Incumbency Effect and Partisanship in development: Evidence from close elections in India

RAGINI CHAURASIA

May 20th, 2016

Master Thesis
Masters in Economics and Public Policy
Supervisor for Master thesis: Prof Sergei GURIEV[1]

Sciences Po (Institut d'Etudes Politiques de Paris)
2015-16

[1]I would like to thank Prof. Sergei GURIEV for his time, constructive discussions, comments and patience with me throughout the process of this research including data collections stage and analysis stage. I would also like to thank Prof Quoc-Anh DO for his time to discuss concepts on incumbency effect and estimation strategy, and Prof. Denis FOUGERE and Prof. Koen JOCHMANS for their guidance on the Regression Discontinuity Designs. I would like to thank Adrien Lorenceau from OECD for his guidance on McCrary tests. I would also like to thank my family and friends for their support during my education at Sciences Po.

Abstract

Are political parties in India witnessing disadvantaged position in the subsequent election $t+1$ due to holding office in current elections t? Are the constituencies in India politically polarized? Are there different policy outcomes of political polarization in India? The answer is "yes" to all these questions. Using a regression discontinuity design I establish that post 1998 INC is 0.381 times less probable to hold an office in the subsequent period (period $t+1$) if it already holds an office from their constituencies (in the current period t) and that given same winning vote margin, same gender and age level and comparable constituencies characteristic, INC Member of Parliaments (MPs) are likely to utilize about 10 percent more of the development funds available to them. Further using an OLS estimation strategy I find that if INC observes an increase in the seat in parliament won surprisingly over all the other surprise seats lost, there will be decrease in the spending for drinking water facilities and non-conventional energy and increase for road and infrastructure development. The range of drop in the percent of expenditure in drinking water facilities is 0.582 percent to 0.88 percent; for non conventional energy sector is 0.0226 percent to 0.031 percent and the range of increase for road development is 2.1 percent to 2.38 percent. I explain these results using median voters theory. Given a disadvantaged position of INC in the subsequent election $t+1$ due to holding an office in current election t and under assumption of complete information in this context, INC may be trying to influence the votes of median voters through increased contributions to their constituencies. However, based on my analysis, I argue that if the median voters care more about the drinking water facilities and non-conventional energy and comparatively less for road and infrastructure, and INC does not have full information on these preferences of the median voters, INC is likely to fail in securing the votes from median voters for winning. This may be one, although small (compared to corruption) but yet critical, reason for INC going out of power in 2014 or in previous periods which witnessed dramatic losses for INC.

Contents

1 Introduction

Political economist in the early 20th century strongly believed that there were limited or no impact of partisanship on the policy outcomes. Studies by Hotelling 1929 and Downs 1957 are examples. However, later researchers brought forth empirical evidences in the literature contradicting this view point. They argued that the impact of parties are stronger at the State or Federal levels of the government. Theories grew to account for these opposite phenomena. First theory emphasized on a taste based mechanism with its roots in the candidate or party preferences. According to this framework, candidate will not credibility commit to moderate policies when he/she or his party care about certain outcomes. There will be observed divergence in the political space. Second theory emphasize that a very diverging policy outcomes will be visible when it is considered beneficial for them by the party, that is, it can strategically target messages to their median voters for a higher turn out in the subsequent election (Glaeser, Ponzetto and Shapiro 2005).

The important question in this research paper is whether there is any reason to believe that partisan political impacts exists in India as well at the state level or the national levels. The answer is "yes" because of the very different economic and political environments in which Indian constituencies/states exist and operate. In India, most constituencies have very small coverage of labor market area, more particularly for lower skilled labors and for states with more than one official language of working. Moving costs are relatively high within states (say example from north to south and from east to west), which can make it difficult for spatial sorting into specific types of communities, as highlighted by Charles Tiebout (1956). This suggests that the populations of states are likely to be less homogenous than those of districts levels as pointed out in Ferreira and Gyourko 2009. I document in this research that this is indeed the case. Both types of models discussed above are likely to predict more partisanship the more diverse are constituencies in their socio-economic characteristics. This is also strengthened if the one political parties represent one regions predominately in the national vote back. For example, greater heterogeneity among membership in parliaments seat by region: north predominately represented by Indian National Congress (INC) whereas south showing higher share in BJP (in my study I control for state fixed effects to account for endogeneity at state levels). State heterogeneity also increases the scope of strategic extremism, because it

becomes easier for political party to win elections by catering to a one regional majority with extreme preferences in such circumstances. In addition, partisanship can be present due to lack of information on preference of the local median voters because of these divergence in the economic and social construct of Indian constituencies. I use a new data set on the election in India and on Member of Parliament Local Area Development Scheme (MPLADS) to study the presence of partisanship at state level.

A similar study has been conducted by author David S. Blakeslee (2013) in his paper "Politics and Public Goods in Developing Countries: Evidence from India". His analysis mainly relies on the census data where the author tries to bring a correlation between the presence of INC MPs in the constituency and parallel growth in different sectors in those constituencies. He uses the sudden assassination of Rajiv Gandhi as a shock to identify the changes in the appointment of Member of Parliaments (MPs) belonging to INC or other parties. He then tries to study the casual impact of these appointments on the development of the constituencies. On the contrary to the authors methodology, it is worth noticing that, each constituency is a responsibility of both state government and central government. In addition, in India the Member of Parliament Local Area Development Division is entrusted with the responsibility of implementation of MPLADS, a scheme which started in early 1990's. Under the scheme, each MP has the choice to suggest to the District Collector, works to the tune of approximately US$800,000 per annum for development project to be taken up in his/her constituency. Under MPLADS, the role of the MP is limited only upto recommendation of works. The approval and execution of these projects is the responsibility of district authority. Thus sudden appointment does not necessarily mean changes in development outcomes only due to appointment of INC MP. In other words, the mere appointment of the MPs from the shock does not guarantee all the development as casual. Instead, the central government, state government and district authorities can together contribute to development of a particular constituencies. These administrative structures make it difficult to extract the development only due to a INC/non-INC member and raise the question of potential biasness, thereby decreasing the possibility of causation as presented by the author. Whereas by directly studying the expenditure of the MPs in various sectors I can establish a clear demarcation in the political agenda of the party. In addition the time gap is large for analysis in the afore-

mentioned paper (paper compares 1991 census data with 2001 census data). By looking at election wise allocation of the funds I am better able to establish the effect on development.

In addition to the study of partisanship in the policy space, it is equivalently important to study the presence of incumbency effect on partisan as the political advantage or of owning an office in subsequent elections set the space for the partisanships in the policy outcome. Most studies in this area focusses on the United States where literature has tried to present the empirical evidence on the presence of incumbency effect on re-election prospects of the candidate. In the US, the literature have reached two main conclusions: first that incumbency led to positive spill overs for subsequent elections and second that the margin of victory of incumbents has increased significantly between first election and re-elections. (Alford and Hibbing (1989); Collie (1981); Garand and Gross (1984), Lee (2001). Similar study has been conducted in Ghana in Miguel and Zaidi (2003), however their analysis points out the absence of incumbency effect. Ferreira & Gyourko (2009) argues that incumbency effect can have policy implications. They use a new data set for mayoral elections to study the impact of political partisanship and its implication in the policy outcomes at the local level in the United States. Presence of incumbency in India has been attempted by Linden (2004) in his paper "Are Incumbents Really Advantaged? The Preference for Non-Incumbents in Indian National Elections". I have reproduced his study (presented in Section 5) and I report different results. The difference is due to two main differences in the methodology. First, he does not study the implication of incumbency on policy outcomes and second, his estimation strategy is based on measurement of size of discontinuity at the vote margin threshold of zero, which he calculated using the probability of winning an election in $t + 1$ given the margin of victory in election t separately for incumbents and non-incumbents. This is similar to performing a simple regression discontinuity design without controlling for the enforcing vector, which in this case is vote margin. Hence, the results potentially are not unbiased due to endogeneity effect of the enforcing vector as explained in Lumieux and Lee 2009. Further, the vote margin used by the author in his paper is 10 percent. However the authors has pointed out that more than half of constituencies have witnessed elections results with less than 10 percent vote margin between the winning and second candidate. This is an indication that in the Indian election system winning by about 10 percent is a common phenomena

and hence it cannot be considered as an appropriate margin for close elections. For, our case I use a vote margin winning difference of 5 percent which is small enough to make the event quasi-random process but yet large enough to give sufficient number of observations for analysis.

My research can be seen as an extension or improvement on the already existing literature in this direction and uses a Regression Discontinuity Design (RDD) following Ferreira & Gyourko (2009) for the incumbency study and potential partisanship. In addition, my paper contributes to literature a new methodology for estimation of partisanship at the state level. I use an OLS estimation strategy of state level spending in different sectors as a function of number of close wins and close losses of INC in the particular state (methodology is further explained in Section 6). Either of the models in the political economy literature, can be used to explain my results. In other words, a taste based model with divergent policy outcomes or strategic target message model (which predicts that parties care only about winning and divergence in policy outcomes will be visible if parties act can gain median voters' confidence for subsequent elections) both explains my results with a few explanations. In my research, either the parties have their own ideology and they act accordingly or they care about the median voters for securing higher votes in next elections but are unable to identify the main preference of the voters. In the second explanation of the median voters, the most predictable outcome of partisanship is convergence which can be reinforced only when there is no incumbency effect. A disadvantaged position in the subsequent election $t+1$ due to holding office in current elections t may lead the political parties to push in certain directions to influence the median voters. However, the subsequent winning of election will be dependent on correct estimations of the median voters preference.

I show that post 1998 INC is 0.381 times less probable to hold an office in the subsequent period $t+1$ if it already holds an office from their constituencies in the current period t and that given same winning vote margin, same gender and age level and comparable constituencies characteristic, INC MPs are likely to utilize about 10 percent more of the budget available to them. Further, I find that if INC observes an increase in the seat in parliament won surprisingly over all the other surprise seats lost, there will be decrease

in the spending for drinking water facilities and non-conventional energy and increase for road and infrastructure development. The range of drop in the percent of expenditure in drinking water facilities is 0.582 percent to 0.88 percent; for non conventional energy sector is 0.0226 percent to 0.031 percent and the range of increase for road development is 2.1 percent to 2.38 percent.

I explain these results using median voters theory. Given a disadvantaged position of INC in the subsequent election $t+1$ due to holding an office in current elections t and under assumption of complete information in this context, INC may be trying to influence the votes of median voters through increased contributions to their constituencies. However, based on my analysis, I argue that if the median voters care more about the drinking water facilities and non-conventional energy and comparatively less for road and infrastructure, and INC does not have full information on these preferences of the median voters, INC is likely to fail in securing the votes from median voters for winning. This may be one, although small (compared to corruption) but yet critical, reason for INC going out of power in 2014 or in previous periods which witnessed dramatic losses for INC.

The outline of the paper is as follows. Section 2 brings forth the literature review in the context of this research paper where I discuss about the Indian Political System, Public goods in the Indian Political system, Partisanship in Democratic Institutions, Assessment of Electoral Data in India and study of incumbency effects. Section 3 describes the data used in the incumbency study and partisanship. Section 4 discuss the estimation methodology for incumbency effects, partisanship in utilization, released and sanctioned amount of MPLADS funds. Section 5 presents results for the methodology stated in Section 4. Section 6 describes the partisanship in the expenditure in different sectors at state level. Section 7 presents the robustness check for the RDD design in Section 4. Section 8 concludes. Appendix 1 and Appendix 2 tries to improve on one or more aspects of the study in Section 4 and Section 6; however they do only a limited contribution which further strengthens my results based on models in Section 4 and Section 6.

2 Literature review

This section presents the literature review in the context of this research paper where I discuss about the Indian Political System, Public goods in the Indian Political system, Partisanship in Democratic Institutions, Assessment of Electoral Data in India and study of incumbency effects.

2.1 Indian Political System

India is the world's largest democracy with more than 700 million voters and more than 100 recognized political parties. India follows a democratic election system with elections at national and state level every five years. The time period of the national election and state election are very different and time period of election between each states also varies considerably. Elections are held on a first-past-the-post basis in single-member electoral constituencies. The voter turnout was around 58 percent in the 2009 general election[2]. The Constitution of India also follows political reservations for certain historically disadvantaged groups, namely the Scheduled Castes and Scheduled Tribes, since 1950. In such reserved constituencies, only members of these communities can contest elections.

The ECI is the chief independent body responsible for conducting elections in India. The ECI is staffed by career bureaucrats who are by law required to be politically neutral. The law enforces that they are restricted from joining any political parties or engage in any kind of favor or benefit to any political party. McMillan, (2010) has documented the strong reputation of The ECI for conducting free and fair elections and for undertaking many measures to safeguard the integrity of elections. The voting in India has been made electronic after 2004, and elections are often held in several phases to ensure adequate security arrangements. All political candidates are required to file public affidavits stating their education, assets and any pending civil and criminal charges.

2.1.1 Political Parties in India

While there are more than 100 recognized political parties in India, Indian National Congress (INC) and Bhartiya Janta Party (BJP) are two most prominent political party

[2]The Election Commission of India, ECI http://eci.nic.in/eci/eci.html

in India. INC was the government forming party for two subsequent election period of 2004-09 and 2009-14, and BJP is the current government forming party (election period 2014-19). Historically, INC has been the lead in forming the government ever since independence where it won national election for the periods between 1952 to 1977, and 1980 to 1996. BJP has come to existence more recently after its terms in 1996 to 2004. The two parties differ considerably in their origin, in ideology and policies.

Indian National Congress has been in existence from the pre-independence times where initially it was associated with party with economic reforms and also asked for an active participation in the framing of British policy for India and it later participated in the independence movement of India. After the independence and partition, Congress governed India. Pt. Jawaharlal Nehru was the leader of INC and became the first prime minister of India. After his death , his daughter Indira Gandhi took the charge of the party and finally became prime minister in 1966. After the assassination of Indira Gandhi, the party was led by her son Rajiv Gandhi, and won the elections. Later, after the assassination of Rajiv Gandhi, Narasimha Rao emerged as the leader. In 2004, the party took the power and Manmohan Singh was made the prime minister even though the party was led by Sonia Gandhi, wife of Rajiv Gandhi. It defines its social policy to be based on the upliftment of all the sections of the society. The political manifesto of INC from 2014 includes Job Creation and Skill Development, Empowering Scheduled Castes, Scheduled Tribes and Other Backward Classes, infrastructure, etc. BJP, on the other hand, is considered as the Hindu nationalist party due to its nation-wide campaign for building the temple of god Ram in place of an existing mosque in the city of Ayodhya. During the campaign the party's leader toured around the Indian cities under the term of "pilgrimage/yatra". The tour is characterized with mixed political and religious agenda and created high national publicity for the party. The political manifesto of BJP from 2014 focus on linking rural job schemes to asset creation, inclusive growth, low cost housing and drinking water facilities, and job creation through foreign direct investments. Even though the manifestos of two parties may have overlapping agendas, the political reputation of the two parties is very different in the country.

2.2 Public Goods and Indian Political system

Public goods are major concern in Indian Political System. The initial effort in this regards dates back to early 1970s when national authorities initiated a significant expansion in public goods as a part of a concerted effort to bring development to India's still staggeringly impoverished villages. Banerjee and Somanathan (2007) present the detailed mechanisms of this transformation, and show a close correlation between socio-economic privilege of 1971 and public goods 1971. Their analysis points that between 1971 and 1991 there was a fast improvising of precisely those populations which were previously neglected by the political elite. Using cross-sectional analysis, the authors conclude to a negative correlation between social marginalization with access to public goods in 1971, with most discrimination against the suppressed sections such as Muslims, Scheduled Castes, and Scheduled Tribes. This group of India population had lower access to education services, health facilities, drinking water, electricity, and communication facilities. However due to increased push from the national authorities these backwards class of people caught up more rapidly compared to more advanced group in the decades between 1971 to 1991. It is a common understanding that these changes were due to Congress party's inclusive growth approach starting 1971, when the party campaigned on an "abolish poverty" notion (David S. Blakeslee, 2013).

The administrative requirement for development of the public goods which is highlighted in the 1950 Indian constitution, has also its own share of complication. The Seventh Schedule of the Constitution demarcates responsibilities between the central and state governments, and those under joint jurisdiction. However the central government have long debatable history of dominance and influential actions in even those departments which fall under the sole prerogative of the states. For example, there were a large number of successive Five Year Plans, issued by the Planning Commission within the Central government, which established development agendas for State governments to pursue, under the influence of easy financial channels for pursuing their agendas as states objectives. Saxena (2007) have documented that more than 50 percent of the central support provided to state governments comes in the form of Additional Central Assistance (ACA) for centrally established rural development schemes. This provide a strong tool to the central government to intervene in state development objectives using provision to finance,

and often other measure of assessment by one or more representative within the central government (Saxena, 2007). In addition, there is much understanding that the schemes initiated in the 1970 under the Prime Minister Indira Gandhi were intentionally designed to facilitate central government overlook the states authority in the case of local public goods. The Centrally Sponsored anti-poverty Schemes and the Centrally Sponsored subsidy and infrastructure Schemes (CSS) are the example (Saxena, 2007). However it is not clear on how the political party influence the development in their constituencies through Centrally Sponsored schemes (in my study MPLADS). In other words, it is not clear that with the presence of intervention of the central government in state objectives, if there is partisanship in the intervention outcomes of the center on these constituencies. I have attempted to fill this gap in the literature through my research.

2.3 Partisanship in Democratic Institutions

Democratic institutions are widespread in both developed and developing countries, amongst which are some of the largest countries, including Brazil, India, and Indonesia. As such, political parties have become increasingly important actors in setting policy priorities and establishing the institutional and infrastructural framework for human and economic development. The role played by political parties in shaping policy outcomes, however, is uncertain. A classic model in the political economy literature predicts that where political parties care only about winning, there will be convergence in the policies proposed by competing parties to that preferred by the median voter, so that policy outcomes will be identical regardless of the identity of the winning party (Downs, 1957). Subsequent theoretical work has assumed parties to have preferences over policy outcomes in addition to electoral success, with the result that they will be willing to forego some probability of victory in exchange for a policy platform nearer to their optima (Wittman, 1973; Alesina, 1988).

Recent research in political economy further concludes that political partisanship influences politicians' behavior and policy outcomes at the national and state levels of government. Some of the other empirical literature explores the role of political parties in developing countries on the selection among public goods by different parties, in efforts to determine whether parties have consistently shown preference to their supporters welfare

enhancing. Besley and Case (2003) use standard multivariate regression techniques, controlling for state and year fixed effects, to show that a higher fraction of Democrat party seats in the US's state legislature is associated with significantly higher state spending per capita, with about one-third of the increase attributable to greater expenditures on family assistance. Lee, Moretti, and Butler (2004) exploit the random variation associated with close U.S. congressional elections in a regression discontinuity (RD) research design to show that party affiliation explains a very large fraction of the variation in Congressional voting behavior, and that voters essentially are electing policies proposed by political parties instead of affecting the policy positions of the parties.

Miguel and Zaidi (2003) look at the local education spending in Ghana and its variation due to parliamentary representatives' association to the ruling party. Vaishnav and Sircar (2011) explore the extent to which education spending varies in constituencies with representatives from the state legislature making party in contrast to opposition in Tamil Nadu ("swing constituencies"). Bardhan and Mookherjee (2010) use a Left Front party representation to understand the underlying difference in policy outcomes as a function of party in West Bengal in India. He documented higher implementation of land reforms, by the left party, principally separating the ideology of parties.

Ferreira & Gyourko (2009) use a new data set for mayoral elections to study the impact of political partisanship at the local level in the United States. To deal with the endogeneity of party affiliation of the mayor in a city, they employed the RD approach on nearly 2,000 direct mayoral elections in over 400 U.S. cities between 1950 and 2000. Thus, they could eliminate the effect of whether the mayor is a Democrat or Republican on the size of local government, the composition of local public expenditures, or the crime rate. Comparing cities where Democrats barely won an election with cities where Democrats barely lost, they found virtually no partisan differences in policy outcomes at the municipal level.

2.4 Assessment of Electoral Data in India

Studies on the impact on the electoral data of India are also well documented in the literature. Keefer P. and Khemani S (2009), examines the co-existence of the high de-

mand for village infrastructure (poor voters) and persistent low shares of capital spending political economy of infrastructure in India. The paper brings forth the idea of political rent-seeking leading to a patterned low-target infrastructure projects, i.e. the use of the infrastructure projects at the margin for political benefits. The paper further points out that compared to the infrastructure spending, political parties have paid heavy attention on the employment and welfare transfers as these together provides a proven vehicles to win votes for re-election. Authors suggest that while much of the existing work on information for accountability focuses on changes in the behavior of frontline service providers in small jurisdictions, the recent experience of the MPLADS suggests that dramatic changes in the behavior of political agents can be effected if specific information about their performance is compiled and broadly disseminated in mass media.

Iyer and Reddy (2013) also present the influence of political representations on modification of the boundaries. They draw upon the biggest event of India of 2008, the world's largest democracy, when the national and state electoral constituencies were redrawn which are expected to remain in place for a minimum of 2 decades. Iyer and Reddy (2013) used detailed demographic and electoral data to examine the influential power of political incumbents behind this redistricting process. They carried out their analysis at the constituency level from two states, Andhra Pradesh and Rajasthan. They find that there was no impact of political incumbents on these re-districting. Besides the redistricting process led to barriers on the political incumbents to contest a re-election.

Iyer et al. (2012) further discusses the change in crime level (increase or decrease) against women when a women candidate takes the political seat in India. Using panel study of 17 major states of India for 20 year, they assessed the impact of political representation on the crime rates against women. They used state-level regressions of crimes rates (number of crimes per 1000 people) on measure of political representation. They have documented an increase in crime rate against women following appointment of female representation in local government and they also document no increase in crimes against controls groups (males and transgender). They point to it as evidence highlighting greater reporting rather than greater incidence of such crimes.

Bhalotra, Clots-Figueras, and Iyer (2013) further evaluates the role of one-time women representation on the increase the subsequent women participation in India. They use data at the level of India's state legislative assembly elections, covering cover 3473 constituencies over the period 1980-2007 and they assessed the impact of success of women in politics on the participation of women candidates in subsequent elections. Following methodologies on demand estimation (voter and party behavior), and candidate supply behavior; and empirically exploiting the regression discontinuity (RD) design on the sample of elections with at least one-woman candidate, they found that that indeed a woman's electoral victory leads to an increase in the share of women candidates from major parties in the next election.

Bhalotra, Iyer et al. (2014) also examine the impact of Muslim representation in India's state legislatures on development outcomes for Muslims relative to others. They exploit close elections between Muslim and non-Muslim to eliminate out endogenously related elections outcomes or constituency characteristics, a methodology which allowed them to establish a causal impact on development of Muslim community due to a Muslim representative in the legislature. They isolated for necessary controls for party affiliations and found that an increase in Muslim representation in the legislation improves health and education outcomes in the district.

2.5 Incumbency Effect

Most studies in this area focusses on the United States where literature has tried to propose the empirical evidence on the presence of incumbency effect on re-election prospects of the candidate. In the US, the literature have reached two main conclusions: first that incumbency led to positive spill overs for subsequent elections and second that the margin of victory of incumbents has increased significantly between first election and re-elections. (Alford and Hibbing (1989); Collie (1981); Garand and Gross (1984), Lee (2001). Similar study has been conducted in Ghana in Miguel and Zaidi (2003), however their analysis points out the absence of incumbency effect. Ferreira & Gyourko (2009) argues that incumbency effect can have policy implications. They use a new data set for mayoral elections to study the impact of political partisanship and its implication in the policy outcomes at the local level in the United States.

In setting of role of MPs in India, MPs are able to shape local public good allocations through their influence within the central government. A direct means of MP influence is through the MPLADS. MPLADS is a scheme formulated by Government of India on 23 December 1993 that provides that each MP of India has the choice to suggest to the Head of the District works to the tune of US$800,000 per year, to be taken up in his/her constituency. There are overall 543 constituencies in India and each constituency has only one MP either belonging to government-making-party or belonging to INC. I wish to exploit these data set to replicate the study as by Ferreira & Gyourko (2009) and Miguel and Zaidi (2003) at the national level in India. I also use a RDD following Ferreira & Gyourko (2009) for the incumbency study and to inter-connect it with the potential partisanship at constituency/state level in the Indian context.

3 Data Description

3.1 Incumbency effect

This section explains the data used in the Sections 4 and Section 5. . The main source of data is the Election Commission of India (ECI) [3] which is the body responsible for holding the election in India. Together with conducting the national election in a unbiased manner in India, the ECI also maintains an open source database with detailed reports on the outcome of every election at state and national level. From these reports provided by ECI, I was able to obtain the results for all fourteen national parliamentary elections (1952, 1962, 1967, 1971, 1977, 1980, 1984, 1989, 1991, 1996, 1998, 1999, 2004 and 2009). The reports includes details on each candidate at each constituency including the individual's party affiliation, gender, age and about the constituencies: the number of votes the candidate receives, total electorates registered in the constituencies, total voter turnout, number of re-elections, the number of candidates that were nominated, rejected, and who eventually contested along with the number that officially withdrew and the number that forfeited their deposit. They also report the number of polls, number of eligible voters, the number of actual votes, and the number of votes rejected.

[3] http://eci.nic.in/eci/eci.html

Even though the data provided by ECI is very comprehensive, the data has many shortcomings. One of the biggest problem is that the names of the candidates are not consistently reported by the ECI. There are three main types of variations. First, there is variation in which names are reported. In some elections, the ECI may list only main name and family name and in another the full name. Second, for a given name, the spelling can vary between one report to another report. These variation can be attributed to ambiguity in translation of the local names in English spellings by different staffs at ECI or can be attributed merely to the genuine mistakes while recording the data. Finally, title (mr. miss, shri, etc.) are also inconsistently recorded which makes the tractability a manual process. In addition, to the problem in recording of the data, I found the problem of changing names of the constituencies due to delimitation of the constituencies or renaming of the constituencies which is also studied by Iyer and Reddy (2013). Thus the data points for the analysis had to carefully matched between and within the election periods. I have removed the data points where the name of winning person did not match the person finally holding the office or using the MPLADS fund. Further, the constituencies whose boundaries have been delimited over the years have also been removed from our sample sets as these constituencies change the dynamics behind the voters' perception of the incumbent in the subsequent periods. In addition to the issues with the recording of the entries, there are other inconsistencies. Some of the constituencies had witnessed by-elections and some witnessed more than one candidate from the same party among the top two elected (non-partisan elections). I have ignored both these elections.

3.2 Partisanship in sectors' development

This section explains the data used in the Sections 4, 5 and 6. I have conducted two types of analysis : regression discontinuity design (RDD) and OLS and I am looking at the election period of 2009-2014 for my study at the moment. There are 543 constituencies in India which represents 543 seats in the Parliament. I am considering only those constituencies for my study where the winning candidate has taken the position of a MP in the Parliament with less or equal to 5 percent margin from the second candidate: this give us 199 close elections in 2009; out of which 131 elections involved INC as one party (either winning or loosing). The data on the election results are obtained from the

Election Commission of India (ECI) [4]. To study the partisanship, I am exploiting the data sets on the MPLADS scheme in India under which each MP of India has the choice to suggest to the Head of the District works to the tune of US$800,000 per year, to be taken up in his/her constituency. Data on the total expenditure by each MP , released amount and sanctioned amount to the MP at the end of their term is available on the website of MPLADS scheme [5]. The total percentage spending in different sectors is also available at the state level on this website[6]. This data is available for both yearly and at the end of the term. I exploit both these data sets for two types of analysis: first for the data at the end of 5 year term of the MPs and second yearwise data of utilization from 2009 to 2014 (Appendix 1 and Appendix 2). Expenditure in any sector is calculated using $Expenditure = \frac{Total\ Expenditure}{Total\ electorates}$. For the data in the Appendix 2, I have used percent splits at the state level in different sectors and multiplied to the expenditure level of each MP to calculate the aggregate average sector wise expenditure of each MP. The percentage split is same for each MP belonging to same state. No other data in similar form is available without actual survey. (This is the main limitation of my dataset.) I also correct for errors in estimation I am using clustering standard errors at the state level.

I admit that given this limitation in the dataset the partisanship in the development of sectors, which is obtained from an OLS regression of state level spending in different sectors as a function of number of close wins and close losses of INC in the particular state (methodology is further explained in Section 6), is only indicative. This methodology is however a new contribution to the literature to solve the limitation of my data. The RDD analysis could not be performed in this dimension because of the absence of the data of expenditure in different constituencies of India. However, I have tried to perform a RDD on the imputed data (data extrapolated to constituency level using state level distribution) and the results is presented in Appendix 2 under the heading"Potential Partisanship in the preferences for sectors' development". The results presented in Appendix 2 are to be read as only a potential partisanship which could be further verified by collection of

[4]http://eci.nic.in/eci/eci.html

[5]http://mplads.nic.in/

[6]As mentioned in the previous section that the ECI does not consistently record the names of candidates. Variation occurs along three primary dimensions, discussed in Section 3.1. Thus for most accurate analysis, I have removed the data points where the name of winning person did not match the person using the MPLADS fund. This mainly helps to account for any on-close wins by-elections in the event of death or premature retirement of the MPs.

the original data by invoking the Right to Information Act through an Indian citizen.

4 Estimation methodology

4.1 Incumbency effects

I follow Ferreira and Gyourko 2009 for the estimation strategy of the incumbency effect on the subsequent election in India. The main regression design is:

$$D_{INC,t+1} = \alpha + \beta_1 D_{INC,t} + \beta_2 VM_t + \beta_3 VM_t^2$$

$$+\beta_4 VM_t^3 + \beta_5 VM_t * D_{INC,t} + \beta_6 VM_t^2 * D_{INC,t} + \beta_7 VM_t^3 * D_{INC,t} + \epsilon_{INC,t} \qquad (1.1)$$

In the equation (1.1), $D_{INC,t+1}$ is the dummy if INC won the seat in the subsequent election $t+1$, $D_{INC,t}$ is the dummy if INC won in the current election t and VM_t is the vote margin of winning in current election t. The estimand of interest is β_1 in equation 1.1 which measures the probability of INC winning in election period $t+1$ given INC won in the election t.

In addition to the vote margin, I have also used state fixed effects and time fixed effects as control variables to account for the differences in the election period characteristics and state level dynamics that may influence the election result. For example: being political party of independence study, INC's presence was predominant in India post election period or due to influence of Rajiv Gandhi assassination (David S. Blakeslee 2013). At the same time, it is possible that INC is dominant in north and other parties in other regions. Using state fixed effects and time fixed effects as controls for such unobserved characteristics/dynamics lead to a precise estimates in the study of incumbency effects.

4.2 Size of the government

Again, based on Ferreira and Gyourko 2009 I use the following regression design for RDD and OLS (Column 1 to 9 for Table 5 to Table 10):

$$outcome_i = \alpha_i + \beta_1 D_{INC} + \gamma_s + \epsilon_i \qquad (2.1)$$

$$outcome = \alpha_i + \beta_1 D_{INC} + \beta_2 VM + \beta_3 VM^2 + \beta_2(VM * D_{INC}) + \beta_3(VM^2 * D_{INC}) + \gamma_s + \epsilon_i \tag{2.2}$$

$$outcome_i = \alpha_i + \beta_1 D_{INC} + \beta_2 VM + \beta_3 VM^2 + \beta_4(VM * D_{INC}) + \beta_5(VM^2 * D_{INC}) + \beta_m X_m + \gamma_s + \epsilon_i \tag{2.3}$$

I use the following regression design for OLS (Column 7 to 9) :

$$outcome_i = \alpha_i + \delta_1 D_{INC} + \delta_2 D_{BJP} + \gamma_s + \epsilon_i \tag{2.4}$$

$$outcome_i = \alpha_i + \delta_1 D_{INC} + \delta_2 D_{BJP} + \gamma_s + \delta_3 VM + \delta_4 VM^2 + \delta_5(VM * D_{INC}) + \delta_6(VM^2 * D_{INC}) + \delta_7(VM * D_{BJP}) + \delta_8(VM^2 * D_{BJP}) + \epsilon_i \tag{2.5}$$

$$outcome_i = \alpha_i + \delta_1 D_{INC} + \delta_2 D_{BJP} + \gamma_s + \delta_3 VM + \delta_4 VM^2 + \delta_5(VM * D_{INC}) + \delta_6(VM^2 * D_{INC}) + \delta_7(VM * D_{INC}) + \delta_8(VM^2 * D_{INC}) + \delta_m X_m + \epsilon_i \tag{2.6}$$

From equation (2.1 to 2.3); D_{INC}=1 if INC won and 0 if INC lost, γ_s is state fixed effect, VM is the vote margin of winning in absolute terms (defined as the difference between the percentage of votes received by the winner and the percentage of votes received by the second-place)[7], X_m is the set of control variables : gender and age of MP and total electors as a proxy for population. Similarly in equation (2.4) to (2.6), D_{BJP}=1 if BJP won or 0 otherwise.

Outcome here is either utilization, received amount and sanctioned amount. Utilization is calculated as a ratio of the expenditure over received amount. The sanctioned amount and received amount is amount of fund allocated (received/sanctioned) per unit of electorates. I take the number of electorates as the proxy for population as the exact population for each constituency is not known. The difficulty is increased due to overtime changing of the boundaries of constituencies as also recorded in Iyer and Reddy (2013) The estimand of interest is β_1 in equation (2.1 to 2.3) and δ_1 and δ_2 in equation (2.4)

[7]Following Ferreira and Gyourko 2009 margin of victory is used in lieu of vote share in order to facilitate comparison across elections. The reason is same as in Ferreira and Gyourko 2009, that most elections have more than two candidates and shares of votes reduces the differences between the two candidates, defying the critical assumption of similarities among candidates with close election results.

to (2.6). β_1 gives the change in the outcome given change in the affiliation of MP from other parties to INC, δ_1 gives change in the outcome given change in affiliation from other political parties to INC and δ_2 gives change in the outcome given change in affiliation from other political parties to BJP.

5 Results

5.1 Incumbency effects

5.1.1 Results on whole data set

My main study is to identify the incumbency effect in the INC followed by policy outcomes through partisanship in performances of the MPs in the MPLADS schemes. The incumbency effect represents a political rather than a policy outcome. The RD point estimate of β_1 from equation (1.1) is not significant in entire election history of the Indian elections (1952 to 2014). Table 1 shows the number of close elections in each period since 1952. There were no close elections for INC (either loosing or winning) in 1952.

In the Table 2 Column 1 to 8 are the results of different sets of regression which modifies the equation (1.1) in some of the ways, to check the presence of an incumbency effect from all dimensions. Under all the situations, there is no significant effect of the incumbency over the re-election of INC in the whole period. If there is an indication through the signs, the INC are only likely to loose in the subsequent period $t + 1$ if they hold an office in the current period t (further analysis shows that the loss is significant for periods after 1998 elections which is discussed in the subsequent section Section 5.1.2). This result is also highlighted in the Figure 1. where each dot corresponds to the probability of INC's victory in $t + 1$ given the margin of victory obtained by INC in election t. The solid line in the Figure 1 represents the predicted values of the linear fit of equation (1.1) with the colored region representing 95 percent confidence interval.

Years	1962	1967	1971	1977	1980	1984	1989	1991	1996	1998	1999	2004	2009	Total
INC lost	40.0	43.0	24.0	12.0	31.0	19.0	36.0	43.0	54.0	42.0	47.0	44.0	49.0	484.0
INC won	45.0	49.0	13.0	14.0	36.0	22.0	38.0	37.0	46.0	42.0	30.0	28.0	70.0	470.0
Total	85.0	92.0	37.0	26.0	67.0	41.0	74.0	80.0	100.0	84.0	77.0	72.0	119.0	954.0

Table 1: The number of close elections in each period since 1952. There were no close elections for INC (either loosing or winning) in 1952.

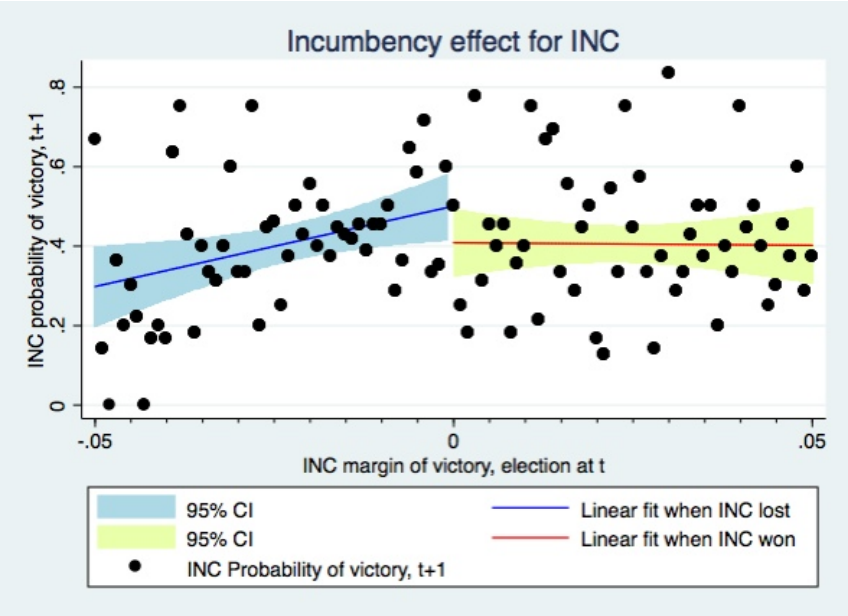

Figure 1: The probability distribution for incumbency effect when INC lost/won marginally. There is no significant incumbency effect for INC. If there is, at all, any indication, the results indicate that INC is likely to loose in the subsequent period $t+1$, if it already holds a position in current election t. This is further established for a election periods after 1998 and are presented in Section 5.1.2).

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next
score_inc	-0.106	-0.106	-0.106	-0.106	-0.106	-0.106	-0.107	-0.0752
	(-0.89)	(-0.93)	(-0.88)	(-0.93)	(-0.88)	(-0.89)	(-0.99)	(-0.70)
Vote Margin (absolute, squared, cube and interaction)	Yes	Yes	Yes	No	No	No	No	Yes
Vote Margin (sign, squared, cube and interaction)	No	No	No	Yes	Yes	Yes	Yes	No
State Fixed effects	No	No	No	No	No	No	No	Yes
Time Fixed effects	No	No	No	No	No	No	Yes	Yes
_cons	0.481***	0.481***	0.481***	0.481***	0.481***	0.481***	0.590***	0.378***
	(5.92)	(6.11)	(5.49)	(6.11)	(5.49)	(5.92)	(6.49)	(3.66)
N	921	921	921	921	921	921	921	921

t statistics in parentheses

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

Table 2: Incumbency Effect corresponding to Equation 1.1. The coefficient of *score_inc* is the probability of INC winning in $t+1$ as a function of INC margin of victory in election t. In the Table, the probability of INC winning in $t+1$ $D_{INC,t+1}$ is *inc_next* and INC realizing a close win in time t $D_{INC,t}$ is *score_inc*

Election Period	1962-71			1980-89			1991-99		
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)
	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next	inc_next
score_inc	-0.00766	0.127	0.0915	0.100	0.233	0.245	-0.0418	-0.238	-0.112
	(0.0727)	(0.274)	(0.254)	(0.0748)	(0.258)	(0.245)	(0.0516)	(0.197)	(0.205)
_cons	0.640***	0.520**	0.108	0.463***	0.376*	0.0735	0.387***	0.504***	0.370*
	(0.0726)	(0.172)	(0.184)	(0.0736)	(0.189)	(0.197)	(0.0550)	(0.132)	(0.161)
Vote margin	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Vote margin sq and cubes	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State fixed effects	No	No	Yes	No	No	Yes	No	No	Yes
N	190	190	190	182	182	182	339	339	339

Standard errors in parentheses

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

Table 3: Incumbency Effect for INC between three different periods 1962-71, 1980-89, and 1991-99 corresponding to Equation 1.1. The coefficient of *score_inc* is the probability of INC winning in $t+1$ as a function of INC margin of victory in election t. In the Table, the probability of INC winning in $t+1$ $D_{INC,t+1}$ is *inc_next* and INC realizing a close win in time t $D_{INC,t}$ is *score_inc*

.

Election Period	Before and After 1996		Before and After 1998			
	Before inc_next	After inc_next	Before inc_next	After inc_next	Before inc_next	After inc_next
score_inc	0.0946	-0.349*	0.0529	-0.390*	0.0513	-0.381*
	(0.164)	(0.161)	(0.150)	(0.178)	(0.134)	(0.179)
_cons	0.464***	0.508***	0.474***	0.475***	0.321**	0.909***
	(0.110)	(0.114)	(0.101)	(0.126)	(0.117)	(0.218)
Time fixed effects	No	No	No	No	Yes	Yes
State fixed effects	No	No	No	No	Yes	Yes
N	476	445	576	345	576	345

Standard errors in parentheses

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

Table 4: Incumbency Effect for INC before and after 1996 and 1998 corresponding to Equation 1.1. The coefficient of *score_inc* is the probability of INC winning in $t + 1$ as a function of INC margin of victory in election t. In the Table, the probability of INC winning in $t + 1$ $D_{INC,t+1}$ is *inc_next* and INC realizing a close win in time t $D_{INC,t}$ is *score_inc*

5.1.2 Incumbency effects across different time periods

In the Table 3, I present the results for the incumbency effect for INC over three election periods: 1962-71 (Col 1 to 3), 1980-89 (Col 4 to 6) and 1991-99 (Col 7 to 9) following the results of Linden 2004. While Linden 2004 shows positive incumbent effects for INC in the election period 1962-71 and 1980-89; and a strong disadvantaged position for INC in the election period 1991-99; I do not find any such effect in my analysis. The main reasons behind the difference in the result is in the definition of the vote margin for close wins and in the estimation strategy. He relied on measurement of size of discontinuity at the vote margin threshold of zero, which he calculated using the probability of winning an election in $t+1$ given the margin of victory in election t separately for incumbents and non-incumbents. This is similar to performing a simple regression discontinuity design without controlling for the enforcing vector, which in this case is vote margin. Hence, the results potentially are not unbiased due to endogeneity effect of the enforcing vector as explained in Lumieux and Lee 2009. Second, the vote margin used by the author in his paper is 10 percent. However the authors has pointed out that more than half of constituencies have witnessed elections results with less than 10 percent vote margin between the winning and second candidate. This is an indication that in the Indian election system winning by about 10 percent is a common phenomena and hence it cannot be considered as an appropriate margin for close elections. For, our case I use a vote margin winning difference of 5 percent which is small enough to make the event quasi-random process but yet large enough to give sufficient number of observations for analysis.

In Table 4, I present results based on my analysis of incumbency effect before and after 1996 (Col 1 and 2) and 1998 (Col 3 and 4 without fixed effects and Col 5 and 6 with fixed effects). There is no incumbency effect for INC before 1996 or 1998 in any of the regressions models. However, after 1996, the INC are at dis-advantaged position, that is, INC started to loose with a significant probability in subsequent elections $t+1$ due to holding government office in current period t. This result is obtained when analysis is carried out without state fixed effects. Further, the INC started to loose with significant probability due to current office holding after 1998 elections. This result is observed in both the analysis: with and without state fixed effects.

I maintain a conservative stand, and argue that the more relevant analysis is the one with state fixed effects which helps to control for differential preference of votes for political parties in different regions of the country. Based on this argument and not considering the elections prior to 1998 for convenience, I find that INC is 0.381 times less probable to hold an office in the subsequent period $t+1$ if it already holds an office from their constituencies in current period t. This could probably be due to massive transformation in Indian economy with improvements in literacy rates (UNESCO reports an increase from 48.2 percent in 1990 to 62.8 percent in 2010)[8], more people moving towards cities and political awareness (the example of recent appointment of a middle income citizen as a Chief Minister of the capital of India and the insurgence of BJP with a complete majority). The reason behind such a phenonmena is beyond the scope of my study and hence I have not discussed more on it.

This result is also highlighted in the Figure 2 and Figure 3 where each dot corresponds to the probability of victory of INC in $t+1$ given the margin of victory obtained by INC in election t. The solid line in the figure represents the predicted values of the linear fit in Figure 2 and Figure 3 of equation (1.1) with the colored region representing 95 percent confidence interval. There is only one main difference in this figure in comparison to Figure 1. The time horizon is narrower in this regression. It is either the election periods before or after 1998 where elections after 1998 shows significant possibility that INC is likely to loose in the subsequent period $t+1$, if it already holds a position in current election t.

[8]http://www.uis.unesco.org/literacy/Documents/UIS-literacy-statistics-1990-2015-en.pdf

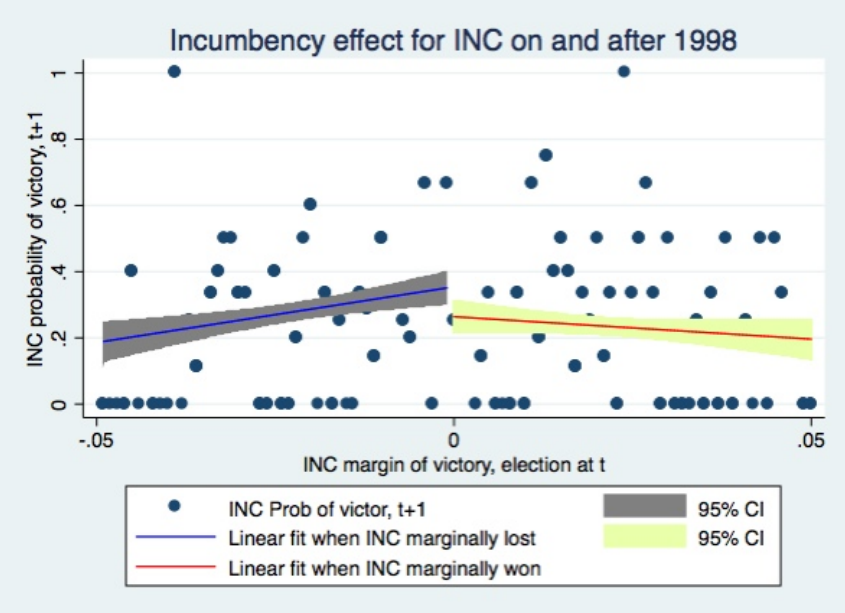

Figure 2: The probability distribution for incumbency effect when INC lost/won marginally for election period after 1998. There is significant possibility that INC is likely to loose in the subsequent $t+1$ period, if it already holds a position in current election t.

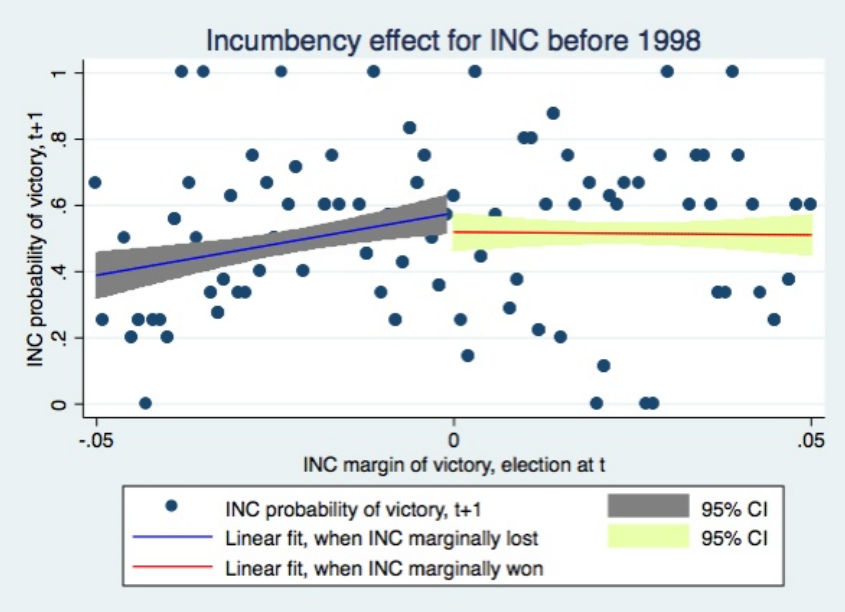

Figure 3: The probability distribution for incumbency effect when INC lost/won marginally for election period before 1998. There is no significant incumbency effect for INC. However if only signs can be considered, results show a disadvantaged position of INC in the subsequent election $t+1$ due to holding office in current elections t.

5.2 Size of the government based on Election Period 2009-14

Table 5 shows the difference in utilization of MPLADS funds as a function of partisanship D_{INC}. Table 6 shows the same analysis but with clustering of the standard errors at the 24 state levels. The utilization of the MPLADS funds by different MPs in the same state may be correlated because the fund utilization depends on the level of development of the particular state. Clustering allows us to correct for the standard errors and report the results with higher precision as it corrects for within state variation of the unobserved characteristics of the process of MPLADS. In addition, clustering is important because the regressor of interest D_{INC} may vary at the group level and can modify standard errors sharply (Angrist, J. D., & Pischke, J. 2009)[9]. Comparing the two tables Table 5 and Table 6, I find that clustering the standard errors do not change the standard errors much when the regression controls for vote margin, its square and its interaction with D_{INC}, gender and age of MP and total electorates in the case of RDD. Nevertheless, I base our analysis on the results of Table 6, 8 and 10 which considers clustered effects.

Column 4 to 9 shows the results for OLS results for the dependent variable "utilization" of the total MPLADS fund by the MPs as a function of political party affiliation. Column 7 to 9, is essentially similar to column 4 to 6 in all respects other than that it uses additional control for party affiliation to BJP ($D_{BJP} = 1$ if the MP belongs to BJP). These columns present OLS estimates for both D_{INC} while controlling for vote margins, squared vote margin, its interaction with D_{INC} and D_{BJP} and other MP characteristics (equation 2.1 to 2.3 for Column 4 to 6 and equation 2.4 to 2.6 for Column 7 to 9). These coefficients are measure of the affiliation of the MP to either INC or BJP (D_{INC} and D_{BJP}) and thus an instrument for the measuring the effect of political parties' performances and selection in different sectors.

I see from the results in Table 5 Column 4 to 6, that INC is likely to utilize the available funds higher than others political parties. In other words, the utilization rate of avail-

[9]In addition, Angrist, J. D., & Pischke, J. 2009 note that clustering with fewer than 42 clusters may create bias problems. Hence I have produced results from both clustered regressions and non-clustered regressions. The coefficients does not vary in the two type of analysis Comparing the two tables Table 5 and Table 6 Column 3, I find that clustering the standard errors do not change the standard errors much when the regression controls for vote margin, interactions, its square, gender and age of MP and total electorates in the case of RDD.

able funds is higher in the constituencies where INC won marginally compared to where INC lost marginally. This difference is significant when controlled for vote margin and its interaction and other sets of control variables (Column 5 and Column 6). In Table 6, clustering the standards errors at state level gives us a significant estimates even without controlling for any other variables (Column 4). Since, equation (2.1) represented in Column 4 does not control for the enforcing variables - *vote margin of winning*, this estimates serves as a lower bound as the omission of vote margin creates a potentially downward bias due to endogeneity. Based on the results from the OLS, it can be concluded that INC is likely to spend 2.88 percent to 7.33 percent more of its available funds. This effect goes away when I also introduce the control for D_{BJP}. This may be due to the fact that sample size is very small for studying the effects of both the parties. However, from the OLS estimate for D_{INC} and D_{BJP}, if at all there is an indication, I can conclude that INC is likely to spend higher and BJP lower; even though these coefficients are non-significant for this OLS. The results are same even after clustering for standard errors. I therefore move to the RDD case, for deeper analysis, where our main identification strategy is to study the effects on the sample of constituencies where INC is either one of the winners or loosers within close margin.

Table 5 and Table 6 Column 1 to 3 shows the results of RDD, which brings comparison of the constituencies where INC won marginally and constituencies where INC lost marginally. As stated above by construct of the regression discontinuity, I restricted the sample to only those close elections, which had either the winners or runners-up from INC. This sample selection distinguishes the RDD from OLS and is my main identification strategy. Again, the columns show the estimates of D_{INC} while controlling for vote margins, squared vote margin and other MP characteristics (equation 2.1 to 2.3).

From Column 2 and 3 Table 5 and Table 6, I find that the utilization is significantly higher in those constituencies where INC marginally won compared to the constituencies where INC lost marginally. The result is significant at 5 percent significance level and the difference range between 9.54 percent when controlled for states fixed effects and vote margin only, and 10.5 percent for the analysis when controlled for states fixed effects, vote margin and MP personal characteristics. In other words, given same winning vote

margin, same gender and age level and comparable constituencies characteristic, INC MP is likely to utilize about 10 percent more of the budget available to him/ her. Further, clustering the standard errors (Table 6 Column 1 to 3) at state level shows the coefficient for D_{INC} is significant when controlled only for state fixed effects. However the estimate coefficient is expected to have a downward bias because of endogeneity between the vote margin (present in the error term) and D_{INC} in Column 1 Table 5 and Table 6. In a way the result of Column 1 Table 6, thus serves as a lower bound of the difference in spending in constituencies where INC won marginally vs. where INC lost marginally.

Table 7 to Table 10, shows the similar regression analysis as described above for Table 5 and Table 6 for received amount and sanctioned amount per unit electorates. The coefficients are non significant for both the RDD and OLS estimates. However considering only the signs of the coefficients, I observe that there is a possibility of lesser release/sanction of funds for INC led constituencies against the others, if at all there is any indication.

It is here important to highlight that the higher precision is obtained here at the cost of reduction in the sample size. However, our main identification strategy involves comparing only the constituencies where INC won marginally with where INCs lost marginally. The sample size is not expected to be the major threat in the analysis and I thus expect a better understanding of the partisanship. In addition, small sample would have been a threat in case there was no statistical significance estimate associated with D_{INC} in OLS Column 5 and 6 Table 5 and Table 6. (See Appendix 1 for further analysis on this).

The overall results for utilization are also presented in Figure 4 and Figure 5. Panel B in Figure 5 presents the plots for the predicted value after controlling for vote margin, interactions, its square, gender and age of MP and total electorates (corresponding to equation 2.3). I have constructed the plot of the predicted values in order to incorporate the effect of control variables since the difference is statistically significant when controlled for vote margin, its square and its interactions, gender and age of MP and total electorates.

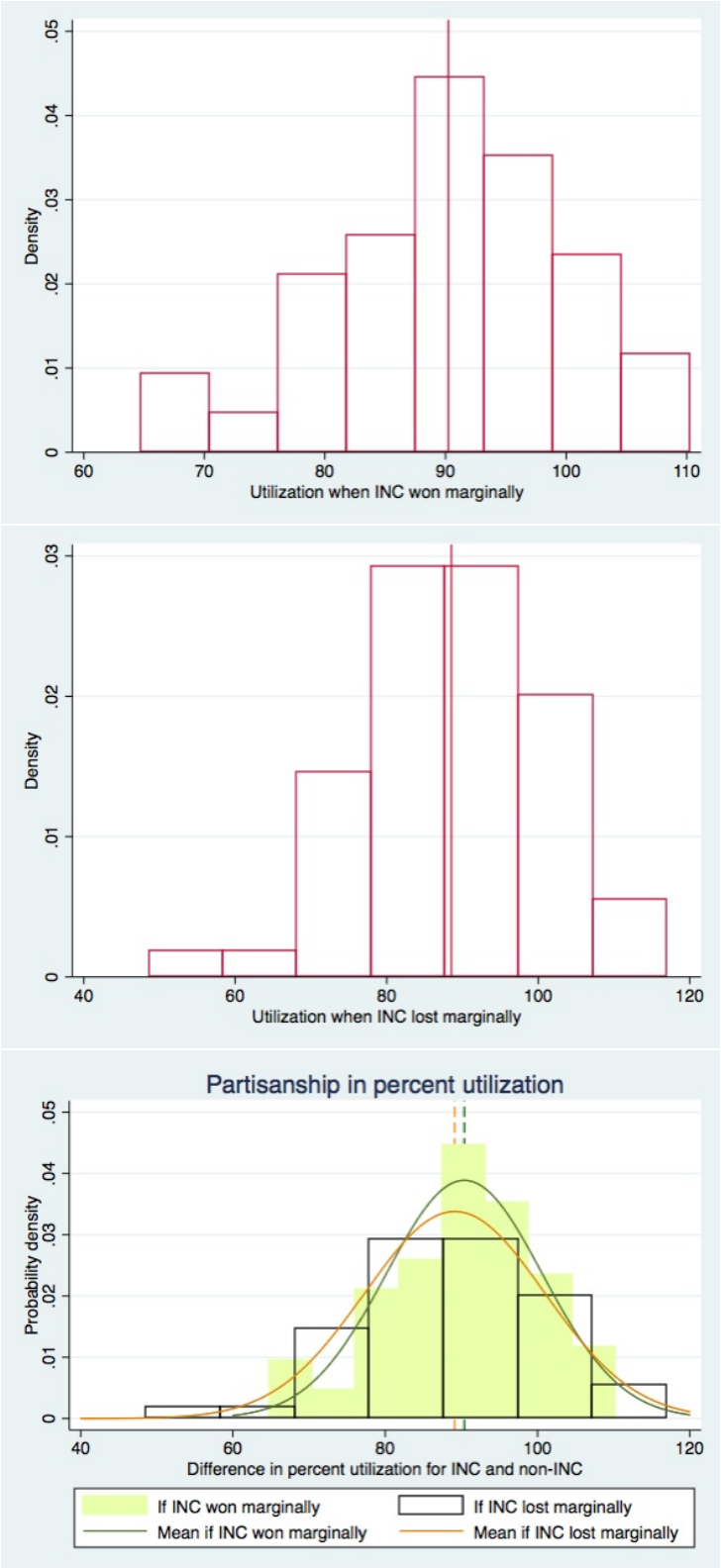

Figure 4: The density function for utilization level when INC lost/won marginally. The top graph shows the distribution when INC won marginally, middle graphs shows distribution when INC lost marginally and the third graphs shows the overlap. The difference is statistically significant after controlling for vote margin, interactions, its square, gender and age of MP and total electorates.

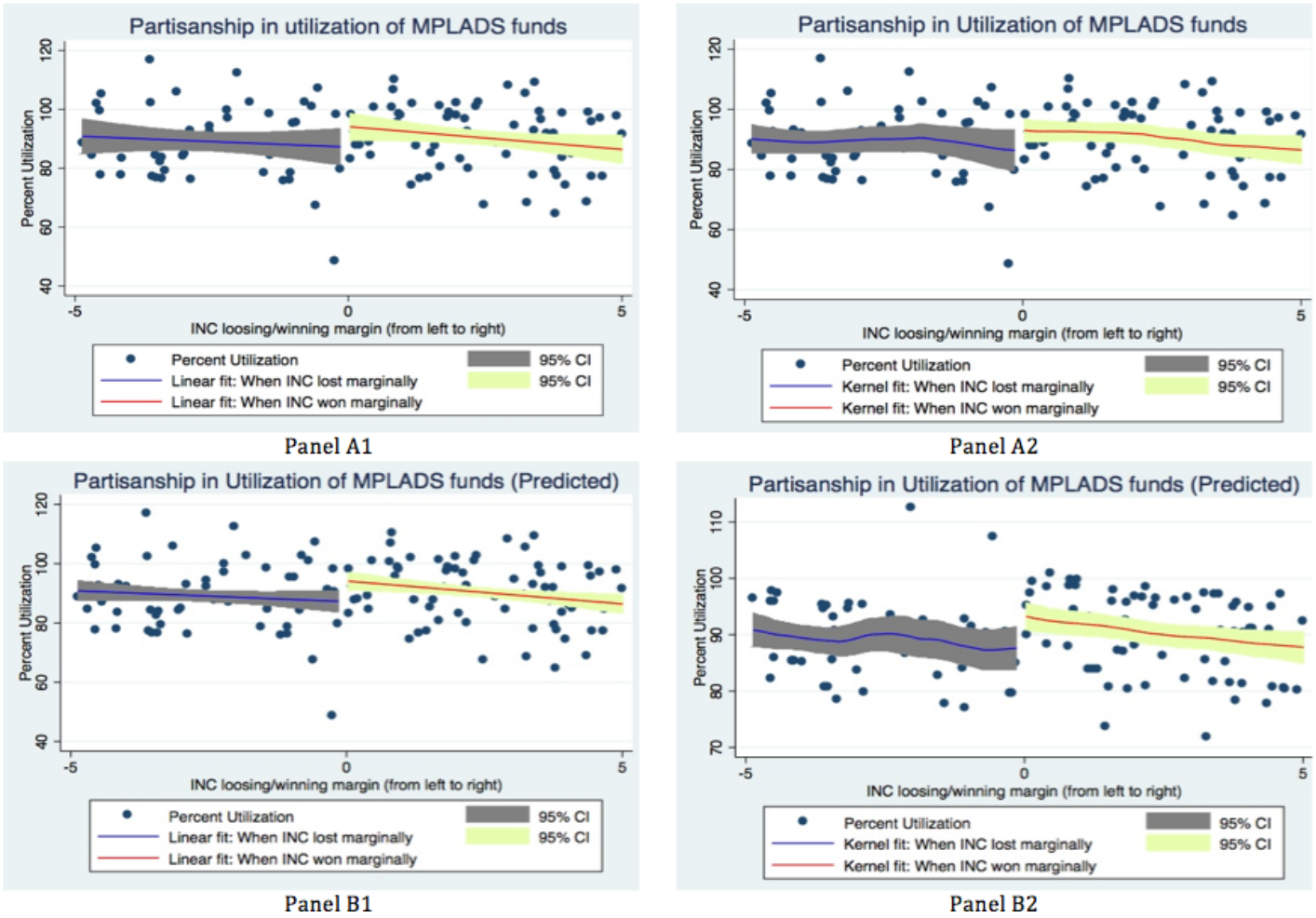

Figure 5: Regression discontinuity plot for utilization around vote margin =0. Below zero, represents that INC lost marginally and above zero INC won marginally. Panel A presents the actual values and Panel B represent predicted values after controlling for vote margin, interactions, its square, gender and age of MP and total electorates (corresponding to equation 2.3). A1 and B1 is the plot with linear fit and A2 and B2 is the plot with Kernel fit using epanechnikov function. The difference is statistically significant when controlled for vote margin, its square and its interaction, gender and age of MP and total electorates.

Mode	Regression Discontinuity			OLS - with INC vs. All other			OLS - with INC and BJP vs. All others		
	(1) utilization	(2) utilization	(3) utilization	(4) utilization	(5) utilization	(6) utilization	(7) utilization	(8) utilization	(9) utilization
score_inc	0.0338	0.0954**	0.105**	0.0288	0.0714*	0.0733*	0.0133	0.0502	0.0522
	(0.0183)	(0.0356)	(0.0381)	(0.0170)	(0.0329)	(0.0333)	(0.0200)	(0.0381)	(0.0387)
score_bjp							-0.0365	-0.0437	-0.0429
							(0.0248)	(0.0453)	(0.0463)
_cons	1.125***	0.923***	1.065	1.125***	0.942***	0.393	1.161***	1.112***	0.390
	(0.0952)	(0.101)	(0.652)	(0.103)	(0.107)	(0.713)	(0.105)	(0.111)	(0.716)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes	No	No	Yes
Clustering State Level	No	No	No	No	No	No	No	No	No
N	131	131	131	190	190	190	190	190	190

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 5: Election period 2009-14: Utilization of MPLADS fund as a function of political party (Standard errors are not Clustered). Column 1 to 3 are results of regression discontinuity design; Column 4 to 6 are general OLS for INC vs. All other political party and Column 7 to 9 are general OLS for INC and BJP vs. All other political party. The variable of interest is coefficient of score_inc. outcome variable is "utilization" and dependent variable D_{INC} is score_inc

Mode	Regression Discontinuity			OLS - with INC vs. All other			OLS - with INC and BJP vs. All others		
	(1) utilization	(2) utilization	(3) utilization	(4) utilization	(5) utilization	(6) utilization	(7) utilization	(8) utilization	(9) utilization
score_inc	0.0338*	0.0954*	0.105*	0.0288*	0.0714*	0.0733*	0.0133	0.0502	0.0522
	(0.0133)	(0.0435)	(0.0396)	(0.0135)	(0.0291)	(0.0276)	(0.0154)	(0.0438)	(0.0450)
score_bjp							-0.0365	-0.0437	-0.0429
							(0.0362)	(0.0603)	(0.0604)
_cons	1.125***	0.923***	1.065**	1.125***	0.942***	0.393	1.161***	1.112***	0.390
	(4.66e-14)	(0.0445)	(0.362)	(6.02e-14)	(0.0277)	(0.296)	(0.0362)	(0.0584)	(0.327)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes	No	No	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	131	131	131	190	190	190	190	190	190

Standard errors in parentheses

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

Table 6: Election period 2009-14: Utilization of MPLADS fund as a function of political party (Standard errors are Clustered at state level). Column 1 to 3 are results of regression discontinuity design; Column 4 to 6 are general OLS for INC vs. All other political party and Column 7 to 9 are general OLS for INC and BJP vs. All other political party. The variable of interest is coefficient of score_inc. outcome variable is "utilization" and dependent variable D_{INC} is score_inc

Mode	Regression Discontinuity			OLS - with INC vs. All other			OLS - with INC and BJP vs. All others		
	(1) received	(2) received	(3) received	(4) received	(5) received	(6) received	(7) received	(8) received	(9) received
score_inc	-20.98	-9.168	-4.343	-7.609	8.177	14.97	-13.17	11.17	16.44
	(17.24)	(34.21)	(15.35)	(14.03)	(27.17)	(12.77)	(16.54)	(31.61)	(14.88)
score_bjp							-13.10	12.22	4.778
							(20.51)	(37.57)	(17.82)
_cons	754.4***	271.9**	6660.1***	754.4***	430.6***	6625.8***	767.5***	1149.3***	6615.6***
	(89.84)	(96.61)	(262.9)	(84.64)	(88.57)	(273.4)	(87.24)	(91.91)	(275.7)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes	No	No	Yes
Clustering State Level	No	No	No	No	No	Yes	No	No	No
N	131	131	131	190	190	190	190	190	190

Standard errors in parentheses

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

Table 7: Election period 2009-14: Receiving amount of MPLADS fund as a function of political party (Standard errors are not Clustered at state level). Column 1 to 3 are results of regression discontinuity design; Column 4 to 6 are general OLS for INC vs. All other political party and Column 7 to 9 are general OLS for INC and BJP vs. All other political party. The variable of interest is coefficient of score_inc. outcome variable is "received" and dependent variable D_{INC} is score_inc

Mode	Regression Discontinuity			OLS - with INC vs. All other			OLS - with INC and BJP vs. All others		
	(1) received	(2) received	(3) received	(4) received	(5) received	(6) received	(7) received	(8) received	(9) received
score_inc	-20.98	-9.168	-4.343	-7.609	8.177*	14.97	-13.17	11.17	16.44
	(28.12)	(15.61)	(13.89)	(14.33)	(3.880)	(12.42)	(19.73)	(7.229)	(11.17)
score_bjp							-13.10	12.22	4.778
							(13.92)	(18.41)	(16.08)
_cons	754.4***	271.9***	6660.1***	754.4***	430.6***	6625.8***	767.5***	1149.3***	6615.6***
	(1.22e-10)	(13.74)	(1257.2)	(1.73e-10)	(3.904)	(1644.7)	(13.92)	(17.83)	(1647.0)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes	No	No	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	131	131	131	190	190	190	190	190	190

Standard errors in parentheses

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

Table 8: Election period 2009-14: Receiving amount of MPLADS fund as a function of political party (Standard errors are Clustered at state level). Column 1 to 3 are results of regression discontinuity design; Column 4 to 6 are general OLS for INC vs. All other political party and Column 7 to 9 are general OLS for INC and BJP vs. All other political party. The variable of interest is coefficient of score_inc. outcome variable is "received" and dependent variable D_{INC} is score_inc

Mode	Regression Discontinuity			OLS - with INC vs. All other			OLS - with INC and BJP vs. All others		
	(1) sanctioned	(2) sanctioned	(3) sanctioned	(4) sanctioned	(5) sanctioned	(6) sanctioned	(7) sanctioned	(8) sanctioned	(9) sanctioned
score_inc	-16.86	-5.304	-0.152	-4.151	8.194	13.92	-7.765	11.44	16.35
	(14.88)	(29.48)	(12.85)	(12.00)	(23.21)	(10.98)	(14.15)	(27.02)	(12.80)
score_bjp							-8.514	11.21	5.924
							(17.55)	(32.12)	(15.33)
_cons	823.1***	315.7***	6584.1***	823.1***	433.7***	5670.1***	831.6***	1787.0***	5664.8***
	(77.56)	(83.24)	(220.0)	(72.40)	(75.66)	(235.1)	(74.66)	(78.57)	(237.1)
Vote Margin & Squared & Interation	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes	No	No	Yes
Clustering State Level	No	No	No	No	No	No	No	No	No
N	131	131	131	190	190	190	190	190	190

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 9: Election period 2009-14: Sanctioned amount of MPLADS fund as a function of political party (Standard errors are Clustered at state level). Column 1 to 3 are results of regression discontinuity design; Column 4 to 6 are general OLS for INC vs. All other political party and Column 7 to 9 are general OLS for INC and BJP vs. All other political party. The variable of interest is coefficient of score_inc. outcome variable is "sanctioned" and dependent variable D_{INC} is score_inc

Mode	Regression Discontinuity			OLS - with INC vs. All other			OLS - with INC and BJP vs. All others		
	(1) sanctioned	(2) sanctioned	(3) sanctioned	(4) sanctioned	(5) sanctioned	(6) sanctioned	(7) sanctioned	(8) sanctioned	(9) sanctioned
score_inc	-16.86	-5.304	-0.152	-4.151	8.194	13.92	-7.765	11.44	16.35
	(24.03)	(13.67)	(15.22)	(12.54)	(4.111)	(11.18)	(17.43)	(6.198)	(9.524)
score_bjp							-8.514	11.21	5.924
							(12.04)	(16.63)	(17.41)
_cons	823.1***	315.7***	6584.1***	823.1***	433.7***	5670.1***	831.6***	1787.0***	5664.8***
	(1.33e-10)	(11.81)	(1062.0)	(1.83e-10)	(3.825)	(1357.7)	(12.04)	(15.83)	(1358.7)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes
State Fixed effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes	No	No	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	131	131	131	190	190	190	190	190	190

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 10: Election period 2009-14: Sanctioned amount of MPLADS fund as a function of political party (Standard errors are Clustered at state level). Column 1 to 3 are results of regression discontinuity design; Column 4 to 6 are general OLS for INC vs. All other political party and Column 7 to 9 are general OLS for INC and BJP vs. All other political party. The variable of interest is coefficient of score_inc. outcome variable is "sanctioned" and dependent variable D_{INC} is score_inc

6 Partisanship in sectors' development at State level

In this section, I have tried to study the partisanship in expenditure in different sectors at state level. MPLADS scheme defines use of the funds in eleven priority sectors only. These sectors are education, electricity, health, irrigation, non-conventional electricity, sports, road and infrastructure, sanitation, animal care, drinking water and other public facilities.

For studying the partisanship in the sectors development, I study the percentage distribution of the total expenditure at a state level as a function of the number of close wins and losses that INC observed in the elections period of 2004-09, 2009-14 and 2014-15 (due to ongoing period the data for 2014-15 is available only for one year instead of a 5 year period). Further, I also study the percentage distribution of the total expenditure on a state level as a function of the difference in number of close wins and losses that INC observed in the elections period of 2004-09, 2009-14 and 2014-15. Both this regressions uses either state fixed effects or time fixed effects or both to control for the unobserved state and time level dynamics ($X_{state,t}$). The estimation strategy is as follows:

$$(expenditure\ in\ sector)_{state,t} = \alpha_i + \beta_1(close\ wins\ of\ INC)_{state,t} + \beta_2(close\ losses\ of\ INC)_{state,t} + \Gamma_{state,t}X_{state,t} + \epsilon_{state,t} \quad (3.1)$$

$$(expenditure\ in\ sector)_{state,t} = \alpha_i + \delta_1(diff\ in\ close\ wins\ \&\ close\ losses\ of\ INC)_{state,t} + \Gamma_{state,t}X_{state,t} + \epsilon_{state,t} \quad (3.2)$$

The estimand of interest here is β_1, β_2 and δ_1 in equation 3.1 and 3.2 respectively. The interpretation of β_1 according to this regression is the change in percent expenditure in a particular sector when INC closely win one extra seat in a particular state. Similarly, the interpretation of β_2 according to this regression is the change in percent expenditure in a particular sector when INC closely loose one seat in a particular state and interpretation of δ_1 is the change in percent expenditure in a particular sector when difference between the surprise wins and surprise looses of INC is increased by 1 unit in a particular state (seat representation at state level in the parliament).

I have also tried to carry out a preliminary study on the potential partisanship in sectors' development at constituencies level using imputed data. The results of this study is

discussed in Appendix 2. It is worth noting here that the results in Appendix 2 are only indicating towards the potential partisanship as these are based on extension of the state level distribution to constituency level. Hence, as expected, controlling for state fixed effects washes of any partisanship effects. Further research in this direction will require collection of data at district level using Right to Information Act of Indian Citizen. This process is both time consuming and expensive, and thus is considered beyond the scope of my present study.

	(1) educ	(2) other	(3) animal	(4) drinking	(5) elec	(6) health	(7) irri	(8) non	(9) road	(10) sani	(11) sports
win	-0.00107	-0.00600	-0.000254	-0.00880***	-0.00216	-0.000261	0.000259	-0.000226*	0.0210**	-0.00200	-0.000442
	(0.00582)	(0.00496)	(0.000168)	(0.00242)	(0.00159)	(0.00179)	(0.000722)	(0.0000939)	(0.00710)	(0.00157)	(0.00155)
loss	0.00786	0.00387	0.000103	0.00898**	0.00219	0.00137	0.000565	0.000384**	-0.0268**	0.0000685	0.00146
	(0.00734)	(0.00626)	(0.000212)	(0.00305)	(0.00200)	(0.00225)	(0.000910)	(0.000118)	(0.00895)	(0.00198)	(0.00195)
no_cw	0.0406	0.0121	-0.000876	-0.0155	-0.00265	0.00840	0.00442	0.000602	-0.0549*	-0.00260	0.0103
	(0.0218)	(0.0186)	(0.000629)	(0.00907)	(0.00595)	(0.00670)	(0.00271)	(0.000352)	(0.0266)	(0.00589)	(0.00580)
_cons	0.280***	0.190***	0.00216	0.0966***	0.0983***	0.0568***	0.00909	0.000906	0.216***	0.0320**	0.0176
	(0.0435)	(0.0371)	(0.00126)	(0.0181)	(0.0119)	(0.0134)	(0.00540)	(0.000702)	(0.0531)	(0.0117)	(0.0116)
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	No	No	No	No	No	No	No	No	No	No	No
N	108	108	108	108	108	108	108	108	108	108	108

Standard errors in parentheses

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

Table 11: Election period 2004-09, 2009-14, 2014-15: Partisanship in spending pattern in different sectors at State level as a function of number of close elections INC won and lost. Regressions shows the result with state fixed effects.

	(1) educ	(2) other	(3) animal	(4) drinking	(5) elec	(6) health	(7) irri	(8) non	(9) road	(10) sani	(11) sports
win	-0.00406	-0.00707	-0.000202	-0.00582*	-0.00197	-0.00112	0.000500	-0.000261*	0.0219**	-0.00135	-0.000513
	(0.00641)	(0.00546)	(0.000185)	(0.00247)	(0.00173)	(0.00197)	(0.000792)	(0.000102)	(0.00783)	(0.00173)	(0.00172)
loss	0.00853	0.00406	0.0000918	0.00833**	0.00212	0.00156	0.000518	0.000391**	-0.0270**	-0.0000906	0.00147
	(0.00739)	(0.00629)	(0.000214)	(0.00285)	(0.00200)	(0.00227)	(0.000913)	(0.000118)	(0.00903)	(0.00200)	(0.00198)
no_cw	0.0400	-0.00221	-0.000614	-0.00887	-0.0101	0.00772	0.00635	0.000273	-0.0354	-0.00643	0.00924
	(0.0275)	(0.0234)	(0.000795)	(0.0106)	(0.00742)	(0.00844)	(0.00340)	(0.000438)	(0.0336)	(0.00743)	(0.00738)
_cons	0.282***	0.207***	0.00184	0.0874***	0.107***	0.0581***	0.00676	0.00130	0.194*	0.0360**	0.0189
	(0.0475)	(0.0404)	(0.00137)	(0.0183)	(0.0128)	(0.0146)	(0.00586)	(0.000756)	(0.0580)	(0.0128)	(0.0127)
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	108	108	108	108	108	108	108	108	108	108	108

Standard errors in parentheses

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

Table 12: Election period 2004-09, 2009-14, 2014-15: Partisanship in spending pattern in different sectors at State level as a function of number of close elections INC won and lost. Regressions shows the result with state fixed effects and time fixed effects

	(1) educ	(2) other	(3) animal	(4) drinking	(5) elec	(6) health	(7) irri	(8) non	(9) road	(10) sani	(11) sports
diff	-0.00574	-0.00594	-0.000161	-0.00676**	-0.00203	-0.00129	0.000117	-0.000310**	0.0238**	-0.000811	-0.000873
	(0.00575)	(0.00489)	(0.000166)	(0.00222)	(0.00155)	(0.00176)	(0.000715)	(0.0000922)	(0.00702)	(0.00156)	(0.00154)
no_cw	0.0327	0.00271	-0.000435	-0.0130	-0.0103	0.00701	0.00469	0.0000612	-0.0271	-0.00408	0.00768
	(0.0246)	(0.0209)	(0.000711)	(0.00950)	(0.00662)	(0.00753)	(0.00306)	(0.000394)	(0.0300)	(0.00666)	(0.00659)
_cons	0.132*	0.478***	0.00672***	0.0536*	0.0214	0.0157	0.000815	0.00223*	0.0949	0.139***	0.0554***
	(0.0467)	(0.0397)	(0.00135)	(0.0181)	(0.0126)	(0.0143)	(0.00581)	(0.000749)	(0.0570)	(0.0127)	(0.0125)
State Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	108	108	108	108	108	108	108	108	108	108	108

Standard errors in parentheses

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

Table 13: Election period 2004-09, 2009-14, 2014-15: Partisanship in spending pattern in different sectors at State level as a function of difference between close elections that INC won and lost. Regressions shows the result with state fixed effects and time fixed effects

6.1 Results: Partisanship in sectors development at State level

The results in the Table 11 and Table 12 presents results for regression corresponding to equation (3.1) and Table 13 present results for regression corresponding to equation (3.2). As a reminder, I bring forth that the main estimand of interests are β_1 and β_2 in equation (3.1) and δ_1 in equation (3.2). The data used here is state level distribution of the MPLADS funds in different sectors namely, education, electricity, health, irrigation, non-conventional electricity, sports, road and infrastructure, sanitation, animal care, drinking water and other public facilities. The election period covered here are 2004-09, 2009-14 and 2014-15 (ongoing). I have taken appropriate state fixed and time fixed effects to correct for unobserved correlation across time and regions. [10]

Based on our estimation strategy, Table 11 and Table 12 shows that if INC closely wins one additional seat in any state it will decrease the expenditure in the two sectors : drinking water facilities and non-conventional energy while it will increase expenditure in road and infrastructure development. The results are similar with both the estimations strategies : equation (3.1) and (3.2). This implies that if INC observes an increase in the seat in parliament won surprisingly over all the other surprise seats lost, there will be decrease in the spending for drinking water facilities and non-conventional energy and increase for road and infrastructure development (Table 13). The range of drop in the percent of expenditure in drinking water facilities is 0.582 percent to 0.88 percent; for non conventional energy sector is 0.0226 percent to 0.031 percent and the range of increase for road development is 2.1 percent to 2.38 percent.

There is no significant effect on the rest of the sectors. However, if only sign was to consider, it is expected that the expenditure will likely decrease in all the rest of the sectors other than irrigation facilities.

[10] In the Table 11 and Table 12 win represents *close wins of* $INC_{state,t}$, loss represents *close loss of* $INC_{state,t}$ and in Table 13 diff represent the difference of the two, educ represents percent spending in education sector, other represents percent spending in other public facilities, animal represents percent spending in animal care, drinking represent percent spending in drinking water facilities, elec represents percent spending in electricity, health represents percent spending in health facilities, irri represents percent spending in irrigation facilities, non represents percent spending in non conventional energy, road represents percent spending in road and infrastructure, sani represents percent spending in sanitation facilities.

7 Robustness checks

In this section I carry out robustness checks to ensure validity of the RDD. One main assumption of RDD is that control variables are smooth across the threshold. This can be checked by two methods: one by using McCrary test which gives the visual plot of the density of the control variables over the assignment variables; and second by regression of the control variables as dependent variables in equation (1.1) and (2.1 to 2.3). The two studies are presented in the subsequent sections for both incumbency tests and partisanship in utilization of MPLADS funds.

7.1 Robustness for incumbency effect on the elections post 1998

7.1.1 McCrary test on the Incumbency effect on elections post 1998

McCrary test is a direct and intuitive test of the imprecision of control over the assignment variable. In other words it is an examination of the density of X itself across threshold, as suggested in McCrary (2008). If the density of X for each individual is continuous, then the marginal density of X over the population should be continuous as well. A presence of jump in the density at the threshold may be considered as an evidence of some degree of sorting around the thresholds due to effects other than those created by the enforcing variable "vote margin". This should provoke serious skepticism about the appropriateness of the RD design (Lee and Lumieux 2009). Figure 6 to 8 shows the result for the McCrary test on the enforcing variable and control variables for Section 5.1.2. I find that non of these variables show any discontinuity at the threshold which reinforces the results of the Table 4 for the election period after 1998.

7.1.2 Continuity of the running variable around the threshold: Incumbency effects post 1998

As a continuation of the McCrary test, I have also conducted the regression of all the running variables as a function of the INC winning in the previous election (corresponding to equation 1.1 and Section 5.1.2), to see if there is any significant effect on this running variables when INC won closely. A significant coefficient will call for further checks to establish the validity of the RDD results of Table 4 for the election period after 1998.

Table 14 [11] shows that non of the enforcing variables : vote margin, vote margin square and vote margin cube have any discontinuity at the point where INC won closely. This further establishes the possibility that INC is likely to loose in the subsequent period $t+1$, if it already holds a position in current election t. after the election period of 1998.

	(1)	(2)	(3)
	vm	vm2	vm3
score_inc	-0.000793	-0.0000394	-0.00000154
	(0.00150)	(0.0000738)	(0.00000338)
Time fixed effects	Yes	Yes	Yes
State fixed effects	Yes	Yes	Yes
_cons	0.0237***	0.000677*	0.0000213
	(0.00578)	(0.000284)	(0.0000130)
N	352	352	352

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 14: RDD analysis to study the incumbency effect in running variables for election period after 1998.

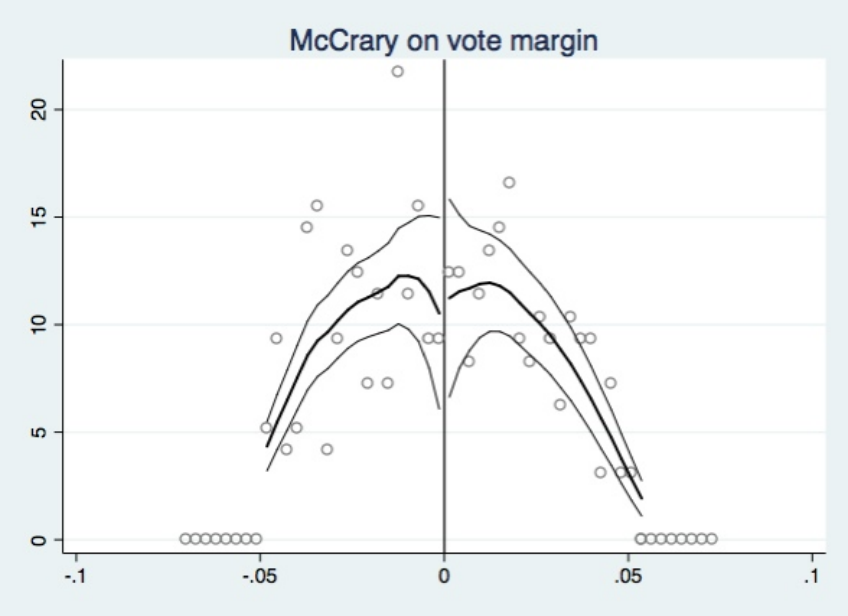

Figure 6: McCrary test on Vote Margin for Incumbency effect. Absence of discontinuity at the threshold reinforces the results of the Table 4 for the election period after 1998.

[11] vm is the vote margin, vm2 is vote margin squared and vm3 is vote margin cubed

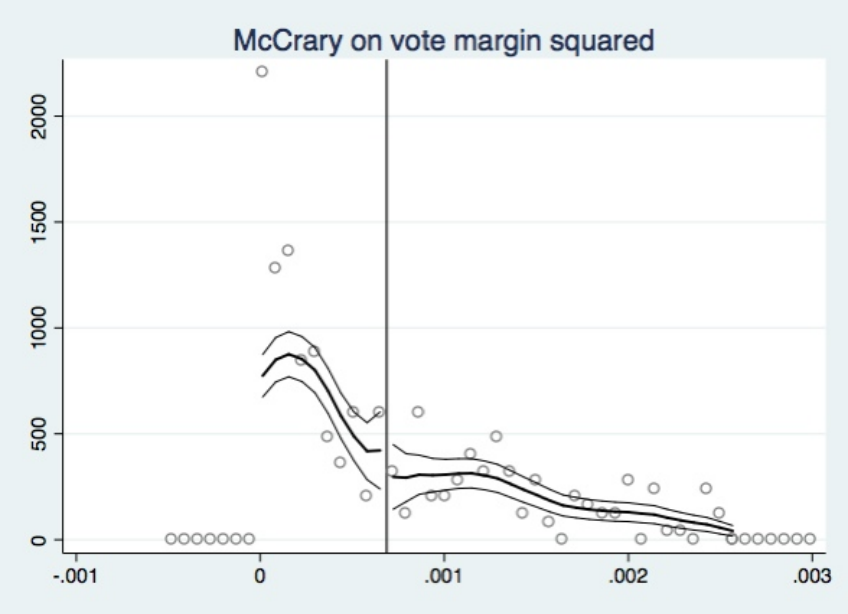

Figure 7: McCrary test on Vote Margin Squared for Incumbency effect. Absence of discontinuity at the threshold reinforces the results of the Table 4 for the election period after 1998.

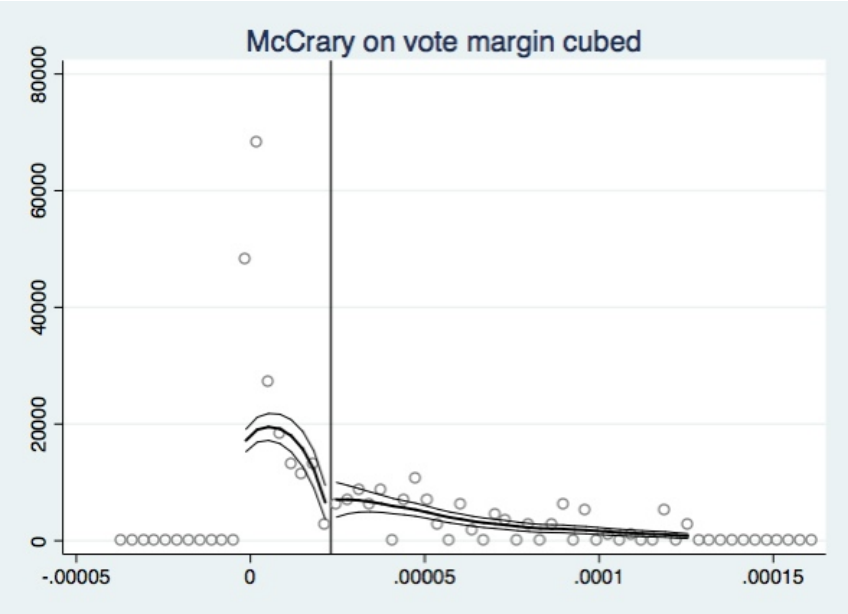

Figure 8: McCrary test on Vote Margin Cube for Incumbency effect. Absence of discontinuity at the threshold reinforces the results of the Table 4 for the election period after 1998.

7.2 Robustness check for the partisanship in utilization

7.2.1 McCrary test on running variables

I conducted the McCrary test for all the running variables, namely, vote margin, vote margin squared, interaction of vote margin and vote margin squared with D_{INC}, log of electorates (the proxy variable of population), gender and age of the MPs. The results are presented in the Figure 9 to 15 corresponding to findings in Section 5.2. I do not find any significant discontinuity at the threshold for any of these running variables, which cancels any skepticism about the appropriateness of the RD design and thus reinforcing my results of significant difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6).

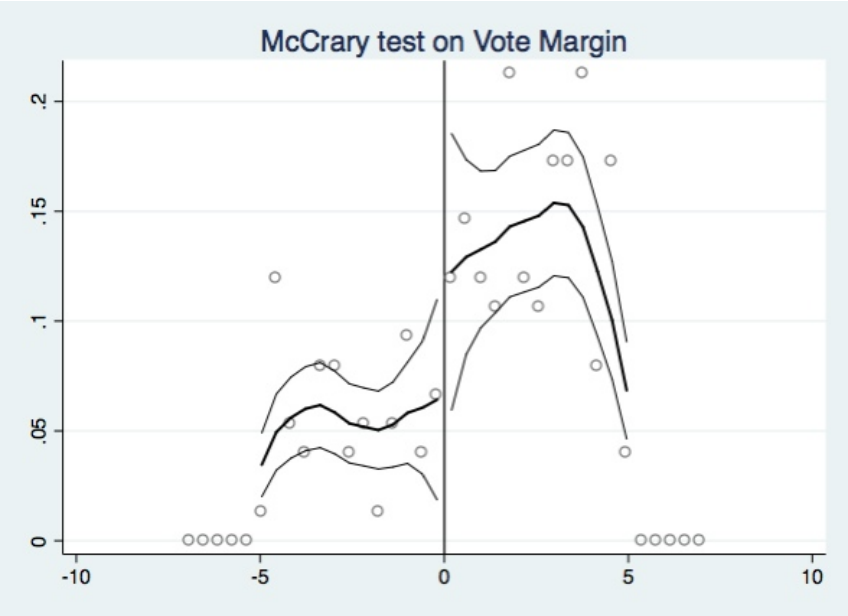

Figure 9: McCrary test on Vote Margin for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

7.2.2 Continuity of the running variable around the threshold: Partisan in utilization

As a continuation of the McCrary test, I have also conducted the regression of all the running variables over the D_{INC} to see if there is any significant effect on this running variables when the constituencies representation to the parliament change from a different

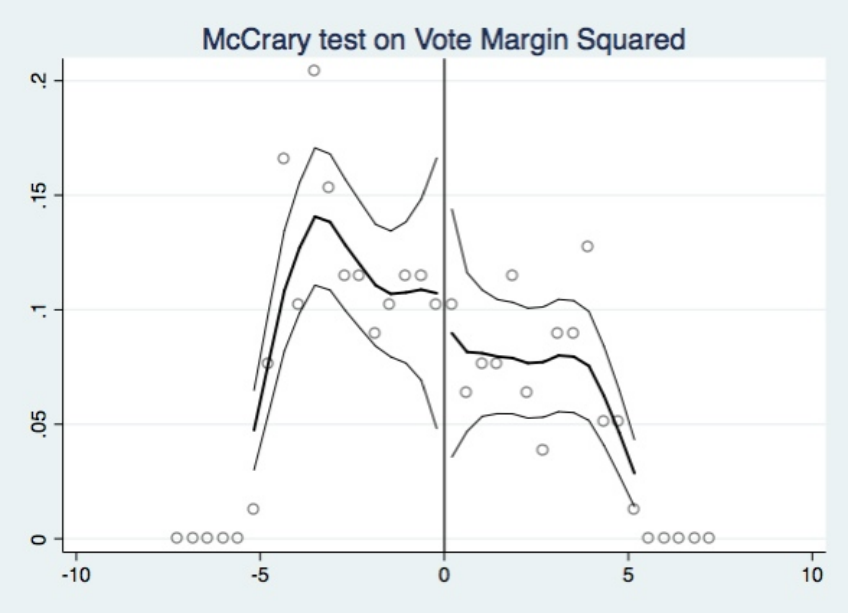

Figure 10: McCrary test on Vote Margin Squared for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

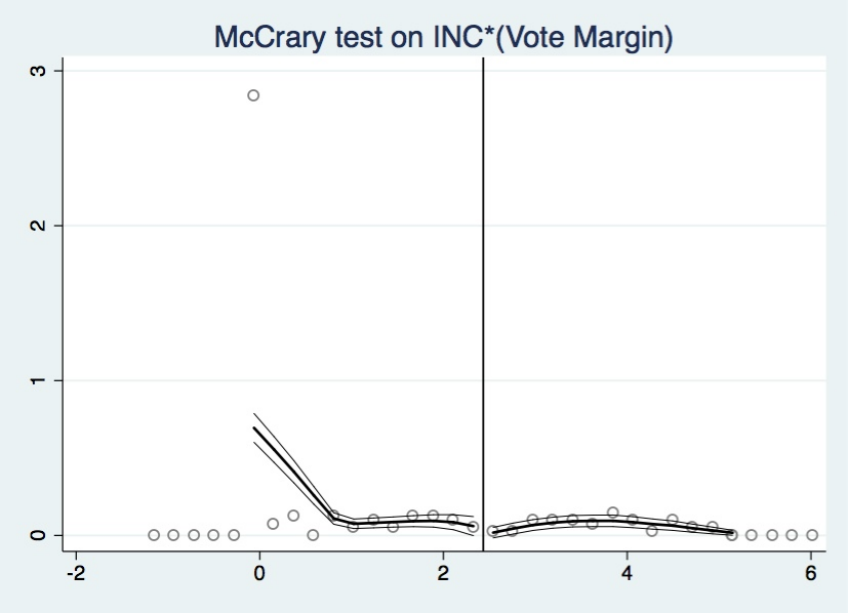

Figure 11: McCrary test on Vote Margin*D_{INC} for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

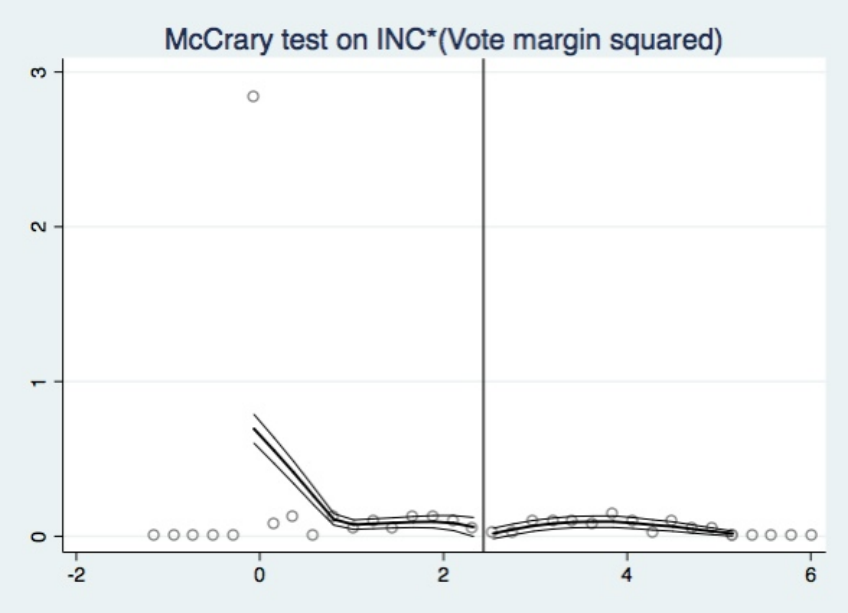

Figure 12: McCrary test on Vote Margin Squared*D_{INC} for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

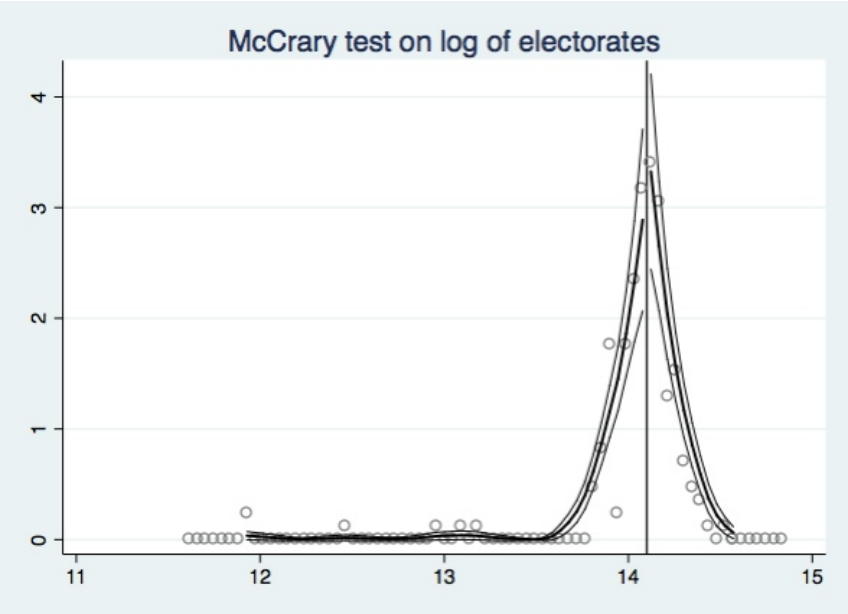

Figure 13: McCrary test on log of electorates for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

Figure 14: McCrary test on age of MPs for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

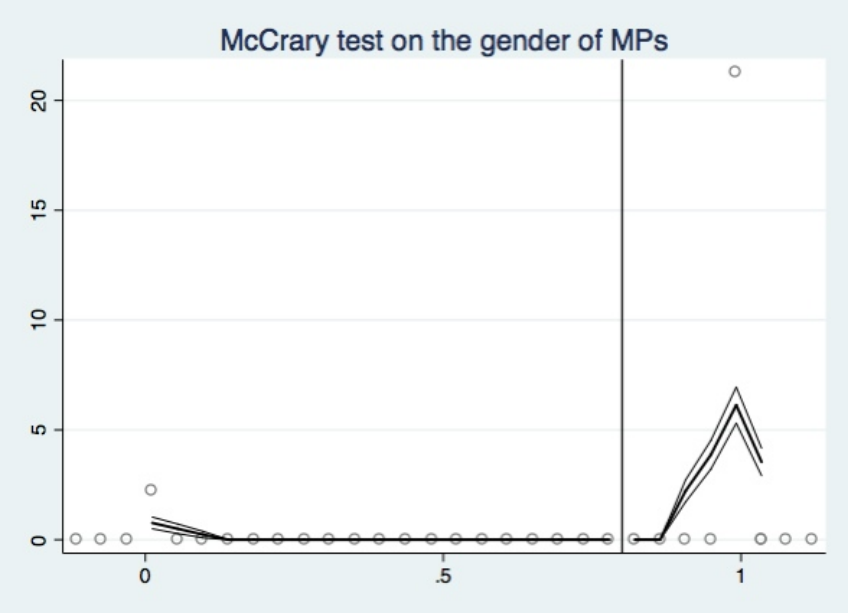

Figure 15: McCrary test on gender for partisanship in utilization. Absence of discontinuity at the threshold reinforces the difference in the utilization of MPLADs funds between INC winning constituencies and INC loosing constituencies (Table 5 and Table 6)

party to INC. A significant coefficient will call for further checks to establish the validity of the RDD results of Table 6 in Section 5.2.

The results are presented in Table 15. I observe that non of the running variables out of vote margin, vote margin squared, interaction of vote margin and vote margin squared with D_{INC}, log of electorates (the proxy variable of population), and gender , have significant coefficient for D_{INC} except for age of the MPs. However, age of the MPs is not a major threat for two main reasons: first, McCrary test doesn't show any jump at the threshold value and second there is no reason to believe that a more aged person will be better able to utilize the funds. As also observed in Column 2 of Table 6 where age of MPs is not taken as control variables, utilization is significantly different for constituencies where INC won marginally. I also present the regression results of Column 3 Table 6 of RDD with all the control variables but the age of MPs in the Section 7.2.3 for re-validating the results.

7.2.3 Correction for age-effects

In this section, I am revalidating the difference in utilization of MPLADS funds among the constituencies where INC won marginally vs. where INC lost marginally. This is required because in the section 7.2.2, the control variable 'age of the MPs' is found to be significantly different for INCs and other parties. Even though there is no reason to believe that a more aged person will be better able to utilize the funds, I am revalidating the results in Column 3 of Table 6 without MPs' age but with other control variables.

Table 16 presents the result corresponding to equation (2.3). Column 1 and 3 are the results using age of MPs as control variables and column 2 and 4 are the results when age of MPs is not taken as a control variables. I observe that even without taking age of MPs as the control variable, the difference in the utilization is significant and high at 9.17 percent. Thus, the results presented in Table 6 is validated.

	(1) vm	(2) vmsq	(3) sex2	(4) logelectors	(5) mp_age
score_inc	-0.251	0.202	0.206	0.0205	10.70**
	(0.316)	(0.685)	(0.154)	(0.0460)	(3.514)
_cons	2.030***	-1.151	0.811***	13.19***	56.68***
	(1.30e-13)	(0.840)	(0.0883)	(0.0361)	(4.596)
Vote Margin & Squared & Interaction	No	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes
N	131	131	131	131	131

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 15: Election period 2009-14: RDD analysis to study the partisanship in running variables. In this table, the regressions are clustered at state levels. In addition, this analysis presents the expenditure at the end of 5 years periods.

Mode	Non-clustered SE		Clustered SE	
	(1) utilization	(2) utilization	(3) utilization	(4) utilization
score_inc	0.105**	0.0917*	0.105*	0.0917*
	(0.0381)	(0.0366)	(0.0396)	(0.0418)
mp_age	-0.00126		-0.00126	
	(0.00101)		(0.00121)	
_cons	1.065	0.919	1.065**	0.919*
	(0.652)	(0.643)	(0.362)	(0.366)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes
State fixed effect	Yes	Yes	Yes	Yes
All other control variables	Yes	Yes	Yes	Yes
Clustering State Level	Yes	Yes	Yes	Yes
N	131	131	131	131

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 16: Election period 2009-14: RDD analysis to study the partisanship in utilization. In this table, the regressions are clustered at state levels in Column 3 and 4. In addition, this analysis presents the utilization at the end of 5 years periods.

8 Conclusion

I find that there is a possibility that post 1998 INC is likely to loose in the subsequent period $t+1$, if it already holds a position in current election t . At the same time, I find that there is a presence of significant positive difference in the utilization of the MPLADS funds in the election period of 2009-14. This difference in utilization is significant even when there is no significant differences in the amount released or approved by the government for the projects. I explain these results using median voters theory. Given a disadvantaged position of INC in the subsequent election $t+1$ due to holding office in current elections t and under assumption of complete information of such an effect, INC may be trying to influence the votes of median voters through increased contributions to their constituencies. The other potential reason behind increased utilization could be due to increased motivation from the second term in the government (following 2004-09 election period). This is true under the assumption that state fixed effects completely controls for the differential treatment of the district and implementing authorities, (which I have reasons to believe as the amount released or approved by the government for the projects does not show any significant difference at party levels).

In addition I find that there is a partisanship present in the development of sectors at state level. INC has shown a lower contribution in the drinking water facilities and non-conventional energy while higher investment in road and infrastructure. The presence of this partisanship can be explained by different theories documented in the literature. First, political parties in India may follow taste based mechanism, and they cannot credibly commit to moderate policies. Second, there can be difficulty for spatial sorting into specific types of communities in Indian economy, as highlighted by Charles Tiebout (1956). States are less homogenous in India and low skilled labors are less mobile due to limited labor market accessibility and language barriers between states, setting up the space for diverging policies. Third, different regions may have different preferences for political parties, and different policy requirements, thus political parties may have diverging policy outcomes catering to their specific regions. Fourth, political parties may care for median voters but they may have incomplete information on voters' policies preferences. If India is witnessing an absence of taste-based mechanism followed by parties, a possibility of a spatial sorting, a presence of incomplete information, an absence of region specific

preferences for political parties and under the assumption that the state fixed effects and time fixed effects completely controls for the differences between states, this reflects that if the median voters care more about the drinking water facilities and non-conventional energy and comparatively less for road and infrastructure, INC is likely to fail in securing the votes from median voters for winning. This may be one, although small (compared to corruption) but yet critical, reason for INC going out of power in 2014 or in previous periods which witnessed dramatic losses for INC.

I also highlight the fact, that while the results on disadvantaged position of INC in subsequent elections $t+1$ due to holding office in current election t and utilization differences is conclusive as it is based on regression discontinuity design and follows the latest literature available in the field, the partisanship in the development of sectors, which is obtained from an OLS regression of state level spending in different sectors as a function of number of close wins and close losses of INC in the particular state, is only indicative. The methodology, however, is a noble contribution to the literature to solve the limitation of my data. The RDD analysis could not be performed in this dimension because of the absence of the data of expenditure in different constituencies of India. However, I have tried to perform a RDD on the imputed data (data extrapolated to constituency level using state level distribution) and the results is presented in Appendix 2 under the heading "Potential Partisanship in the preferences for sectors' development". My main conclusion is that there is partisanship present in the development of drinking water facilities and roads and infrastructure at minimum as these two sectors are common between the two methods of analysis. However, the direction of partisanship will be as obtained in the state level partisanship due to the limitation of the data at the constituency level partisanship study. The results presented in Appendix 2 are to be read as only a potential partisanship which could be further verified by collection of the original data by invoking the Right to Information Act through an Indian citizen.

9 Bibliography

- Alesina, Alberto (1988). Credibility and Policy Convergence in a Two-Party System with Rational Voters,? American Economic Review, 78(4): 796-805.

- Alesina, Alberto, and Howard Rosenthal, "Partisan Cycles in Congressional Elections and the Macroeconomy," American Political Science Review, 83 (1989), 373–398.
- Alfrod, John R. and John R. Hibbing. (1981) "Increased Incumbency Advantage in the House," The Journal of Politics. 43(4): 1042-1061.
- Angrist, J. D., & Pischke, J. (2009). Mostly harmless econometrics: An empiricist's companion. Princeton: Princeton University Press.
- Banerjee, Abhijit, and Rohini Somanathan (2007). ?The Political Economy of Public Goods: Some Evidence from India?, Journal of Development Economics, 82: 287-314.
- Bardhan, Pranab, and Dilip Mookherjee (2011). ?Political Clientelism and Capture: Theory and Evidence from West Bengal,? Working Paper.
- Bardhan, Pranab, and Dilip Mookherjee (2010). ?Determinants of Redistributive Politics: An Empirical Analysis of Land Reforms in West Bengal, India,? American Economic Review, 100(4): 1572-1600.
- Besley, Timothy, and Stephen Coate, "An Economic Model of Representative Democracy," Quarterly Journal of Economics, 112 (1997), 85–114.
- Besley, Timothy, and Anne Case. 2003. "Political Institutions and Policy Choices: Evidence from the United States ." Journal of Economic Literature, 41(1): 7-73.
- Bhalotra, S. R., I. Clots-Figueras, and L. Iyer (2013). Path-Breakers: How Does Women?s Political Participation Respond to Electoral Success?". Working Paper. IZA Discussion Paper 7771, Institute for the Study of Labor (IZA).
- Bhalotra, Sonia & Clots-Figueras, Irma & Cassan, Guilhem & Iyer, Lakshmi, 2014. "Religion, politician identity and development outcomes: Evidence from India," Journal of Economic Behavior & Organization, Elsevier, vol. 104(C), pages 4-17
- Blakeslee, D. 2013,. Propaganda and Ethno-Religious Politics in Developing Countries: Evidence from India. Working Paper, Columbia University. (Unpublished)

- Collie, Melissa P. (1981) "Incumbency, Electoral Safety, and Turnover in the House of Representatives, 1952-1976," The American Political Science Review. 75(1): 119-131

- Downs, Anthony (1957). An Economic Theory of Democracy. Harper Collins, New York.

- Elvidge, Christopher D., Jeffrey Safran, Benjamin Tuttle, Paul Sutton and Pierantonio Cinzano, et al. 2007. ?Potential for Global Mapping of Development via a Nightsat Mission.? GeoJournal, 69: 45?53.

- Fernando Ferreira & Joseph Gyourko, 2009. "Do Political Parties Matter? Evidence from U.S. Cities-super-," The Quarterly Journal of Economics, MIT Press, vol. 124(1), pages 399-422, February

- Garand, James C. and Donald A. Gross (1984) "Changes in the Vote Margins for Congressional Candidates: A Specification of Historical Trends," The American Political Science Review. 78(1): 17-30.

- Glaeser, Edward, Giacomo Ponzetto, and Jesse Shapiro, "Strategic Extremism: Why Republicans and Democrats Divide on Religious Values," Quarterly Journal of Economics, 120 (2005), 1283–1330.

- Hotelling, Harold, "Stability in Competition," Economic Journal, 39, (1929), 41–57

- Iyer L. and M. Reddy 2013. Redrawing the Lines: Did Political Incumbents Influence Electoral Redistricting in the World?s Largest Democracy. Working Paper 14-051, Harvard Business School.

- Iyer, Lakshmi, Anandi Mani, Prachi Mishra and Petia Topalova. 2012. ?The Power of Political Voice: Women's Political Representation and Crime in India.? American Economic Journal: Applied Economics 4(4): 165-193.

- Jha, S., 2012. Trade, Institutions and Ethnic Tolerance: Evidence from South Asia. American Political Science Review, November 2012.

- Keefer P. and Khemani S (2009), Political Economy of Infrastructure Spending in India American Political Science Review 103, 99

- Lee, D., & Lemieux, T. (2009). Regression Discontinuity Designs in Economics. National Bureau of ECONOMIC RESEARCH. doi:10.3386/w14723

- Lee, David S., Enrico Moretti, and Matthew J. Butler (2004). ?Do voters Affect or Elect Policies? Evidence from the U. S. House,? Quarterly Journal of Economics, 119(3): 807-859.

- Lee, David (2001). "The Electoral Advantage to Incumbency and Voters' Valuation of Politicians' Experience: A Regression Discontinuity Analysis of Elections to the U.S. House," NBER Working Paper 8441.

- L. L., Linden. (2004). Are Incumbents Really Advantaged? The Preference for Non-Incumbents in Indian National Elections. Retrieved 2004, from http://www.leighlinden.com/Incumbency Disad.pdf (Unpublished)

- McCrary, J. (2008). Manipulation of the running variable in the regression discontinuity design: A density test. Journal of Econometrics, 142(2), 698-714. Chicago

- McMillan, Alistair. 2010. ?The Election Commission.? In Niraja Gopal Jayal and Pratab Bhanu Mehta, eds., The Oxford Companion to Politics in India. Oxford University Press.

- Miguel, Edward, and Farhan Zaidi (2003). ?Do Politicians Reward their Supporters? Regression Discontinuity Evidence from Ghana,? UC Berkeley Mimeo.

- Saxena, N.C. (2007). ?Rural Poverty Reduction Through Centrally Sponsored Schemes,? Indian Journal of Medical Research, 126: 381-389.

- Tshangana, A. (2010). Constituency Development Funds: Scoping Paper. International Budget Partnership.

- Vaishnav, M., & Sircar, N. (2011). Core or Swing? The Role of Electoral Context in Shaping Pork Barrel. Working Paper.

- Wilkinson, S., 2004. Votes and violence: electoral competition and ethnic riots in India. Cambridge studies in comparative politics, Cambridge: Cambridge University Press.

- Wilkinson, Steven I. (2006). ?The Politics of Infrastructural Spending in India,? Typescript. University of Chicago.

- Wittman, Donald A. (1973). ?Parties as Utility Maximizers,? American Political Science Review, 67(2): 490-498.

10 Appendix

10.1 Appendix 1: Panel data analysis on size of government

In this section I try to work around the problem of small sample in section 5.2. I collected the year wise utilization and received amount data for the 5 years between 2009 and 2014 and constructed a panel regressions. The results are presented in Table 17 and Table 18. The no significant difference obtained here in the utilization percent for INC winners and loosers is not surprising. On the contrary, it is expected for two main reason. First, as already described in the literature review section that the role of MP is restricted to allocation of the funds to projects as per his/her best judgment of the needs of constituencies. The implementation is largely the responsibility of the district authority. Thus it is expected that there will be delay in implementation by the district authority, and more often the lag can lead to implementation across different time periods. Hence year-wise expenditure data is not a good representation on the overall performances of the MPs. The utilization, by nature of the scheme, will vary considerably over the years and most projects will be implemented during the last years of the tenure of the MPs. This will create a downward bias in the effect of party-representation. Second, RDD with this type of panel is not very effective because there is one random event and the outcome is recorded over time. Lee and Lemiux 2009 highlights that the RD design will be embedded in a panel context, whereby period by period, the treatment variable is determined according to the realization of the assignment variable X. Thus, among the two options on panel data on RDD and small sample, the results are more robust for the non-panel small sample in Section 5.2. Again as noted before, small sample would have been a threat in case there was no statistical significance estimate associated with D_{INC} in OLS of Column 4 to 6 in Table 5 and Table 6.

	(1) utilization2yfinal	(2) utilization2yfinal	(3) utilization2yfinal	(4) received2yfinal	(5) received2yfinal	(6) received2yfinal
score_inc	-0.543	-1.764	-1.578	-2.655	11.00	2.503
	(0.456)	(1.336)	(1.373)	(2.317)	(6.777)	(6.088)
_cons	1.473	3.113	-1.631	74.62***	61.88***	1197.9***
	(2.435)	(2.713)	(19.53)	(12.47)	(13.85)	(87.05)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes
Clustering State Level	No	No	No	No	No	No
N	645	645	645	655	655	655

Standard errors in parentheses

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

Table 17: Election period 2009-14 year-wise data: Utilization of MPLADS fund as a function of political party (Standard errors are not Clustered). Column 1 to 3 are results of regression discontinuity design on utilization; while Column 4 to 6 are results of regression discontinuity design on yearly utilized amount.

	(1) utilization2yfinal	(2) utilization2yfinal	(3) utilization2yfinal	(4) received2yfinal	(5) received2yfinal	(6) received2yfinal
score_inc	-0.543	-1.764	-1.578	-2.655	11.00	2.503
	(0.572)	(2.254)	(2.045)	(4.658)	(7.558)	(3.482)
_cons	1.473**	3.113	-1.631	74.62***	61.88***	1197.9***
	(0.475)	(1.824)	(7.291)	(5.675)	(7.103)	(224.7)
Vote Margin & Squared & Interaction	No	Yes	Yes	No	Yes	Yes
State fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Time fixed effects	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	No	No	Yes	No	No	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes
N	645	645	645	655	655	655

Standard errors in parentheses

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

Table 18: Election period 2009-14 year-wise data: Utilization of MPLADS fund as a function of political party (Standard errors are Clustered). Column 1 to 3 are results of regression discontinuity design on utilization; while Column 4 to 6 are results of regression discontinuity design on yearly utilized amount.

10.2 Appendix 2: Potential Partisanship in preference for sectors' developments at constituency level

In this section, I have tried to study the partisanship in expenditure in different sectors using imputed data at constituencies level. As discussed before, MPLADS scheme defines use of the funds in eleven priority sectors only. These sectors are education, electricity, health, irrigation, non-conventional electricity, sports, road and infrastructure, sanitation, animal care, drinking water and other public facilities. The regression design set up is as follows:

$$outcome_i = \alpha_i + \beta_1 D_{INC} + \beta_2 VM + \beta_3 VM^2 + \beta_4 (VM * D_{INC}) + \beta_5 (VM^2 * D_{INC}) + \beta_m X_m + \epsilon_i \quad ....(9.1)$$

$$outcome_i = \alpha_i + \beta_1 D_{INC} + \beta_2 VM + \beta_3 VM^2 + \beta_4 (VM * D_{INC}) + \beta_5 (VM^2 * D_{INC}) + \beta_m X_m + \gamma_s + \epsilon_i \quad ....(9.2)$$

The outcome variables are the expenditure per electorates votes for each of the sectors mentioned above. The results are presented in Table 19 to Table 26. Table 19, 21, 23 and 25 are the results when I have not clustered the data at state levels, whereas Table 20, 22, 24 and 26 are the results of the regression when I clustered at state levels. The analysis is conducted in two parts. The first part explains our motivations (in Table 19 to 22) and second parts brings the main results (in Table 23 to 26). The main difference between the two parts is that the first part does not have state fixed effects and is represented in equation (9.1) while the second part uses state fixed effects and is represented in equation (9.2). Further the data used is of two types, yearwise during 5 years and at the end of the 5 years term period respectively.

I have carried out the analysis in two parts because of the nature of the data. This data is not available and have been imputed using the state level percent of the expenditure split in different sectors on the MPs' expenditure at constituency level. In other words, all the MPs in one state are expected to atleast spend on an average the same percent as that of the state level distribution. This is an approximation and hence the analysis is only indicative and not conclusive. As expected, using state fixed effects should remove any effects observed in regression without state fixed effects because each MP belonging to same state has same percent splits. Thus, the final results with state fixed effects has also been presented. Further because clustering helps to correct for variation within states, I prefer the results of the clustered regressions over non-clustered regressions. It is worth noting here, as mentioned by Lee and Lemiux 2009, RDD with panel is only applicable if each year had an enforcing event, which in our case is the marginal winning or loosing of the office in parliament and by default, it cannot be presented for each year; hence I

prefer the results from aggregate level (based on end of the term) more over year wise level, despite higher precision (due to larger sample) of the year wise.

Based on the first part of our analysis where state fixed effects are ignored for the moment my main conclusion is as follows. It is possible that constituencies where INC won marginally will lead to higher expenditure in the education sector compared constituencies where INC lost marginally. The difference is significant in both clustered and non-clustered regressions of the aggregate expenditure and also in the non-clustered year-wise data (Table 19 to 21). The difference is positive but non-significant in regression of year wise data when clustered as state levels (Table 22). Considering only Table 21 where I use year wise data and do not cluster the standard errors at state level, I observe that other than education sector, an INC represented constituencies may also expect a higher expenditure in health services, irrigation facilities, sports while a lower expenditure in road and infrastructure and drinking facilities. The difference is significant for all of these sectors, however, the effect goes away when the regressions are clustered at state level. As already mentioned, all of these effect goes away with the introduction of state fixed effects and hence the results are to be considered only indicative. A solution to understand the actual situation is to obtain the original data by invoking the Right to Information Act which is both time consuming and costly; hence is considered beyond the scope of the study.

The results based on Table 21 are depicted in Figure 16 to Figure 21. Some of the outliers have been removed for contribution of the graphs. However, these outliers have been considered for regression. Again, these are only indicative results as the data is mainly imputed using state level distribution of sector. One of the results are similar between the Section 6 and Appendix 2 whereas other result is contradictory here. I observe a decline in the drinking facilities sector in both these analysis. On the other hand there is an increase in investment in the road and infrastructure sector in the state level partisanship in sectors development while a decline in investment in the road and infrastructure sector in the constituency level partisanship in sectors development. Again, I emphasize that based on the empirical strategy and considering the limitation of data at constituency level, the main results are still those presented in Section 6. The results presented here is to be read as a potential partisanship which could be further verified by collection of the original data by invoking the Right to Information Act through an Indian citizen.

Figure 16 to Figure 21 : Explaining potential partisanship in different sectors based on the predicted values of regression of year-wise data without state fixed effects and clustering. Since, the data is imputed using the state level distribution of expenditure across the sectors, these figures are only indicative

and not conclusive. The actual conclusions can be made using real data set accessible through Right to Information Act which is both time consuming and costly; hence is considered beyond the scope of the study.

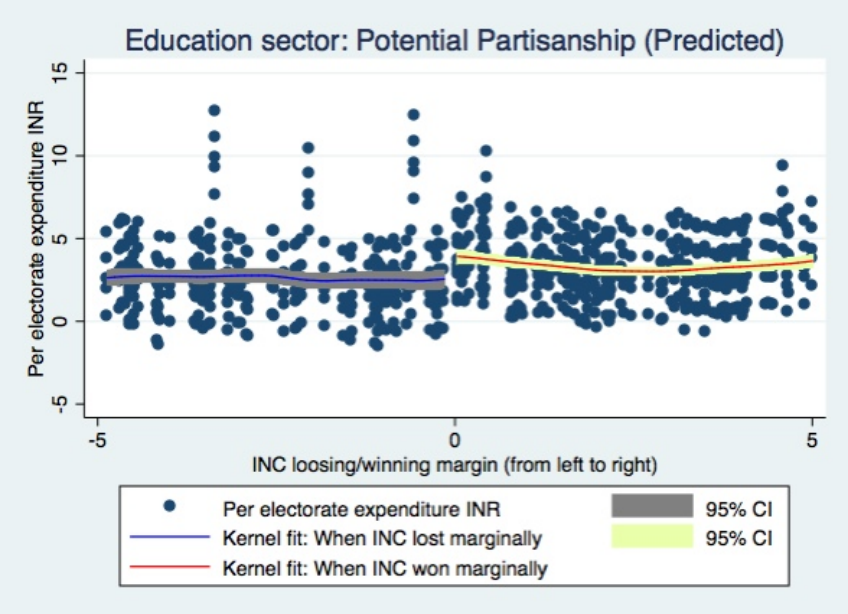

Figure 16: Potential Partisanship in Education sector

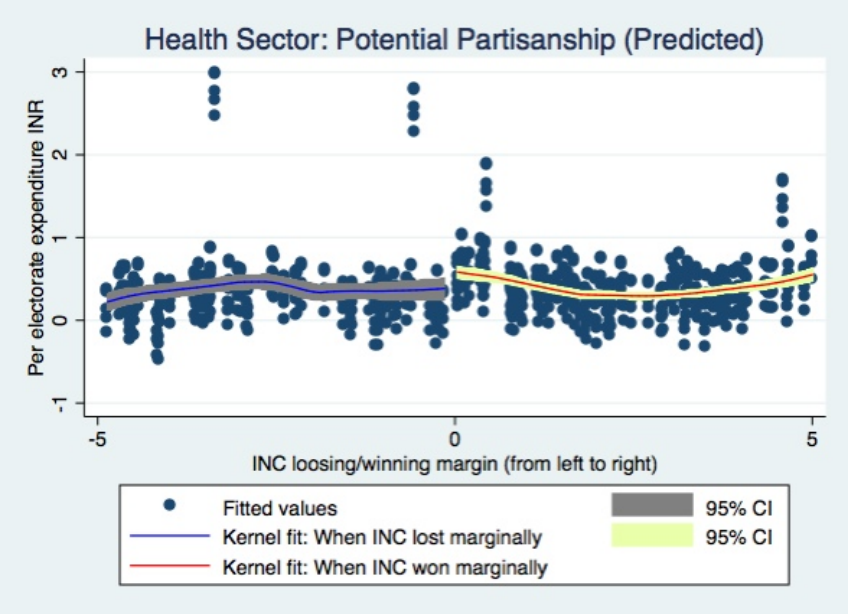

Figure 17: Potential Partisanship in Health sector

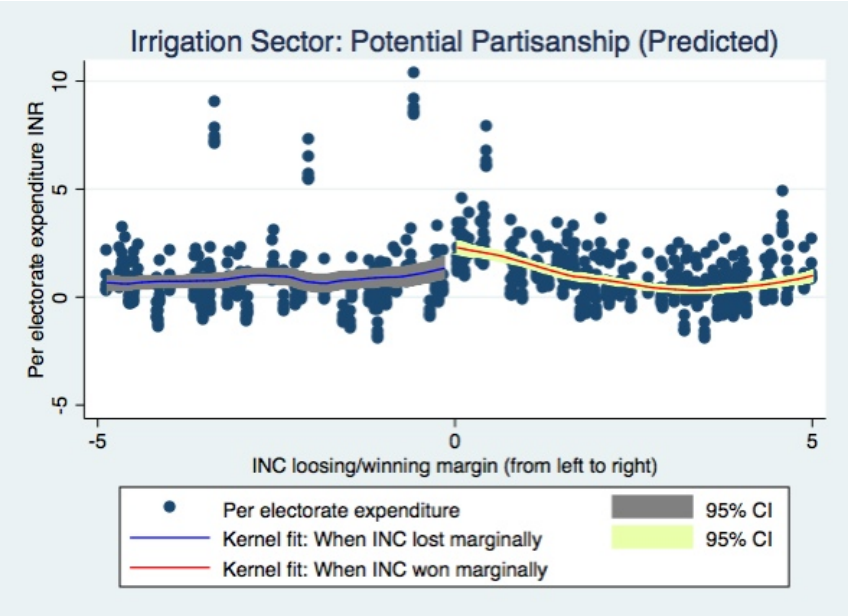

Figure 18: Potential Partisanship in Irrigation sector

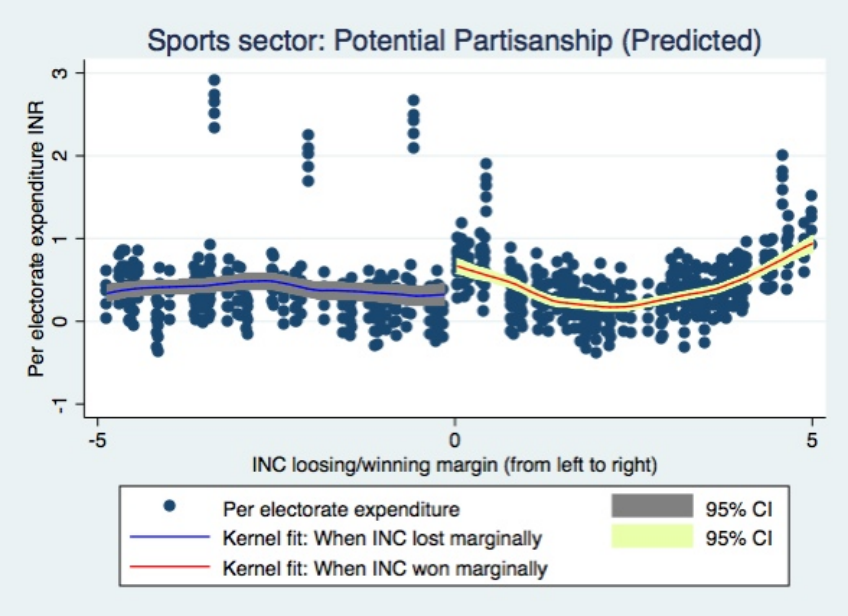

Figure 19: Potential Partisanship in Sports sector

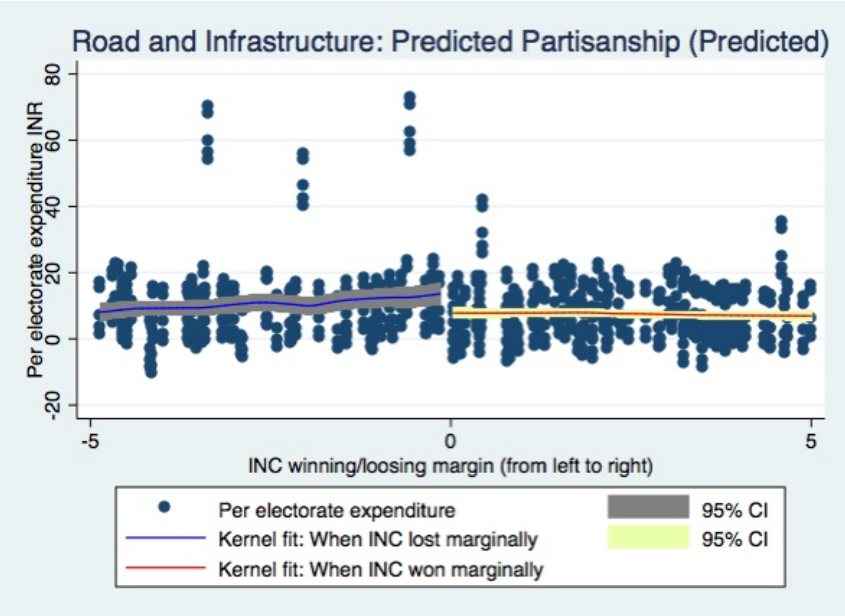

Figure 20: Potential Partisanship in Roads and Infrastructure sector

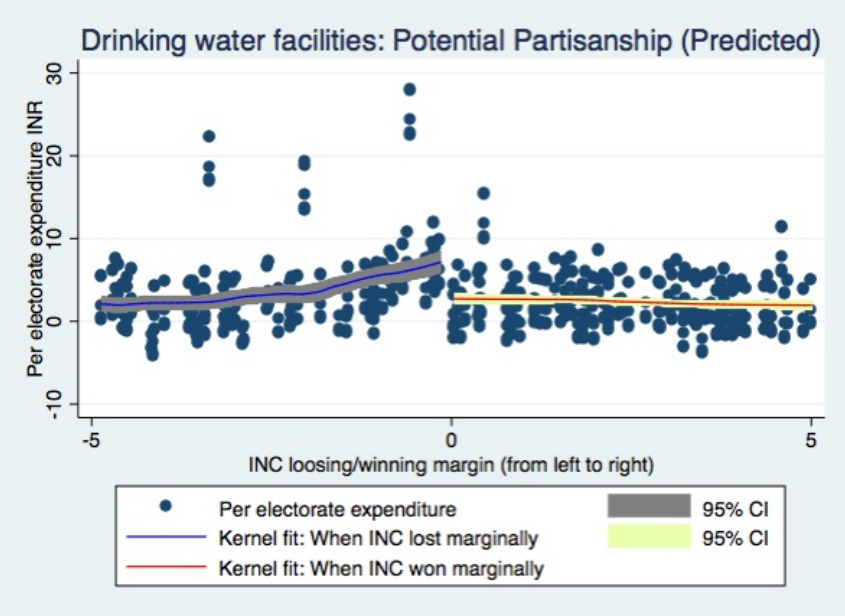

Figure 21: Potential Partisanship in Drinking water facilities

	(1) educ2f	(2) elec2f	(3) health2f	(4) irri2f	(5) non2f	(6) sports2f	(7) road2f	(8) sani2f	(9) ani2f	(10) drinking2f	(11) other2f
score_inc	10.53*	1.726	3.513	0.691	0.148	3.303	-27.96	-0.0421	0.415	-41.23	-8.253
	(4.515)	(88.13)	(4.251)	(4.761)	(0.107)	(1.974)	(17.19)	(5.486)	(0.326)	(20.89)	(6210.9)
_cons	291.3***	332.7	191.5***	339.6***	3.480***	84.41***	1807.3***	454.2***	8.139***	1109.5***	11144.8
	(30.25)	(590.3)	(28.48)	(31.89)	(0.717)	(13.22)	(115.1)	(36.75)	(2.186)	(139.9)	(41604.6)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	No	No	No	No	No	No	No	No	No
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	No	No	No	No	No	No	No	No	No	No	No
N	131	131	131	131	131	131	131	131	131	131	131

Standard errors in parentheses

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

Table 19: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions does not control for state-fixed effects and are also not clustered at state levels. In addition, this analysis presents the expenditure at the end of 5 years periods.

	(1) educ2f	(2) elec2f	(3) health2f	(4) irri2f	(5) non2f	(6) sports2f	(7) road2f	(8) sani2f	(9) ani2f	(10) drinking2f	(11) other2f
score_inc	10.53**	1.726	3.513	0.691	0.148	3.303	-27.96	-0.0421	0.415	-41.23	-8.253
	(3.430)	(13.54)	(2.998)	(7.187)	(0.0805)	(2.013)	(23.70)	(3.960)	(0.204)	(34.34)	(886.1)
_cons	291.3***	332.7	191.5	339.6**	3.480	84.41*	1807.3***	454.2**	8.139	1109.5	11144.8
	(69.16)	(264.2)	(117.4)	(118.2)	(2.408)	(39.86)	(421.3)	(142.6)	(5.940)	(766.9)	(12403.0)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	No	No	No	No	No	No	No	No	No
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	131	131	131	131	131	131	131	131	131	131	131

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 20: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions does not control for state-fixed effects but are clustered at state levels. In addition, this analysis presents the expenditure at the end of 5 years periods.

	(1) educ2y	(2) elec2y	(3) health2y	(4) irri2y	(5) non2y	(6) sports2y	(7) road2y	(8) sani2y	(9) animal2y	(10) drink2y	(11) other2y
score_inc	1.945**	-0.473	0.436**	2.188**	-0.0711	0.572**	-7.244*	0.592	0.00580	-4.982*	2.627
	(0.737)	(0.468)	(0.154)	(0.777)	(0.151)	(0.203)	(3.685)	(0.713)	(0.171)	(2.154)	(1.993)
_cons	53.08***	38.91***	15.48***	55.28***	-0.0494	14.55***	372.5***	70.31***	-0.400	134.8***	197.4***
	(4.943)	(3.134)	(1.031)	(5.211)	(1.014)	(1.363)	(24.70)	(4.781)	(1.144)	(14.44)	(13.36)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	No	No	No	No	No	No	No	No	No
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	No	No	No	No	No	No	No	No	No	No	No
N	655	655	655	655	655	655	655	655	655	655	655

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 21: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions does not control for state-fixed effects and are also not clustered at state levels. In addition, this analysis presents the expenditure year-by year during the 5 years periods.

	(1) educ2y	(2) elec2y	(3) health2y	(4) irri2y	(5) non2y	(6) sports2y	(7) road2y	(8) sani2y	(9) animal2y	(10) drink2y	(11) other2y
score_inc	1.945	-0.473	0.436	2.188	-0.0711	0.572	-7.244	0.592	0.00580	-4.982	2.627
	(1.104)	(0.425)	(0.253)	(2.322)	(0.0906)	(0.381)	(5.357)	(0.709)	(0.102)	(4.135)	(3.130)
_cons	53.08**	38.91**	15.48**	55.28*	-0.0494	14.55**	372.5**	70.31	-0.400	134.8	197.4**
	(16.21)	(12.70)	(4.778)	(25.53)	(0.617)	(4.422)	(126.7)	(37.16)	(0.905)	(92.08)	(53.65)
Vote Margin & Squared & Interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	No	No	No	No	No	No	No	No	No	No	No
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	655	655	655	655	655	655	655	655	655	655	655

Standard errors in parentheses

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

Table 22: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions does not control for state-fixed effects but are clustered at state levels. In addition, this analysis presents the expenditure year-by year during the 5 years periods.

	(1) educ2f	(2) elec2f	(3) health2f	(4) irri2f	(5) non2f	(6) sports2f	(7) road2f	(8) sani2f	(9) ani2f	(10) drinking2f	(11) other2f
score_inc	2.362	4.360	0.157	0.544	-0.00793	0.207	3.380	-0.173	0.0820	1.194	332.0
	(1.744)	(98.65)	(0.560)	(0.595)	(0.0371)	(0.269)	(6.690)	(2.644)	(0.0460)	(1.199)	(6963.3)
_cons	262.4***	908.5	98.69***	192.9***	6.815***	52.34***	1695.2***	611.8***	5.576***	644.2***	39481.5
	(21.14)	(1195.7)	(6.787)	(7.211)	(0.450)	(3.258)	(81.09)	(32.05)	(0.557)	(14.54)	(84395.7)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	No	No	No	No	No	No	No	No	No	No	No
N	131	131	131	131	131	131	131	131	131	131	131

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 23: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions control for state-fixed effects but are not clustered at state levels. In addition, this analysis presents the expenditure at the end of the 5 years periods.

	(1) educ2f	(2) elec2f	(3) health2f	(4) irri2f	(5) non2f	(6) sports2f	(7) road2f	(8) sani2f	(9) ani2f	(10) drinking2f	(11) other2f
score_inc	2.362	4.360	0.157	0.544	-0.00793	0.207	3.380	-0.173	0.0820*	1.194	332.0
	(1.392)	(15.93)	(0.425)	(0.510)	(0.0302)	(0.238)	(4.953)	(2.494)	(0.0375)	(0.623)	(1179.4)
_cons	262.4***	908.5	98.69***	192.9***	6.815***	52.34***	1695.2***	611.8***	5.576***	644.2***	39481.5
	(27.85)	(571.2)	(25.07)	(24.49)	(1.781)	(9.888)	(254.9)	(160.3)	(0.940)	(17.02)	(39347.5)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	131	131	131	131	131	131	131	131	131	131	131

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 24: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions control for state-fixed effects and are clustered at state levels. In addition, this analysis presents the expenditure at the end of the 5 years periods.

	(1) educ2y	(2) elec2y	(3) health2y	(4) irri2y	(5) non2y	(6) sports2y	(7) road2y	(8) sani2y	(9) animal2y	(10) drink2y	(11) other2y
score_inc	-0.0616	-0.0536	-0.00516	-0.0301	-0.0396	0.0549	-0.405	-0.0622	-0.0168	0.0322	0.106
	(0.643)	(0.449)	(0.129)	(0.555)	(0.150)	(0.150)	(3.460)	(0.579)	(0.168)	(1.958)	(1.793)
_cons	44.11***	47.07***	13.41***	17.85*	0.438	13.70***	352.3***	128.9***	0.771	33.63	245.5***
	(9.193)	(6.413)	(1.848)	(7.931)	(2.139)	(2.141)	(49.47)	(8.285)	(2.396)	(27.99)	(25.64)
Vote Margin & Squared & Interaction	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	No	No	No	No	No	No	No	No	No	No	No
N	655	655	655	655	655	655	655	655	655	655	655

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 25: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions control for state-fixed effects but are not clustered at state levels. In addition, this analysis presents the expenditure are year-by-year for the 5 years periods.

	(1) educ2y	(2) elec2y	(3) health2y	(4) irri2y	(5) non2y	(6) sports2y	(7) road2y	(8) sani2y	(9) animal2y	(10) drink2y	(11) other2y
score_inc	-0.0616	-0.0536	-0.00516	-0.0301	-0.0396	0.0549	-0.405	-0.0622	-0.0168	0.0322	0.106
	(0.260)	(0.157)	(0.0541)	(0.106)	(0.0430)	(0.0487)	(1.154)	(0.418)	(0.0506)	(0.159)	(0.725)
_cons	44.11***	47.07***	13.41***	17.85***	0.438	13.70***	352.3***	128.9***	0.771	33.63***	245.5***
	(6.016)	(10.25)	(2.131)	(3.318)	(0.470)	(2.428)	(75.74)	(32.87)	(0.519)	(3.439)	(46.16)
Vote Margin & Squared & Interactions	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
State Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Time Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Control Variables	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Clustering State Level	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
N	655	655	655	655	655	655	655	655	655	655	655

Standard errors in parentheses
* $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Table 26: Election period 2009-14: RDD analysis to study the partisanship in expenditure in different sectors. The expenditures used here is expressed in terms of per unit electorates. In this table, the regressions control for state-fixed effects and are clustered at state levels. In addition, this analysis presents the expenditure are year-by-year for the 5 years periods.