Does Political Representation affect Trust in Political Institutions?: Evidence from India

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Abstract

The role of political institutions in distribution of economic resources and development is well acknowledged, but less is known about the determinants and importance of trust in political institutions. This paper studies the impact of change in representation on political trust. I use the delimitation exercise of 2008 as a source of change in representation of districts in state legislatures and respondents' self-reported confidence in politicians and state government from two rounds of the IHDS (India Human Development Survey) as measures of political trust. Implementing a difference-in-differences strategy with a household panel, the estimates show that households living in districts that gained representatives in the state legislative assembly show an improvement in reported confidence in both politicians and the state government. There is no evidence of a symmetric negative effect for households living in districts that lose seats. Further, this improvement in confidence is not driven by improved provision of village infrastructure, public programs or general economic development as measured by night time luminosity but is accompanied by an increase in voter turnout for the gaining districts.

1 Introduction

Economic literature widely recognizes the importance of institutions- legal, political and economic for economic growth and development. Institutional factors like structure of property and contractual rights and missing markets are crucial for explaining both the growth and the distribution of economic resources [Knack and Keefer, 1995]. These

economic institutions, on the other hand are directly conditioned by political institutions which determine the distribution of economic resources through the allocation of political power [Acemoglu et al., 2005]. For instance, property rights and their inforceability, taxation, bureaucratic corruption and red tape are all affected by the political structure of a country, and have consequences for investment.

Given the importance of political institutions for economic development, it is of interest to understand how public trust in these institutions matters for their functioning. While a lot of recent work in economics has emphasized the importance of interpersonal and generalized trust for growth and outcomes [Zak and Knack, 2001] [Tabellini, 2010] [Algan and Cahuc, 2010], the determinants and significance of political trust remain relatively unexplored to the best of my knowledge. On the other hand, the notion of political trust has attracted considerable attention in the sphere of political science, particularly against the backdrop of the declining political trust being reported in industrialized economies since the 1960s that has spawned a sizeable literature devoted to determining the possible causes and implications of this decline.

Most of this literature has focused on developed economies and relied on sources such as the self reported confidence in public institutions from periodic surveys like the various rounds of the World Value Surveys (WVS), the American National Election Studies (NES) and the General Social Surveys(GSS) for measuring political trust. For instance, studies have looked at the determinants of political trust and have found evidence in support of the institutional performance theory that posits that governmental performance is what determines confidence in public institutions rather than socio-cultural or psychological factors [Mishler and Rose, 2001] [Newton and Norris, 2000]. Other works have found evidence that greater political trust is associated with higher support for redistributive policies ([Hetherington et al., 2005]) , higher tax compliance [Scholz and Lubell, 1998] and tax morale [Torgler, 2005] and greater likelihood of voting for non incumbents [Hetherington, 1999]. Therefore, trust in political institutions matters for how effectively the government can garner support for its redistributive efforts or how effectively it can administer its tax policy. Another strand of literature focuses on the relationship between trust in institutions and political participation and emphasizes the role of political trust for success and stability of the democratic process [Grönlund and Setälä, 2007].

Given the evidence that political trust has ramifications for the functioning and sta-

bility of institutions through multiple channels, in this paper, I ask whether political representation affects trust in political institutions. More specifically I examine whether having higher number of political representatives improves two measures of political trust-confidence in politicians and the government, in the context of state level politics in India. Using two waves of the IHDS (India Human Development Surveys) carried out in 2004-05 and 2011-12 respectively, that report respondents' assessments of their confidence in politicians and government as measures of political trust and the redistricting exercise of 2008 as a source of variation in representation of voters, I implementing a difference-in-differences strategy to estimate the causal impact of increase in representation on political trust. The redistricting or redrawing of electoral boundaries (referred to as delimitation in the Indian context) took place in 2008 after a three decade period during which boundaries of electoral districts/constituencies were frozen. When boundaries were to be redrawn in 2008, the objective of equalization of representation across regions necessitated a reallocation of seats of the state legislative assembly among the administrative districts in a state. As a consequence, some districts gained seats in the legislative assembly, some lost seats and others remained unchanged. This exercise provides us with presumably "exogenous"[1] variation in representation that we can exploit to estimate the impact of change in representation on political trust.

Merging the two rounds of the IHDS to create a household panel and combining it with the change in representatives due to the delimitation exercise and permits the use of a difference-in-differences strategy with two treatment groups. I find that households in districts that gained seats in the legislative assembly report improved levels of confidence in both the state government and politicians relative to households in districts that experienced no change in seat allocation. Interestingly, I find no symmetric negative effect for households in districts that lost seats. The advantage that the IHDS dataset affords us over surveys like the WVS waves (which provides repeated cross sectional data) is that it provides a rich household level panel that allows us to difference out the impact of any time invariant socio-cultural factors that might impact political trust. Hence, these estimates are not confounded by any regional or household specific time invariant factors. Secondly, the IHDS data also provides a plethora of detailed household and individual specific information that allows plenty of controls to improve precision of estimates. One

[1] More on this in the data section

concern that arises from the construct of the delimitation exercise is that since the re-allocation of seats was based on population of the district relative to state, the districts that gained seats would be the ones that had higher rate of population growth during the boundary freeze and presumably different trends. To address this potential source of endogeneity, I use the population of the district relative to the state from the 2001 and 2011 censuses to control for trends in population.

I suggest three possible mechanisms that could be driving this change in political trust. The first mechanism derives from the literature highlighting the relationship between underrepresentation and distribution of resources. For instance, [Ansolabehere et al., 2002] find that state transfers in the United States were significantly skewed in favour of overrepresented counties before court mandated redistricting took place. [Knight, 2008] documents the same "big constituency disadvantage" for representation of states in the US Senate and proposes two channels through which the small state advantage works- the first being that increased representation means more chances of being represented by the proposer in committees and the second being the voter cost channel which suggests that increase in representation make smaller constituencies more attractive from the perspective of a proposer looking to form the cheapest possible coalition.

If this mechanism held true for the Indian delimitation context, then the observed results follows from the theory of institutional performance that says that improved transfers from the government as a result of removal of the "big constituency" disadvantage would lead to improvement in political trust. Moreover, this improvement in performance should reflect in better provision of public goods, public programmes and economic development.

The second mechanism suggests that an improvement in politician quality could lead to higher political trust. This theory hinges on the idea that addition of seats in a district gives opportunities for new candidates to enter, who could presumably have more desirable characteristics. The third mechanism posits that a smaller constituency size improves channels for communication, better responsiveness and more mobilization of voters that in turn improves political trust. This theory draws from the literature on decentralization that provides evidence that political trust should be higher for lower levels of government as well as for smaller size constituencies due to better responsiveness of and higher interaction with political representatives. For instance, [Denters, 2002] using

data for Norway, Denmark and the United Kingdom finds that citizens report higher trust for lower levels of government and that this effect declines with increase in municipality size and is primarily driven by better satisfaction at lower levels. Similarly, [Hansen, 2013] uses the municipal mergers in Denmark as a quasi-experiment and arrives as similar conclusions about relationship between demographic size and citizen satisfaction.

I am able to reject at least one of these theories using data available in the IHDS combined with night time lights data. I show that the observed improvement in political trust is not driven by improved provision of village infrastructure, delivery of public programs or general economic development as measured by night time luminosity, so the first channel is rejected. Further, I provide evidence to show that this improvement in political trust is concomitant with an increase in political participation as measured by voter turnout in state assembly elections. This provides some suggestive support for the mobilization mechanism.

A host of robustness checks are employed to strengthen the results. Firstly, no similar effects are observed for reported confidence in other institutions like the military, police, media and courts for which there is no a priori reason to expect any changes on account of change in representation. This gives confidence that the results are not a product of a general improvement in confidence in all institutions and are infact rooted in political considerations. Secondly, addition of state specific time trends yields more or less similar results. Thirdly, limiting the sample to districts that gained or lost at most one seats does not affect the results, showing that the findings are not driven by districts at the extreme of the delimitation exercise. Finally, employing the change in seats as the treatment variable as opposed to dichotomous treatment variable gives the similar results.

This paper is situated at the confluence of two different strands of literature-one relating to political trust and the other focusing on the role of political representation. The discourse surrounding political trust began by documenting declining political trust in developed economies [Putnam, 2000] [Listhaug and Wiberg, 1995] and has focused on explaining the origins and importance of political trust. For instance, [Mishler and Rose, 2001] use data from 10 post-Communist countries to test the competing cultural and institutional theories of origins of political trust and find evidence in support of the micro-institutional theory that argues that political trust is determined by institutional performance and further that citizens' evaluations of institutional performance are

conditioned by their own experiences with the government rather than aggregate performance. [Newton and Norris, 2000] also provide evidence in support of the institutional performance theory. A related strand of literature has documented a negative relationship between political trust and perceptions of corruption [Clausen et al., 2011] [Seligson, 2002]. For instance, [Pharr and Putnam, 2000] using newspaper reports of corruption in Japan, finds that "officials' misconduct has been by far the single best predictor of citizen citizen confidence in government". This suggests that political trust is not a fixed characteristic but a fluid one that is ultimately rooted in the actual performance of the government. On the other side, studies focusing on the consequences of political trust have documented positive associations between political trust and tax morale [Torgler, 2005], tax compliance [Scholz and Lubell, 1998] as well as support for redistributive policies [Hetherington et al., 2005]. Political trust has also been found to play a role for distributive policies that entail an ideological sacrifice on the part of citizens [Rudolph and Evans, 2005]. This study furthers the understanding of the notion of political trust by establishing causality with another important factor that affects the working of political institutions- political representation.

On the representation aspect, this paper ties in with the literature highlighting the distributive consequences of underrepresentation. [Ansolabehere et al., 2002] using an index of representation as an explanatory variable, provide evidence that state fiscal transfers were highly skewed in favour of overrepresented counties in the United States and that court mandated redistricting led to substantial equalization of distribution of public funds within states.[Horiuchi and Saito, 2003] find similar implications for underrepresentation and redistricting using data from Japan. In the Indian context, [Bhavnani, 2018] provides evidence that bigger (underrepresented) constituencies in legislatures also lose out on representation in the executive (Cabinet) and argues that this is due to large political parties focusing on winning the more numerous relatively small constituencies.

The main contribution of this paper lies in documenting an hitherto unexplored causal relationship between political trust and representation. To the best of my knowledge, no other causal study has so far looked at these aspects in connection with each other. Secondly, it contributes to the scant literature on confidence in institutions as well as the significance of political representation in the Indian context. Thirdly, the use of a household panel affords us advantages over previous studies employing repeated cross

sections which have been the norm in the institutional trust literature. Fourthly, it contributes to the literature relating voter participation and representation by providing suggestive evidence that an increase in representation is accompanied by increase in voter turnout.

The remainder of the paper is organized as follows. Section 2 details the delimitation exercise of 2008. Section 3 outlines the data used. Section 4 presents the descriptive statistics. Section 5 describes the empirical strategy. Section 6 presents the main results. Section 7 illustrates robustness checks. Section 8 describes the results for voter turnout. Section 9 delves into possible mechanisms and Section 10 concludes the paper.

2 Delimitation in India

Delimitation refers to the act or process of fixing limits on boundaries of territorial constituencies[2]. The task of delimitation is assigned to a body called the Delimitation Commission established under the Delimitation Act that is responsible for redrawing boundaries of assembly and parliamentary constituencies[3]. In India, such Delimitation Commissions have been set up four times- in 1952, 1963, 1973 and 2002. In 1976, a constitutional amendment passed by the Indira Gandhi government during the Emergency froze the boundaries of assembly and parliamentary constituencies until the 2001 Census. The reason given for this was that reapportionment of parliamentary seats would reward states with higher population growth rates with greater representation in the parliament thereby reducing the incentive to implement family planning programmes.

As a result, electoral boundaries in India remained unchanged for a period of about three decades. This led to wide inequality in representation with regions with higher population growth rates being underrepresented in both the state assemblies and the Parliament and those with relatively lower population growth being overrepresented. Against this backdrop, the Delimitation Commission 2002 was set up with the responsibility of redrawing boundaries and reallocating seats so as to equalize population across constituencies. An amendment to the Delimitation Act in 2003, while allowing for redistribution of parliamentary and assembly constituencies within states, froze the total number of both at the level determined on the basis of the 1971 census until 2026, i.e.,

[2]from the website of the Delimitation Commission- http://eci.nic.in/delim/index.asp

[3]constituencies are electoral districts

the total number of seats in the State Legislative Assemblies as well as the total number of seats assigned to a state in the Lok Sabha would remain unaltered through this delimitation exercise and until the first census after 2026.

The delimitation exercise was carried out based on population figures from the 2001 census. While the total number of seats remained fixed, the number of seats reserved for Scheduled Castes(SCs) and Scheduled Tribes(STs) was to be re-worked based on the 2001 census. The constituencies were to re-delimited in a way that population (on the basis of 2001 census) of each parliamentary and assembly constituency in a state shall, so far as practicable, be the same throughout the State[4].

For the purpose of delimitation of the assembly constituencies, the entire population of the state was first divided by the total number of seats in the State Legislative Assembly. The average population per seat arrived at in the first step was to serve as the guiding factor in delimiting constituencies. However, for practical considerations the Delimitation Commission allowed a deviation of 10 percent above or below the state average[5]. In the next step, the seat entitlement of each administrative district was determined by dividing the population of the district by the average population per constituency determined in the first step. If the calculated seat entitlement of the district contained a fraction, fractions greater than one half were counted as one and less than one half were ignored. The change in the number of seats for a district was therefore equal to the determined entitlement minus the existing seats in the district. For example, if a district with a determined entitlement of 10 seats had 8 constituencies before delimitation, the district would gain 2 seats as a result of the delimitation exercise. Similarly, a district with an entitlement that is less than it's pre-delimitation allocation would end up losing seats in the state assembly. Moreover, the Delimitation Commission decided that, so far as possible, all assembly constituencies in a district should be confined within the territorial limits of that district. This change in the number of constituencies within the unit of an administrative district as a consequence of delimitation, gives us the variation in representation that we can exploit to establish causality with political trust.

[4]Delimitation procedure as outlined on the website of the Delimitation Commission of India

[5]"The Delimitation Commission has, however, taken an internal decision that as constituencies cannot be delimited having exactly equal population in all cases, a deviation to the extent of 10 percent plus or minus from the State/district average would be acceptable to the Commission, if the geographical features, means of communication, public convenience, contiguity of the areas and necessity to avoid breaking of administrative units so demand."

Next, the total population of the district was divided by its seat entitlement to arrive at the average population per constituency in the district. The areas of the district were to be divided into the requisite number of assembly constituencies (the entitlement determined in the second step) taking into account the average population per constituency in the district with a permissible deviation of 10 percent plus or minus from the district average. Seats were reserved for SCs and STs in proportion to their population to the total population of the state. The recommendations of the Delimitation Commission were approved by the president in February, 2008. The first election under the newly delimited boundaries was held in the state of Karnataka in May 2008.

While a significant amount of literature focusing on redistricting in the West has concentrated on the presence and implications of *gerrymandering*[6],[Iyer and Reddy, 2013] find that the redistricting process in India was politically neutral for the most part. This is important because it provides confidence that the results in this paper don't follow from an exercise that was rigged to be advantageous to particular parties. Delimitation was not carried out in Jammu & Kashmir and was deferred for the states of Arunachal Pradesh, Assam, Jharkhand, Manipur and Nagaland[7]. These states are excluded from the analysis as they might have completely different dynamics and would therefore be inappropriate for inclusion in the control group. A total of 492 districts are included in the analysis, out of which 110 districts gained seats, 150 districts lost seats and and 232 districts neither lost nor gained seats due to delimitation. Figure 1 shows the distribution of the districts by the number of seats gained/lost as a result of delimitation. Households residing in districts that neither gained or lost constitute the control group, whereas households in districts that gained or lost seats make up the two treatment groups.

[6]Gerrymandering refers to the practice of manipulating constituency boundaries to confer political advantage to a particular political party or group

[7]Delimitation in Jammu & Kashmir would require amendment to the state constitution. States of Assam, Nagaland, Manipur and Arunachal Pradesh were exempt from delimitation because of concerns that the census figures did not reflect correct population shares due to large scale influx of illegal migrants who have settled in these states. Delimitation in Jharkhand was stayed because reworking reservation on basis of 2001 census would have led to a decrease in the seats reserved for STs, which led to questions about declining ST population and the veracity of the census figures.

3 Data

The primary data source are the two waves of the IHDS Surveys- IHDS I[8] and IHDS II[9]. The first round of the IHDS was carried out in 2004-2005 and provides a nationally representative sample of 41554 households. The second round was carried out in 2011-2012 and surveyed 42152 households which included about 40000 households interviewed in the previous round. Linking IHDS-I and IHDS-II provides a rich household level panel dataset with a wide range of socio-economic characteristics.

The analysis is restricted to the rural sample of the IHDS in order to use data about public good and public program provision which is only available for villages in the IHDS. I also include only those respondents which report living in the same district for a period of at least 8 years. This ensures that results are not confounded by migration. This leaves us with a sample of about 26000 households after excluding states that did not undergo delimitation.[10]

To collect data about various components of social capital in the tradition of international surveys like the World Value Surveys and General Social Surveys, both rounds of the IHDS include a section on "Confidence in Institutions" which asks respondents to report their confidence in institutions like politicians, state government, army, police, panchayats/municipalities, newspapers/media, courts, hospitals, schools and banks on a scale of 1 to 3, with 1 corresponding to the highest level of confidence. Of these, I focus on the self reported confidence in politicians and the state government as appropriate measures of political trust. More specifically the questionnaire asks respondents if they have confidence in politicians to fulfill promises and in the state government to look after people. Responses are coded as 1 if the respondent reports having a *"great deal of confidence"*, 2 if the respondent reports having *"only some confidence"* and as 3 if the respondent reports having *"hardly any confidence at all"*.

Figures 2 & 3 show the break up of the responses for confidence in politicians and the state government for the rural sample for both rounds of the IHDS.For the purpose of my analysis, I transform these variables into a dichotomous variables that take value 1 if the respondent reports having either a great deal of confidence or only some confidence and 0 if they report having hardly any confidence. Apart from the advantages conferred

[8] [Desai et al., 2018]
[9] [Desai and Vanneman, 2018]
[10] refer to footnote

by using a household level panel that makes sure that the estimates are not confounded by time invariant cultural or social factors, the IHDS also provides a wide range of socio-economic indicators like caste, education, assets and consumption to be used as controls to strengthen estimates.

The data source for the main independent variable of interest- change in representation are the reports and papers available on the website of the Delimitation Commission of India. The delimitation procedure required the publication of working papers detailing the delimitation plans for each state. These working papers after incorporating suggestions from the Associate Members of the Delimitation Commission were worked into draft proposals which were then subject to public sittings and then made into final orders. These working papers, proposals, final papers and orders have all been made available on this website and serve as the source of the data for changes in seat allocation of districts in state legislative assemblies. Since the IHDS reports the location of respondents to the level of the 2001 census districts, the districts as of the 2001 census are the relevant administrative units in this analysis.

Other sources of data include Census 2001 & 2011 for district and state population figures,DMSP-OLS Nighttime lights data[11] for night time luminosity and the website of the Election Commission of India[12] for the data for voter turnout in state elections.

4 Descriptive Statistics

Table 1 presents the summary of individual as well as household characteristics of respondents in the total sample and separately for the treatment and control groups from the first wave of the IHDS. Table 2 compares the two treatment groups with the control in terms of baseline characteristics. This helps to understand variation in respondents characteristics in treatment and control groups in the pre-delimitation (pre-treatment) phase. About 39% respondents residing in districts that later gained seats express having confidence in politicians compared with about 40% in districts that remained unchanged and 45% in districts that lost. From Table 2, one can see that the differences between these are also statistically significant. Similarly, about 75% respondents in districts that gained seats report having confidence in the state government as opposed to about 78%

[11] https://www.ngdc.noaa.gov/eog/dmsp/
[12] http://eci.nic.in/

in areas that lost seats or remained unchanged.

About 76% respondents in the entire sample are male with more or less same proportions for respondents in gaining districts and unchanged districts. The average age of respondents in the total sample is 43 years, with the respondents in gaining districts being slightly younger than those in districts that remain unchanged. As one might expect, the average household size in gaining districts is slightly higher than that in unchanged districts but this difference is not statistically significant. The average household size is lower in districts that lost seats. The average number of children and per capita consumption expenditure is similar for households in gaining and unchanged districts while the number of children is lower and per capita consumption higher for households in losing districts. The average years of education as well as highest adult education in household is higher for households in losing districts compared with those in unchanged district, while households in gaining districts report lower average education and highest adult education. Average agricultural land holding is 2.5 acres and is larger in unchanged districts compared with both losing and gaining districts for our sample of households.

It is to be noted that while there are statistically significant differences in the baseline characteristics of respondents in the treatment and control groups, these differences are for the most part small in magnitude. Moreover, my regression specification explicitly controls for these characteristics.

5 Empirical Strategy

Given that the first round of the IHDS took place in 2004-05 with the second in 2011-12 and delimitation took place in the intervening years (2008), this setting is appropriate for implementation of a difference-in-differences strategy. As described earlier, respondents in districts that gained seats ended up gaining additional MLAs in the state legislative assembly whereas respondents in the districts that lost seats lost MLAs as a consequence of delimitation. I define respondents living in districts that gained seats as the first treatment group and those in living in districts that lost seats as the second treatment group. Respondents living in districts whose seat allocation remained unchanged serve as the control group. The following specification is used to estimate the impact of change in representation:

$$Y_{idt} = \alpha_i + \gamma Post_t + \beta_1 Post_t * Treat1_d + \beta_2 Post_t * Treat2_d + \theta \mathbf{X_{idt}} + \tau Relativepopulation_{dt} + \rho Electionyear_t + \epsilon_{idt} \quad (1)$$

This is the usual difference-in-differences specification with multiple treatments. Y_{idt} is the main outcome variable of interest which takes value 1 if the respondent belonging to household i in district d at time t reports having either *"a great deal of confidence"* or *"only some confidence"* in political institutions (politicians or state government), and 0 if respondent reports having *"hardly any confidence at all"*. $Post_t$ takes value 1 for the second wave of the survey. This term captures temporal changes in confidence that do not vary across treatment and control groups. $Treat1_d$ is equal to 1 for all respondents residing in districts that gain seats due to delimitation and 0 otherwise. $Treat2_d$ equals 1 for respondents residing in districts that lost seats and 0 otherwise. The main coefficients of interest are β_1 & β_2. α_i refers to household fixed effects. X_{idt} is a vector of individual and household level controls and includes age, sex, marital status, years of education, household size, number of children, main income source and agricultural landholding. I also allow for differential trends by baseline income quintiles and caste and religion groups[13]. The standard errors are clustered at the district level for all reported regressions.

Since the delimitation exercise reallocated seats based on population shares of districts in a state, districts that grew at a faster rate during the three decade boundary freeze were more likely to gain seats. To assuage concerns that the coefficient of treatment variable would be capturing just differential trends in population growth of districts, I explicitly control for the population of the district relative to state[14]. This effect is captured by the variable $Relativepopulation_{dt}$ In absence of any other data, I use the census 2001 population figures as proxy for population during the first round of the IHDS and census 2011 for the second round.

Finally, since there is reason to believe that politicians and governments behave favorably during election years which might affect reports of confidence, I include $Electionyear_t$

[13]The IHDS 2004-05 reports income quintiles of households and categorizes them into seven caste-religious groups like Brahmins, OBCs, Adivasis, Muslims etc. The inclusion of interaction of baseline income groups with the Post variable as well as interaction of religion-caste group with the post variable ensures that the observed results are confounded by differential trends across income or religion groups that might be concentrated differently across districts

[14]This is simply population of district divided by population of state

as a control which is equal to 1 if the respondent was interviewed in the year of state elections and 0 otherwise. I employ this specification separately for both confidence in politicians and confidence in state government as outcome variables.

6 Main Results

Table 3 illustrates the results from the main regressions. The first and the second columns show the results for the differences-in-difference specification without any controls or household fixed effects. The coefficient of $Post*Treat1$ is positive and significant for both confidence in politicians and the state government showing that there was an improvement in reported confidence for respondents from districted that gained representation. The coefficient of $Post*Treat2$ is negative but insignificant in case of both reported confidence for politicians state government suggesting no symmetric negative effects for respondents in districts that lost seats.

Columns 3 and 4 report the same results with household fixed effects. This does not change the sign or significance of our main coefficients of interest. Not only that, even the magnitude of the coefficients remains more or less the same. This is not surprising, as there is little reason to believe that household time invariant characteristics would be correlated to the treatment in question.

Columns 5 and 6 report the results of the regression with full set of controls and household fixed effects. Again the coefficient of $Post * Treat1$ for the regression of confidence in politicians does not change much and remains significant, whereas that for confidence in state government slightly increases in magnitude and precision. The results suggest that the percent of respondents reporting having confidence in politicians in districts that gained seats is about 8% higher in post delimitation phase than in the pre delimitation phase compared with respondents living in districts with unchanged representation. Similarly, the improvement for confidence in the state government is about 6.5% for districts that gained seats. Again there is no symmetric impact for respondents in districts that lost seats. Interestingly, the coefficient of *Elections* is positive and significant at 0.01 percent for both the regressions, confirming the suspicion that reported political trust is higher during state election years. Overall, these results consistently suggest that political trust improves with an increase in representation. The next section strengthens these

results by using falsification tests and robustness checks.

7 Falsification Tests and Robustness Checks

This section discusses a host of robustness checks that were employed to establish more confidence in the results discussed previously. One concern with the results discussed in the previous section is that they might be reflective of an environment of increasing trust in institutions in general due to some other changes that happened with the delimitation exercise. To assuage this concern, I use questions in the IHDS interviews that asked about confidence in other institutions like the military, police, newspapers/media, panchayats/nagar panchayats and courts[15]. I estimate the main specification (1) with the dependent variable being the aforementioned confidence reports. If these regressions render insignificant treatment coefficients, then the observed improvement in political trust is more credible since confidence in institutions like military or newspapers and media is unlikely to be affected by having more representatives in the state assembly.

The results of these falsification are shown in Table 4. The coefficients of $Post*Treat1$ & $Post * Treat2$ are insignificant for confidence in military, police, newspapers/media and courts. The coefficient of $Post * Treat2$ is significant and negative for confidence in panchayats suggesting some impact of losing representation and this merits further investigation. However, it does not mirror the observed results on political trust variables.

Next, I modify the original specification and show that the observed treatment effects are robust to alternative specifications. First, I introduce state specific time trends to take into account state specific changes in confidence over time. These results are shown in column 1 of Table 5 for politicians and column 1 of Table 6 for state government. The treatment coefficient for districts that gained seats remains significant and roughly of the same magnitude for confidence in politicians. For confidence in state government, the treatment effect is slightly smaller and marginally insignificant at 10% as we lose precision.

Secondly, I estimate the original specification (1) with a sample limited to districts

[15]The IHDS also includes questions on confidence in hospitals and schools. However the first round asked about confidence in hospitals and schools in general, whereas the second round separately asked for confidence in government and private schools and similarly for hospitals. This renders these measures incomparable across the two surveys, which is why they are not included in the falsification test. For another variable, confidence in bank, the necessity of transforming the report from three point scale to a dichotomous one does not leave usable variation across the years

that gained at most one seat or lost at most one seat. Column 2 of Tables 5 & 6 present the results for these regressions. The coefficient of $Post * Treat1$ remains significant for the regressions for confidence in politicians and the state government for this limited sample, in fact they are slightly higher in magnitude. This quells concerns that the results might be driven by districts that gained a lot or lost a lot of seats.

Thirdly, instead of using a dichotomous treatment variable I use the $Changeinseats$ as the independent variable of interest in the original specification. The results are shown in Column 3 of Tables 5 and 6. The coefficient of $Changeinseats * Post$ is significant for regressions for both confidence in politicians and state government, so redefining the treatment as a continuous variable does not alter results. Lastly, introducing $Changeinreservedseats$ as an additional treatment does not alter the coefficient of $Changeinseats * Post$ suggesting that these results are not driven by changes in reserved seats (Column 4 of Tables 5 & 6).

Fourthy, I use randomization inference as an alternative strategy to claim causality between representation and political trust. This exercise entails randomly reassigning the two treatments to districts in a state and then estimating a placebo treatment effect[16][17]. Replicating this procedure multiple times provides a distribution of these placebo treatment effects which can then be used to arrive at an estimate of the probability of obtaining given results by chance alone. To do this, the treatments of gaining or losing seats are randomly reassigned to districts within a state while keeping the number of districts that gained and lost fixed. The placebo treatment effect is estimated by running the original regression of confidence in politicians(state government) . A 1000 replications are carried out which yield a distribution of the simulated beta coefficients. The kernel density of the distribution so obtained is shown in figures 4 & 5. Given this distribution, the percentage of beta coefficients at least as high as our original estimated coefficient gives an estimate of the probability of observing our results by chance alone. In this case, for the regression of confidence in politicians, about 78 simulated treatment effects exceeded our observed treatment effect. This means that the probability of obtaining a treatment effect at least as high as the observed one by chance alone is 0.078. Similarly, for confidence in state government the one sided p-value is 0.064, meaning that only 6.4 percent of the simulated beta coefficients were greater than the observed treatment effect.

[16]See [Gupta and Spears, 2017]
[17]See [Heß et al., 2017] ritest for implementation in Stata

8 Voter Turnout

Drawing from the literature linking political trust to political participation, I provide suggestive evidence that representation matters for voter turnout. While the evidence has been mixed for the relationship between political trust and citizen participation, some political scientist have suggested a positive association between political trust and voting behavior. For instance, [Grönlund and Setälä, 2007] use the European Social Survey and establish that certain types of political trust- trust in politicians and parliament is associated with a higher propensity to vote. Here I provide some evidence in support of this claim. This also serves as an additional robustness check because if the positive association between political trust and participation is true and if as we have observed, political trust improves with increase in representation, then increase in representation should also be accompanied by more voter participation. I show that increase in representation is associated with an increase in voter turnout.

This exercise also allows for another check by the construction of false breaks in the pre-delimitation era as an additional robustness check. This is not possible to implement with the confidence variables as the IHDS data is only available for two points- 2004-05 & 2011-12. Using the district level voter turnout[18] as the dependent variable, I implement a difference-in-differences strategy with the districts that gained seats constituting one treatment group and the districts that lost as another treatment group. Unchanged districts serve as the control group.

The results of this exercise are shown in Table 7. Column 1 shows the aforementioned specification run for the period of 2003-2014. This specification also controls for district fixed effects, state-year fixed effects and election year fixed effects. The results from the turnout regressions exactly mirror the results from the confidence regressions. The coefficient of $Post * Treat1$ is positive and significant while that of $Post * Treat2$ is insignificant.

Next, I create a false break in the year 2003 and look at the district level voter turnout for the period of 1998-2007. Column 2 of Table 7 shows the result for this regression. Coefficients of both $Post * Treat1$ $Post * Treat2$ are insignificant. This result provides evidence that the turnout results shown in the first column are not driven by any pre-existing trends (which would have been captured by this false break regression).

[18] Source- Election Commission of India

This also lends credibility to the original results for confidence, because even though the data is unavailable to test for pre-existing trends in political trust- an associated phenomenon(turnout) exhibits no such worrisome patterns.

9 Possible Mechanisms

This section explores possible mechanisms through which increase in representation could lead to an improvement in political trust. The first hypothesis hinges on the evidence for negative relationship between representation and distribution of economic resources. [Ansolabehere et al., 2002] for the United States and [Horiuchi and Saito, 2003] for Japan show that fiscal transfers are skewed in favour of overrepresented regions. [Knight, 2008] documents the same effect for representation of states in the US Senate and proposes two channels through which the small state advantage works- the first being that increased representation means more chances of being represented by the proposer in committees and the second being the voter cost channel which suggests that increase in representation make smaller constituencies more attractive from the perspective of a proposer looking to form the cheapest possible coalition.

Unfortunately, data for state transfers to districts are not available in the Indian context to directly test for this mechanism. However, if it was true that increased representation led to redistribution of resources in favor of previously underrepresented constituencies, one would expect to find an improvement in development outcomes and economic growth in general for the districts that gained seats. The household questionnaire in the IHDS collects information about government programs that are benefiting households. Apart from household and individual level information, both waves of the IHDS also incorporate a village questionnaire that collects detailed information about village level infrastructure and presence of government programs at the village level. By linking the village level data to the household data, one can check if increase in representation is associated with improvement in provision of public goods, programs and infrastructure at the village level which in turn is leading to improvement in political trust following from the theory of institutional performance.

I check for this mechanism in two different ways. First I run the original difference-in-differences regression with these village level variables as dependent variables and check

for the coefficients of $Post * Treat1$ & $Post * Treat2$. Secondly, I use the village level variables as controls in the original specification with confidence in politicians and state government as dependent variables and check whether the coefficients of $Post * Treat1$ & $Post * Treat2$ attenuate. If these were the mechanisms that operated between improving representation and trust, one would expect that including these variables as controls would attenuate the coefficients of interest. To check whether higher representation increases trust through improvement in economic growth, I use the DMSP-OLS nighttime light time series obtained from the website of the National Oceanic and Atmospheric Administration[19] and use the past three years average night light measures aggregated at the level of the district as a control to proxy for economic growth. I use three year average so that for the second round of the IHDS (2011-12), the night light measure would coincide with the post delimitation phase. Again if improvement in economic growth was leading to higher trust, one would expect the coefficients to decrease in magnitude.

The results for these regressions involving village infrastructure are shown in Tables 8 & 9. The infrastructure variables include distance to pucca road, distance to bus stop, distance to PDS shop, number of government primary and middle schools, number of government health sub centers and primary health centers and the percentage of households with electricity in the village. In Table 8,one can see that using village infrastructure as dependent variables leads to insignificant coefficients of $Post * Treat1$ & $Post * Treat2$ for most part. Where they are significant, they don't mirror the direction for the confidence regressions. Also adding these variables as controls does not attenuate the relevant coefficients in the confidence regressions even if they are significant by themselves (for example, distance to pucca roads is negatively associated with confidence in state government) as shown in Table 9. Tables 10 & 11 show similar results for checks whether households receive benefits from government programs like old age pension, widow pension, BPL Card or Ration Card. Tables 12 & 13 carry out the same exercise to check if presence of village level government programs like skill development, adult eduction, safe water, sanitation, housing, micro credit, agricultural extension and the Annapurna scheme are driving improvement in confidence. Again the coefficients of $Post * Treat1$ & $Post * Treat2$ are (mostly) insignificant where program presence is used as dependent variable and the coefficients don't attenuate when program presence are introduced as

[19]https://ngdc.noaa.gov/eog/dmsp/

controls. Table 14 introduces the night lights measure as a control in original regression, and again the coefficients remain more or less the same.

All these results allow to reject the hypothesis of improved transfers, at least of the sort that should get reflected in improved infrastructure, public goods and public program provision. These results also show that economic growth is not driving the improvement in confidence.

This leaves us with the possibility of improvement in responsiveness, interaction or improved voter mobilization due to reduction in constituency size as possible drivers of the results. While the IHDS does not have data on interaction with or responsiveness of politicians. the observed improvement in voter turnout is suggestive of this mechanism. Testing for the third mechanism suggested-that of improvement in politician quality is work in progress.

10 Conclusion

Using a nationally representative panel dataset with self reported political trust and a redistricting exercise that led to change in representation of districts in the state legislatures, this study shows that an increase in representation improves political trust for rural India. However, there is no symmetric negative impact of a decrease in representation. This observed effect is robust to alternative specifications and is not driven by districts that either gained or lost a lot of seats. Moreover, this improvement in political trust is not accompanied by an increased in trust in other institutions that are likely to be unaffected by the increase in representation but is concomitant with an increase in political participation through voting. At the same time, there is no evidence of improving public good provision or economic growth as mechanisms for improvement in political trust.

This finding is crucial as it contributes to our understanding of the importance of representation on one hand and that of the nature of political trust on the other by tying them up together. Representation contributes to the democratic process by enhancing public trust in political institutions and possibly enhances political participation.

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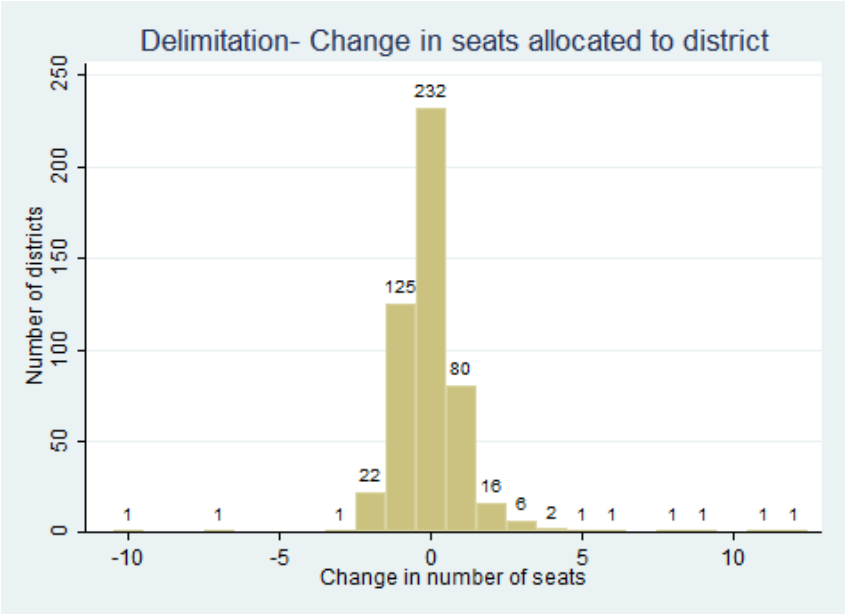

Figure 1: Source: Papers of the Delimitation Commission

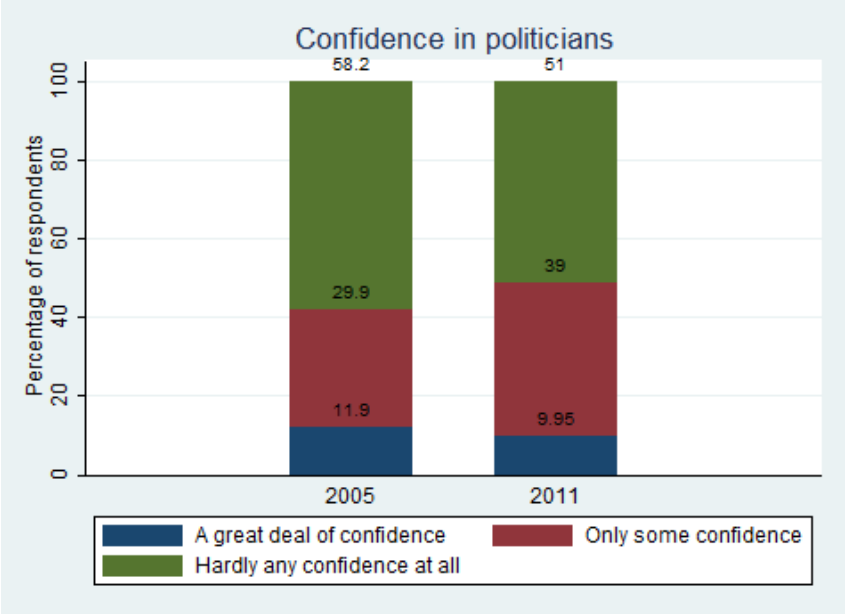

Figure 2: Source: IHDS I & II

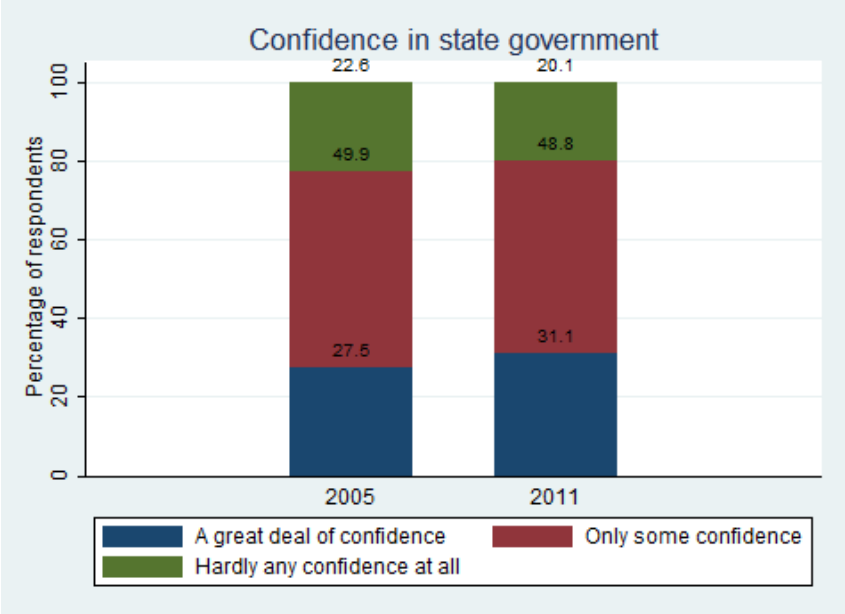

Figure 3: Source: IHDS I & II

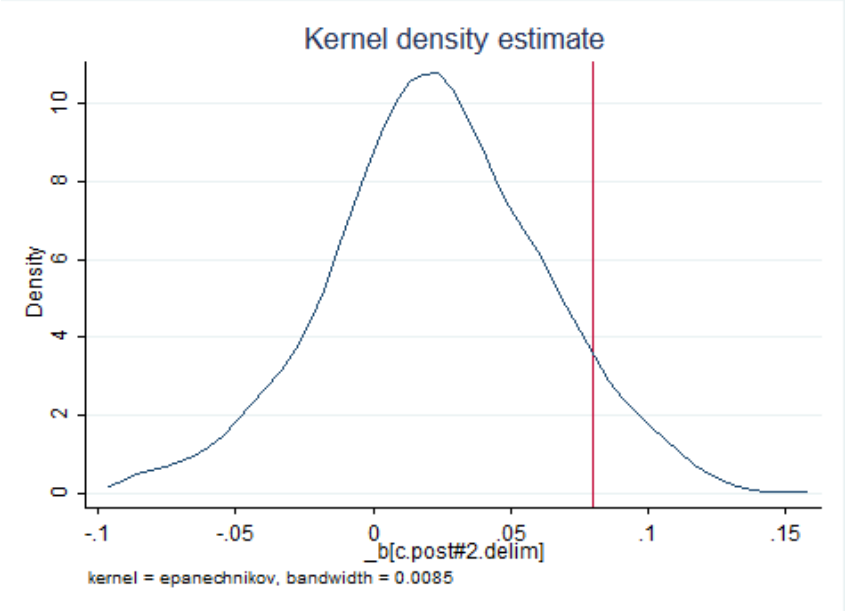

Figure 4: Distribution of simulated coefficients of $Post*Treat1$ in regression of confidence in politicians. One sided p-value is 0.078

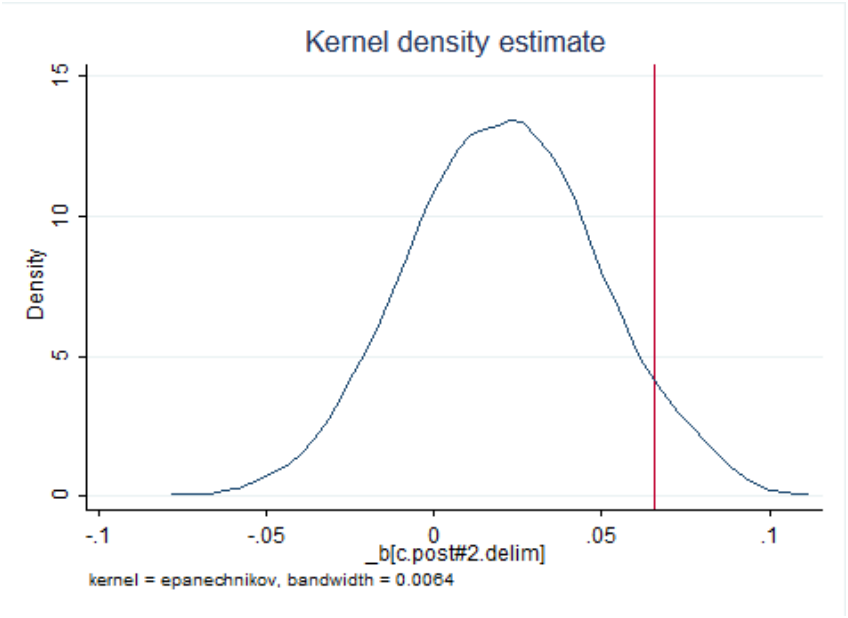

Figure 5: Distribution of simulated coefficients of $Post*Treat1$ in regression of confidence in state government. One sided p-value is 0.064

Table 1: Baseline characteristics by treatment status

	Gained seats	Lost seats	No change in seats	Total
Confidence in Politicians	0.394	0.445	0.407	0.417
	(0.489)	(0.497)	(0.491)	(0.493)
Confidence in State Govt	0.749	0.781	0.781	0.774
	(0.433)	(0.414)	(0.413)	(0.418)
Age	42.19	43.97	43.12	43.21
	(14.34)	(14.40)	(14.36)	(14.38)
Sex (Male=1)	0.754	0.754	0.782	0.766
	(0.431)	(0.430)	(0.413)	(0.423)
Years of education	4.107	4.669	4.518	4.478
	(4.443)	(4.556)	(4.583)	(4.547)
Whether married	0.871	0.847	0.853	0.855
	(0.335)	(0.360)	(0.354)	(0.352)
Household Size	6.173	5.701	6.219	6.029
	(3.447)	(2.963)	(3.168)	(3.173)
Number of Children	2.166	1.775	2.171	2.033
	(1.970)	(1.678)	(1.902)	(1.853)
Log of per capita consumption	6.352	6.384	6.339	6.357
	(0.620)	(0.641)	(0.684)	(0.656)
Agricultural land owned(in acres)	2.274	2.418	2.742	2.524
	(6.035)	(5.030)	(6.074)	(5.726)
Highest adult education (in years)	5.930	6.873	6.447	6.479
	(4.834)	(4.842)	(4.907)	(4.881)
N	25962			

mean coefficients; sd in parentheses

* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 2: Baseline characteristics by treatment status

	(1)	(2)
	No change-Gained	No change-Lost
Confidence in Politicians	0.0134*	-0.0375***
	(0.00796)	(0.00702)
Confidence in State Govt	0.0319***	0.000423
	(0.00687)	(0.00590)
Age	0.928***	-0.846***
	(0.232)	(0.204)
Sex (Male=1)	0.0274***	0.0273***
	(0.00678)	(0.00596)
Years of education	0.411***	-0.151**
	(0.0736)	(0.0649)
Whether married	-0.0180***	0.00629
	(0.00563)	(0.00506)
Household Size	0.0451	0.517***
	(0.0529)	(0.0436)
Number of Children	0.00519	0.396***
	(0.0312)	(0.0256)
Log of per capita consumption	-0.0127	-0.0450***
	(0.0107)	(0.00943)
Agricultural land owned(in acres)	0.468***	0.325***
	(0.0985)	(0.0799)
Highest adult education (in years)	0.517***	-0.426***
	(0.0791)	(0.0692)
N	16941	20149

Standard errors in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 3: Main Results

	(1) Confidence in politicians	(2) Confidence in state govt	(3) Confidence in politicians	(4) Confidence in state govt	(5) Confidence in politicians	(6) Confidence in state govt
Post	0.0615**	0.0231	0.0622**	0.0232	0.101**	0.0847**
	(0.024)	(0.215)	(0.022)	(0.213)	(0.040)	(0.034)
Treat1	-0.0134	-0.0319				
	(0.674)	(0.275)				
Treat2	0.0375	-0.000423				
	(0.267)	(0.987)				
Post*Treat1	0.0809**	0.0560*	0.0799*	0.0558*	0.0812**	0.0657**
	(0.049)	(0.073)	(0.050)	(0.074)	(0.048)	(0.031)
Post*Treat2	-0.0212	-0.0316	-0.0214	-0.0297	-0.00614	-0.0218
	(0.619)	(0.364)	(0.617)	(0.393)	(0.884)	(0.501)
Relative population					2.421	-0.963
					(0.252)	(0.528)
Election year					0.0708***	0.0749***
					(0.006)	(0.003)
_cons	0.407***	0.781***	0.417***	0.774***	0.247**	0.793***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.033)	(0.000)
N	51697	51403	51697	51403	50976	50683
Household fixed effects	No	No	Yes	Yes	Yes	Yes
Household level controls	No	No	No	No	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 4: Falsification tests with controls

	(1) Confidence in military	(2) Confidence in police	(3) Confidence in newspapers/media	(4) Confidence in panchayats/nagar palika	(5) Confidence in courts
Post	-0.0108	0.170***	0.0258	0.0710*	0.0513*
	(0.261)	(0.000)	(0.351)	(0.073)	(0.073)
Post*Treat1	-0.00359	0.0346	-0.0176	-0.00282	0.0110
	(0.705)	(0.280)	(0.385)	(0.907)	(0.586)
Post*Treat2	0.00137	-0.0239	-0.00436	-0.0711***	-0.0257
	(0.849)	(0.444)	(0.757)	(0.003)	(0.252)
Relative population	-1.268*	-0.615	-1.120	0.0343	-1.673*
	(0.052)	(0.654)	(0.157)	(0.975)	(0.064)
Election year	0.00977**	0.0883***	0.0196	-0.0000777	0.0529**
	(0.031)	(0.001)	(0.102)	(0.996)	(0.015)
_cons	1.037***	0.712***	0.918***	0.801***	0.943***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	50744	50912	48679	50827	49545
Household fixed effects	Yes	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 5: Robustness checks- Confidence in politicians

	(1) State specific time trends	(2) Change in seats ≤ 1	(3) Changes in seats	(4) Changes in reserved seats
Post	0.120	0.116**	0.117**	0.120**
	(0.141)	(0.022)	(0.013)	(0.012)
Post*Treat1	0.0773*	0.0936**		
	(0.053)	(0.038)		
Post*Treat2	0.0306	0.00317		
	(0.420)	(0.941)		
Relative population	-1.641	2.315	2.335	2.387
	(0.644)	(0.319)	(0.267)	(0.256)
Election year	-0.00298	0.0778***	0.0681***	0.0671**
	(0.927)	(0.005)	(0.010)	(0.010)
Change in seats*Post			0.0302*	0.0324*
			(0.060)	(0.054)
Change in reserved seats*Post				-0.00861
				(0.576)
_cons	0.521***	0.238**	0.253**	0.251**
	(0.005)	(0.045)	(0.028)	(0.029)
N	50976	45538	50976	50976
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes
State specific time trends	Yes	No	No	No

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 6: Robustness checks- Confidence in state government

	(1) State specific time trends	(2) Change in seats ≤ 1	(3) Changes in seats	(4) Changes in reserved seats
Post	-0.0410	0.0906**	0.0951**	0.0919**
	(0.383)	(0.029)	(0.013)	(0.018)
Post*Treat1	0.0485	0.0747**		
	(0.100)	(0.018)		
Post*Treat2	-0.0115	-0.0206		
	(0.671)	(0.548)		
Relative population	-1.360	-0.581	-1.028	-1.076
	(0.651)	(0.728)	(0.516)	(0.502)
Election year	0.0777***	0.0759***	0.0740***	0.0750***
	(0.005)	(0.004)	(0.003)	(0.002)
Change in seats*Post			0.0286**	0.0265*
			(0.041)	(0.069)
Change in reserved seats*Post				0.00839
				(0.518)
_cons	0.801***	0.760***	0.798***	0.800***
	(0.000)	(0.000)	(0.000)	(0.000)
N	50683	45284	50683	50683
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes
State specific time trends	Yes	No	No	No

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 7: Evidence- Delimitation and voter turnout

	(1) Period 2003-2014	(2) Period 1998-2007
Treat1*Post 2008	0.0103***	
	(0.007)	
Treat2*Post 2008	0.00223	
	(0.532)	
Average no. of candidates (per constituency) in district	0.000129	0.00118
	(0.797)	(0.144)
Treat1*Post 2003		-0.00628
		(0.250)
Treat2*Post 2003		-0.00128
		(0.771)
_cons	0.598***	0.597***
	(0.000)	(0.000)
N	1092	868
Year fixed effects	Yes	Yes
District fixed effects	Yes	Yes
State-year fixed effects	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 8: Possible mechanisms- Village level infrastructure

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	Distance to pucca road	Distance to bus stop	Distance to PDS shop	No. of govt primary schools	No. of govt middle schools	No. of health sub centers	No. of primary health centers	% households with electricity
Post	-0.987***	0.389	-0.497	0.207	0.203***	0.0686	-0.0577	1.298
	(0.005)	(0.472)	(0.118)	(0.216)	(0.010)	(0.207)	(0.235)	(0.675)
Post*Treat1	0.808**	0.0773	0.0341	0.0441	-0.0158	0.0733	0.0128	1.684
	(0.027)	(0.812)	(0.856)	(0.764)	(0.813)	(0.232)	(0.576)	(0.656)
Post*Treat2	0.692**	-0.0990	-0.00967	-0.264**	-0.0985	-0.00714	-0.000714	-1.051
	(0.044)	(0.748)	(0.964)	(0.017)	(0.129)	(0.899)	(0.982)	(0.697)
Relative population	-13.67	54.24***	2.150	-20.23***	-3.482	4.467	1.911*	-82.49
	(0.283)	(0.002)	(0.842)	(0.003)	(0.258)	(0.143)	(0.072)	(0.614)
Election year	0.682***	-0.0920	-0.256	-0.0438	0.00540	0.0375	-0.00816	-4.259*
	(0.000)	(0.623)	(0.163)	(0.634)	(0.904)	(0.344)	(0.708)	(0.087)
_cons	1.443**	-1.067	0.948*	2.749***	0.902***	0.220	0.0545	78.47***
	(0.047)	(0.279)	(0.083)	(0.000)	(0.000)	(0.184)	(0.352)	(0.000)
N	48729	49047	49517	49520	49499	49383	49419	49395
Household fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 9: Possible mechanisms- Village level infrastructure as controls

	(1) Confidence in politicians	(2) Confidence in politicians	(3) Confidence in state govt	(4) Confidence in state govt
Post	0.101**	0.0969*	0.0847**	0.0461
	(0.040)	(0.062)	(0.034)	(0.277)
Post*Treat1	0.0812**	0.0866**	0.0657**	0.0786**
	(0.048)	(0.043)	(0.031)	(0.014)
Post*Treat2	-0.00614	-0.0218	-0.0218	-0.0199
	(0.884)	(0.617)	(0.501)	(0.557)
Relative population	2.421	2.312	-0.963	-0.764
	(0.252)	(0.295)	(0.528)	(0.631)
Election year	0.0708***	0.0614**	0.0749***	0.0846***
	(0.006)	(0.020)	(0.003)	(0.001)
Distance to pucca road		-0.00278		-0.00485***
		(0.284)		(0.002)
Distance to bus stop		-0.00174		0.00186
		(0.438)		(0.436)
Distance to PDS shop		0.00254		0.000387
		(0.578)		(0.921)
No. of govt primary schools		0.0163**		0.00959*
		(0.024)		(0.071)
No. of govt middle schools		-0.0255		-0.0164
		(0.141)		(0.144)
No. of health sub centers		0.00554		0.00210
		(0.692)		(0.845)
No. of primary health centers		-0.0190		0.0195
		(0.389)		(0.369)
Percent households with electricity		-0.000553		0.000178
		(0.233)		(0.598)
_cons	0.247**	0.281**	0.793***	0.752***
	(0.033)	(0.022)	(0.000)	(0.000)
N	50976	47635	50683	47348
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 10: Possible mechanisms- Household level program participation

	(1)	(2)	(3)	(4)
	Old age pension	Widow pension	Ration card	BPL card
Post	0.0322**	0.0280***	0.0597*	0.0263
	(0.010)	(0.002)	(0.057)	(0.444)
Post*Treat1	-0.00634	-0.00151	-0.0113	-0.0111
	(0.274)	(0.610)	(0.543)	(0.595)
Post*Treat2	0.00244	0.00215	-0.00902	0.0141
	(0.652)	(0.403)	(0.611)	(0.462)
Relative population	1.374***	0.576***	2.290***	4.537***
	(0.000)	(0.000)	(0.000)	(0.000)
Election year	-0.00676	-0.00209	-0.0361***	-0.00247
	(0.101)	(0.301)	(0.000)	(0.868)
_cons	-0.145***	0.0374***	0.613***	0.0777
	(0.000)	(0.000)	(0.000)	(0.116)
N	51202	51202	51187	51187
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 11: Possible mechanisms- Household level program participation as controls

	(1) Confidence in politicians	(2) Confidence in politicians	(3) Confidence in state govt	(4) Confidence in state govt
Post	0.101**	0.0999**	0.0847**	0.0844**
	(0.040)	(0.042)	(0.034)	(0.035)
Post*Treat1	0.0812**	0.0806**	0.0657**	0.0658**
	(0.048)	(0.049)	(0.031)	(0.031)
Post*Treat2	-0.00614	-0.00725	-0.0218	-0.0221
	(0.884)	(0.863)	(0.501)	(0.494)
Relative population	2.421	2.424	-0.963	-1.021
	(0.252)	(0.251)	(0.528)	(0.502)
Election year	0.0708***	0.0694***	0.0749***	0.0745***
	(0.006)	(0.007)	(0.003)	(0.003)
Old age pension		0.0375*		0.00600
		(0.096)		(0.706)
Widow pension		0.0516		0.0200
		(0.101)		(0.313)
Ration card		-0.0498***		-0.0154
		(0.001)		(0.244)
BPL card		0.0103		0.0166*
		(0.362)		(0.059)
_cons	0.247**	0.280**	0.793***	0.802***
	(0.033)	(0.016)	(0.000)	(0.000)
N	50976	50961	50683	50668
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 12: Possible mechanisms- Public programs in village

	(1) Skill development	(2) Adult education	(3) Safe water	(4) Sanitation	(5) Agricultural extension	(6) Street lights	(7) Annapurna	(8) Housing	(9) Micro-credit
Post	-0.0909	-0.0135	-0.274***	0.118	-0.0696	0.341***	-0.395***	0.0623	-0.0207
	(0.234)	(0.880)	(0.005)	(0.139)	(0.352)	(0.000)	(0.000)	(0.326)	(0.809)
Post*Treat1	0.0527	0.0731	-0.0703	-0.00659	-0.0659	-0.00502	0.201***	-0.0610	-0.0272
	(0.307)	(0.335)	(0.360)	(0.909)	(0.284)	(0.913)	(0.010)	(0.135)	(0.721)
Post*Treat2	0.0255	-0.0755	0.0372	-0.0191	0.0291	-0.00284	0.103	-0.0916**	0.0634
	(0.624)	(0.247)	(0.611)	(0.690)	(0.618)	(0.954)	(0.157)	(0.033)	(0.337)
Relative population	-3.075	0.232	-7.170**	-12.17***	-10.70***	-6.748***	-4.439	-4.654***	-9.398**
	(0.327)	(0.955)	(0.016)	(0.000)	(0.009)	(0.003)	(0.127)	(0.000)	(0.011)
Election year	0.0496	0.117**	-0.131*	0.00758	-0.0392	0.201***	-0.114*	-0.0255	0.00538
	(0.228)	(0.018)	(0.062)	(0.859)	(0.427)	(0.000)	(0.054)	(0.402)	(0.909)
_cons	0.325*	0.359	1.139***	1.249***	0.961***	0.506***	0.967***	1.109***	1.019***
	(0.058)	(0.102)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
N	49579	49579	49531	49563	49546	49584	49526	49563	49540
Household fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 13: Possible mechanisms- Public programs in village as controls

	(1) Confidence in politicians	(2) Confidence in politicians	(3) Confidence in state govt	(4) Confidence in state govt
Post	0.101**	0.0827	0.0847**	0.0648
	(0.040)	(0.114)	(0.034)	(0.121)
Post*Treat1	0.0812**	0.0849**	0.0657**	0.0786**
	(0.048)	(0.039)	(0.031)	(0.010)
Post*Treat2	-0.00614	-0.0149	-0.0218	-0.0243
	(0.884)	(0.719)	(0.501)	(0.449)
Relative population	2.421	2.599	-0.963	-0.292
	(0.252)	(0.242)	(0.528)	(0.855)
Election year	0.0708***	0.0494*	0.0749***	0.0809***
	(0.006)	(0.059)	(0.003)	(0.001)
Skill development		-0.00583		-0.0132
		(0.788)		(0.391)
Adult education		0.0346		0.0150
		(0.106)		(0.375)
Safe water		0.0120		0.0382**
		(0.562)		(0.019)
Sanitation		-0.0317		0.00720
		(0.100)		(0.641)
Agricultural extension		-0.0293		-0.00545
		(0.130)		(0.696)
Street lights		0.0621***		-0.00638
		(0.009)		(0.691)
Annapurna		-0.0112		-0.0232
		(0.593)		(0.180)
Housing		0.00523		-0.000659
		(0.855)		(0.977)
Micro credit		0.0319*		0.0153
		(0.085)		(0.253)
_cons	0.247**	0.221*	0.793***	0.734***
	(0.033)	(0.079)	(0.000)	(0.000)
N	50976	49232	50683	48946
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$

Table 14: Possible mechanisms- evidence from night lights as controls

	(1) Confidence in politicians	(2) Confidence in politicians	(3) Confidence in state govt	(4) Confidence in state govt
Post	0.101**	0.122**	0.0847**	0.0930**
	(0.040)	(0.019)	(0.034)	(0.035)
Post*Treat1	0.0812**	0.0862**	0.0657**	0.0676**
	(0.048)	(0.037)	(0.031)	(0.028)
Post*Treat2	-0.00614	-0.00248	-0.0218	-0.0204
	(0.884)	(0.953)	(0.501)	(0.525)
Relative population	2.421	2.964	-0.963	-0.756
	(0.252)	(0.190)	(0.528)	(0.634)
Election year	0.0708***	0.0774***	0.0749***	0.0774***
	(0.006)	(0.002)	(0.003)	(0.001)
Night lights- past 3 years avg		-0.00998		-0.00390
		(0.299)		(0.611)
_cons	0.247**	0.253**	0.793***	0.796***
	(0.033)	(0.031)	(0.000)	(0.000)
N	50976	50976	50683	50683
Household fixed effects	Yes	Yes	Yes	Yes
Household level controls	Yes	Yes	Yes	Yes

p-values in parentheses

* $p < 0.1$, ** $p < 0.05$, *** $p < 0.01$