
District Fixed Effects	Y	Y	Y	Y
Demographic Controls	Y	Y	Y	Y

## Effect on Development Outcomes in Bangladesh

We show that regions closer to the border are worse off than regions further away from the border for all three development variables. A unit (111 kms) increase in proximity to the border is related to a 5.4 percentage point increase in poverty (headcount ratio), a 5.1 percentage point decrease in male literacy, a 4.7 percentage point decrease in female literacy and a 5.3 percentage point lower decadal population growth rate (perhaps on account of migration).

[Table 11 here]

Table 11: **Development Outcomes in Border Regions in Bangladesh**

	(1)	(2)	(3)	(4)	(5)
	Poverty	Lit_Male	Lit_Female	Pop Growth	Pop Growth
Distance2border	-0.054***	5.067***	4.649***	-3.723	-5.339***
Standard Error	(0.017)	(1.804)	(1.807)	(2.965)	(2.211)
Observations	463	463	463	463	463
State Fixed Effects	Y	Y	Y	Y	N
Demographic Controls	Y	Y	Y	Y	Y

## Concluding Remarks

We detect a form of electoral fraud that involves the use of non-citizens as voters to improve electoral prospects, by showing that additions to electoral rolls increase closer to the border. Incumbency is positively correlated with

this specific type of electoral fraud. This seems obvious since the technology involved in this fraud requires the state government to provide statehood documents such as identity cards, which in turn, requires a degree of party entrenchment in the administrative machinery of the state.

Our analysis demonstrates that the cleaning of electoral rolls, performed by the national electoral agency was strategic i.e. dependent on whether the party ruling the State Assembly in the border state was an ally or a non-ally of the party ruling the National Assembly. An exogenous shock to the relationship status allowed us to validate strategic electoral reform - weaker implementation during alliance and stricter implementation during non-alliance.

We also demonstrate a form of Curley Effect - poorer development outcomes in regions where non-citizens are used for electoral support. An area of future work is to disentangle the effects - public goods and wages, as theorized in trade literature.

Crude evidence is presented regarding the effect of cross-border movement on border regions in Bangladesh. Based on literacy and poverty data, our estimates suggest that this migration is correlated with lower development outcomes in Bangladesh. One hypothesis is that collective action is reduced since the aggrieved population might find it easier to cross the border on account of electoral incentives offered by the local candidates in the destination

country. Future work can uncover the mechanism in greater detail.

Our results have implications for the debate on migration and the channels through which its effects manifest. For the most part, research has focused on the labor market and public goods effects (See Kerr and Kerr (2011) for a survey on the economic impact of immigration). We present an alternate mechanism, which is political - politicians can offer benefits to non-citizens and seek their votes, compensating for their decreasing popularity within the local population. Thus, variability in political performance might be correlated with variation in the attitudes of politicians towards migration.

Finally, our results are relevant for research on the independence of institutions. We suggest that the independence of electoral institutions can be compromised through partisan control. Distinguishing between de facto and de jure independence/autonomy is important towards demonstrating the effects of institutional independence. Recently in January 2012, in response to media questions on limiting the ECI's powers, the Prime Minister of India - Manmohan Singh, said "*Let me assure you that our government is fully committed to upholding the functional autonomy that the Constitution guarantees to the Election Commission*". Did the Prime Minister respond as a government representative or a party representative? We suggest the latter.

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# Appendices

Table 12: Summary Statistics

Variables	<i>Distance &lt; Mean</i>			<i>Distance &gt; Mean</i>		
	Obs	Mean	Std Dev	Obs	Mean	Std Dev
<u>Baseline</u> (Distance Mean: 0.93)						
<i>DiffElectorate</i> <sub>200601</sub>	253	1.98	10.48	167	10.38	12.22
<i>DiffElectorate</i> <sub>201106</sub>	261	7.71	3.23	159	5.64	3.60
Distance2border	514	0.41	0.25	326	1.75	0.80
Population(2001)	299	258074	32437	247	227616	48048
<u>Bangladesh</u> (Distance mean: 0.49)						
Distance to border	261	0.22	0.13	220	0.82	0.21
Poverty (headcount)	261	0.46	0.09	219	0.39	0.14
Literacy (male)	260	46.66	9.26	247	53.03	12.77
Literacy (female)	260	37.42	9.93	247	45.36	12.97
Population <i>Growth</i> <sub>2001–1991</sub>	254	17.25	13.47	232	12.48	18.67
Population (2001)	261	239270	131622	247	250631	130286
<u>West Bengal</u> (Distance mean: 0.65)						
Distance2border	183	0.317	0.193	111	1.18	0.43
Literacy	183	66.80	13.22	111	70.28	8.02
Proportion in Agriculture	183	22.22	15.98	111	28.19	13.72
Urban Proportion	183	32.37	38.46	111	19.79	31.79
Non working population	183	64.00	4.77	111	62.00	6.52
% Scheduled Caste	183	23.54	15.53	111	22.23	9.22
% Scheduled Tribe	183	4.53	7.55	111	7.14	9.03
<i>DiffElectorate</i> <sub>200601</sub>	179	-1.27	7.96	115	-1.03	4.80
<i>DiffElectorate</i> <sub>201106</sub>	183	8.51	2.50	111	7.39	2.00
Electorate(2001)	179	168631	37675	115	160867	21131
Electorate(2006)	179	166986	40149	115	158910	19699
Electorate(2011)	183	188529	21612	111	195208	15125
Turnout(2001)	179	0.74	0.09	115	0.76	0.08
Turnout(2006)	179	0.81	0.09	115	0.83	0.07
Turnout(2011)	183	0.84	0.06	111	0.86	0.06
% votes for incumbent(2001)	179	0.46	0.09	115	0.53	0.10
% votes for incumbent(2006)	179	0.47	0.08	115	0.54	0.08
% votes for incumbent(2011)	183	0.40	0.07	111	0.43	0.05
<u>Assam</u> (Distance Mean: 1.54)						
Distance2border	80	0.85	0.46	46	2.73	0.82
Literacy	80	61.07	11.92	46	66.49	10.02
Proportion in Agriculture	80	16.5	6.93	46	8.98	4.10
Urban Proportion	80	11.41	18.82	46	12.20	16.89
Non working population	80	67.44	3.96	46	58.30	6.33
% Scheduled Caste	80	7.93	4.93	46	4.91	2.92
% Scheduled Tribe	80	11.35	15.75	46	13.68	14.54
<i>DiffElectorate</i> <sub>200601</sub>	80	20.81	5.79	46	19.96	5.91
<i>DiffElectorate</i> <sub>201106</sub>	80	5.06	4.61	46	2.76	2.88
Electorate(2001)	80	118015	19929	46	108651	17397
Electorate(2011)	80	150011	30313	46	134462	26552
Turnout(2001)	80	0.77	0.07	46	0.73	0.06
Turnout(2006)	80	0.76	0.07	46	0.76	0.04
Turnout(2011)	80	0.77	0.07	46	0.74	0.04
% votes for incumbent(2001)	80	0.36	0.15	46	0.46	0.12
% votes for incumbent(2006)	80	0.27	0.14	46	0.38	0.10
% votes for incumbent(2011)	80	0.36	0.15	46	0.46	0.11

Table 13: State and National Party Relations for Left and INC on the India-Bangladesh Border

National → Assembly	1998-2004 BJP	2004-09 INC	2009-14 INC
StateAssembly			
West Bengal	2001(Left: non-ally, won)	2006(Left: ally, won)	2011(Left: non-ally, lost)
Assam	2001(INC: non-ally, won)	2006(INC: ally, won)	2011(INC: ally, won)
Tripura	1998(Left: non-ally, won) 2003(Left: non-ally, won)	2008(Left: non-ally, won)	
Meghalaya	1998(INC, non-ally, lost) 2003(INC, non-ally, won)	2008(INC: ally, lost) <sup>a</sup>	
Mizoram	1998(INC, non-ally, lost) 2003(INC, non-ally, lost)	2008(INC, ally, won)	

<sup>a</sup>Re-elections were held in 2009 in which INC won.

Table 14: **Abbreviations**

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CPIM	Community Party of India(Marxist)
INC	Indian National Congress
AITC	All Indian Trinamool Congress
ECI	Election Commission of India
BJP	Bharatiya Janata Party
UNI	United News of India
PTI	Press Trust of India
ANI	Asian News International
NDA	National Democratic Alliance (led by BJP)
UPA	United Progressive Alliance (led by INC)

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Table 15: **Key Electoral Reforms and Electoral Timing in West Bengal**

Time	Event
03.2004	National Elections 2004: Left wins with 34/42 seats.
04.2004	INC invites Left to form Government: Left refuses, provides support from outside.
10.2004	Left expresses concern over INC's economic policies.
09.2005	Left claims INC breach of alliance mandate.
12.2005	Left expresses concern over closer strategic cooperation with the US.
.2006	<b>INC begins talks with AITC for alliance in West Bengal, against Left.</b>
02.2006	<b>Operation Clean Roll is initialized, deletion of 2.2 million names.</b>
04.2006	WB State Elections 2006: Left Front wins with 233/294 seats.
08.2006	<b>Left complains regarding roll cleaning.</b>
03.2007	Left reports the budget as a failure.
06.2007	Left calls for review of support to the INC.
07.2008	Left officially withdraws support.
01.2009	INC forms alliance with All India Trinamool Congress (AITC).
04.2009	National Elections 2009: Left loses with 15/42 seats.
04.2010	<b>Roll cleaning escalates, ECI adds 10% additional voters.</b>
10.2010	<b>Left complaints of partisan bias in additions to electoral rolls.</b>
04.2011	West Bengal State Assembly Elections 2011: Left Loses with 62/294 seats.

Table 16: **Complaints Listed by News Source**

Source	Against	By	State	Month/Year
UNI	CPIM	INC	WB	02/2006
PTI	CPIM	NDA(BJP)	WB	01/2006
Indian Express	AITC	CPIM	WB	04/2009
Economic Times	CPIM	AITC	WB	03/2009
The Assam Tribune	INC	BJP	Assam	12/2010
PTI	INC	BJP	Assam	12/2010
ANI	INC	BJP	Assam	12/2010
Indian Express	INC	BJP	Assam	01/2011
UNI	AITC	CPIM	WB	08/2010

**Table 17: Placebo Test for States Bordering Bangladesh with No Complaints of Fraud and No Redistricting**

	(1)	(2)	(3)	(4)
	Tripura	Meghalaya	Meghalaya	Mizoram
	2003-1998	2003-1998	2008-03	2003-1998
Distance to border	-11.60	1.50	5.62	6.83
Standard Error	(6.7)	(2.35)	(5.50)	(7.03)
Observations	60	60	60	40
District Fixed Effects	N	N	N	N
Demographic Controls	N	N	N	N