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Role of Local Politicians in India**

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ABSTRACT

The Political Economy of Privatization of Education: Role of Local Politicians in India*

We investigate the role of political favouritism in the private education market. Using constituency-level panel data and a close-election regression discontinuity design, we estimate the causal effect of having a politician aligned with the state ruling party on the growth of private educational institutions in India. We find that constituencies represented by aligned politicians have a higher growth rate in the number of private schools, while the effect is insignificant for government schools. Similar patterns are also found for higher education institutions. As potential mechanisms, we explore political influence over bureaucratic processes and discrepancies in the enforcement of government regulations.

JEL Classification: D72, D73, H11, H75, I25

Keywords: ruling party alignment, private schools, close elections, regression discontinuity design, India

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1 Introduction

Historically, the formation of new firms in developing countries has depended heavily on interactions with public officials and access to government-provided resources (Panagariya, 2008; Dinh et al., 2010). However, government officials often allocate these resources with a political bias (Golden and Min, 2013). In a patronage-driven democracy, the efficiency of both public and private service delivery depends on the intermediation of local politicians who possess substantial control over the bureaucracy and the allocation of government resources (Dixit and Londregan, 1996; Bardhan and Mookherjee, 2000). If political leaders affiliated with the ruling party wield more power and leverage it for the benefit of their constituents, one could expect positive effects on economic outcomes in their constituencies. On the one hand, the existing literature has shown the impact of such favouritism on government resource distribution in various contexts, including Brazil (Brollo and Nannicini, 2012), India (Arulampalam et al., 2009), Kenya (Burgess et al., 2015), and the USA (Grossman, 1994). On the other hand, a few studies have also suggested that politically motivated government actions may affect the operation of the private sector (Asher and Novosad, 2017). Moreover, the patterns of such impacts may differ depending on the outcome one considers (Kramon and Posner, 2013). While most studies in this literature have focused on broad economic outcomes such as federal transfers, infrastructure development, and economic growth, there is limited evidence on the impact of political favouritism on social sector development, especially on education markets.¹ In this paper, we study whether the political affiliation of the local leader affects the dynamics of the private education market in India.

The significant rise of private schooling has been a key characteristic of education in

¹For example, Bhavnani and Jensenius (2019) find no long-term effect of ruling-coalition affiliated local political leaders on the growth of literacy in India. Using state-level education finance data from the USA, Hill and Jones (2017) find that partisan affiliation impacts the distribution of education spending. Another strand of related literature has analyzed the political economy of education systems, focusing mostly on how politics interferes with governance and accountability in the *public* education sector (Kingdon et al., 2014; Fagernäs and Pelkonen, 2020). Our analysis is different as it looks at *private* schools and colleges.

developing countries over the last few decades. Particularly, the private school market has experienced substantial growth, with the number of private schools increasing approximately 2.8 times between 2005 and 2017 in India.² A rich body of literature has analyzed this phenomenon, investigating the relative performance of private versus government schools (Hsieh and Urquiola, 2006; Desai et al., 2009; Muralidharan and Sundararaman, 2015; Singh, 2015). However, a less explored question is what determines the establishment of private schools in a region (Pal, 2010). Within this context, we investigate the role of local political leaders in the expansion of India’s private schooling market.³ We also provide comparable evidence considering higher education institutions.

We estimate the causal impact of a well-recognized form of political bias, wherein ruling parties tend to favour regions represented by their own members (Berry et al., 2010), on the private education market. Specifically, we exploit quasi-experimental variation across the Indian state legislative assemblies, considering the party affiliation status of the Members of the Legislative Assembly (MLA) and using constituency-level panel data spanning over a decade.⁴ We refer to constituencies represented by an MLA affiliated to the party forming the state government as ‘ruling party aligned constituencies’ and their representatives as ‘ruling party aligned leaders’.⁵ A key identification challenge is that constituencies with ruling party aligned leaders may not be directly comparable to those with non-aligned leaders, owing to potential unobserved differences between these

²In contrast, government schools experienced a more modest growth of about 1.1 times during the same period (Figure 1). This trend is also evident in student enrollment figures. Government schools saw a reduction of 16% in student enrollment, while private schools experienced a remarkable surge of 270% in their enrollment. For a comprehensive overview of these trends, see Kingdon (2020).

³Government schools are defined as those funded and managed by government entities, including union, state, and local government authorities. Government-aided schools are funded by the government but managed privately. Private schools are neither funded nor managed by any government entity; our analysis focuses mainly on these schools. Private schools include both recognized and unrecognized institutions. We combine government and government-aided schools in a single category as the counterpart of private schools. However, the results are similar if we consider only the government schools as the counterparts of private schools in our analysis.

⁴Assembly constituencies in India are geographic areas within a state or union territory designated for the purpose of electing representatives to the state legislative assembly. Each constituency represents a specific region or locality, and voters residing in that area elect a single member to represent their interests in the state legislative body. These constituencies are crucial in India’s democratic process, as they form the basis for representation and governance at the state level.

⁵In cases where the state government is formed by a coalition of multiple parties, MLAs belonging to any party within the coalition are treated as ruling party-aligned leaders.

two groups. This could lead to biased and inconsistent estimates of ruling party alignment status. To overcome this challenge, we use a close election regression discontinuity design that compares constituencies where ruling party aligned candidates narrowly won to constituencies where non-aligned candidates narrowly won.⁶

The validity of our identification strategy depends on the assumption that the outcome of a closely contested election is quasi-random (Lee, 2008; Eggers et al., 2015). This assumption suggests that the preferences of voters who elect a ruling party aligned politician in a close election can be assumed to be the same as the preferences of voters who elect a non-aligned leader in a similarly closely contested election. We rigorously test these assumptions and demonstrate that the results of close elections cannot be predicted based on predetermined observable characteristics, lending support to the notion of quasi-randomness.⁷ Furthermore, our analysis finds no evidence to suggest that ruling party aligned leaders are more likely to win or lose in close elections, indicating that the outcomes of these elections are not manipulated. These comprehensive analyses collectively support the assertion that the outcomes of close elections are indeed quasi-random, allowing our estimates to reflect the causal impact of ruling party alignment status.

Our main outcome of interest captures the aggregate number of private and government schools; our analysis also considers the corresponding number of colleges and universities to cover higher education. Data on the number of schools and higher education institutions at the assembly constituency level is not readily available from the District Information System for Education (DISE) and All India Survey on Higher Education (AISHE), India’s primary sources for school and higher education statistics. Therefore, through a web scraping technique, we extract the geographic coordinates of existing schools, colleges, and universities in India and subsequently match them with

⁶This identification strategy has been widely employed in the existing literature to examine the impact of various politician characteristics on diverse outcomes (Lee and Lemieux, 2010; Clots-Figueras, 2012; Bhalotra and Clots-Figueras, 2014; Bhalotra et al., 2014; Eggers et al., 2015; Asher and Novosad, 2017; Prakash et al., 2019; Jain et al., 2023).

⁷Additionally, to rule out the possibility that the effects of aligned leaders are influenced by other candidate-level characteristics, we show that aligned and non-aligned winners in close elections share similar observable attributes.

their corresponding constituencies using state-level assembly shapefiles. We merge this constituency-level data with information on politicians and election results, which we compiled by obtaining data from the Election Commission of India (ECI) and the Association for Democratic Reforms (ADR). Our study focuses on the context of elections to the state legislative assemblies in India held between 2001 and 2016.

Our findings highlight that constituencies represented by ruling party aligned leaders witness a higher growth in private schools compared to those with non-aligned leaders. Specifically, ruling party aligned constituencies experience a 3 to 5 percentage point higher growth rate in private schools than those led by opposition parties. Interestingly, we do not observe a similar impact on the growth rate of government schools within their constituencies. These core findings remain robust and consistent across different bandwidths and various combinations of fixed effects. We also observe similar trends in higher education institutions: the positive and significant effect is present exclusively for private higher education institutions.

Furthermore, we explore a few potential mechanisms that could shed light on how a leader's affiliation with the ruling party might impact the growth of private schools. We focus on three potential channels: political control over bureaucracy, economic growth, and politicians themselves opening schools. First, we postulate that the influence wielded by politicians over the bureaucratic machinery might drive this phenomenon. When aligned with the ruling party, these politicians can expedite the implementation of regulations in comparison to their non-aligned counterparts.⁸ Due to data limitations, we are unable to perform a direct empirical test to confirm this hypothesis. However, evidence from our heterogeneity analysis supports this idea: the impact is more evident in areas represented by incumbent leaders. These leaders, with their experience, typically have more sway over bureaucratic systems and can navigate them effectively. Additionally,

⁸This dynamic often results in actions that ease the process of establishing more private schools in their constituencies. Their influence can manifest through both their formal roles as ex-officio heads of district education committees and their informal sway over bureaucratic processes. It is worth noting that political influence over the implementation of regulations by the bureaucracy is a widely acknowledged phenomenon in India, as supported by various studies (Iyer and Mani, 2012; Sukhtankar and Vaishnav, 2015; Asher and Novosad, 2017; Gulzar and Pasquale, 2017).

the primary effect on the growth rate of private schools is larger in states with weaker institutions and less influential opposition parties. Evidence suggests that politicians aligned with the ruling party might have greater control over bureaucrats in states with weaker institutions and less powerful opposition parties [Fisman et al. \(2014\)](#); [Prakash et al. \(2024\)](#). Thus, these findings suggest that politicians' control over bureaucracy could play a significant role in driving our results, and it is consistent with the findings of [Asher and Novosad \(2017\)](#).⁹

Second, we examine whether the economic progress associated with the ruling party aligned leaders could explain their impact on the increase of private schools in their constituencies. However, investigating the timings of the leaders' impact on economic growth versus private school openings within the electoral term, it appears that differences in economic growth do not primarily drive the impact of ruling party aligned politicians on the establishment of private schools. Third, we look into whether politicians themselves or their relatives are opening private schools. Few previous studies observe that politicians invest in the education sector to boost their reputation and make it a base for their activities ([Verma, 2011](#)). Our heterogeneity analysis based on MLA's primary occupational characteristics supports the hypothesis that politicians themselves may be opening more private schools.

Finally, we examine the broader implications of our findings for the quality of education. Our results indicate that ruling party aligned leaders facilitate the establishment of more private schools, particularly in districts with poor-quality government schools. However, evaluating whether these private institutions provide better education is important, especially given that the ruling party effect is significant only in the private sector but not in the government sector. This analysis would indicate whether ruling party

⁹[Asher and Novosad \(2017\)](#) examine the local economic impact of being represented by a politician in the ruling party using a close election regression discontinuity design. They find that having a ruling party MLA leads to higher private sector employment, higher share prices of firms, and increased output, as measured by night lights. The mechanism behind this effect is identified as politicians influencing firms primarily through control over the implementation of regulations. To test this regulation channel, the paper uses mining permit data, finding that the state government grants more mining permits and licenses more areas for mining in ruling party constituencies.

aligned leaders truly promote educational advancement or primarily serve private sector interests. Our analysis reveals no statistically significant positive effect of these political leaders on children’s learning outcomes.¹⁰ Furthermore, we find no significant impact on the quality of private schools.¹¹ These findings suggest that while ruling party legislators may encourage the growth of private schools, this does not necessarily translate into improved educational quality. Additionally, it is reasonable to assume that high-quality schools may not require political assistance for recognition and affiliation.

Our paper contributes to several strands of the existing literature. Most closely, our findings enrich the emerging literature on the determinants of private school establishment. Previous studies have primarily examined the underperformance of government schools and the role of higher social classes in expanding private education (Andrabi et al., 2002; Muralidharan and Kremer, 2008). Using data from India, Pal (2010) shows that private schools are more likely to be established in regions with better access to public infrastructure. Similarly, Jagnani and Khanna (2020) find that the roll-out of elite public colleges in India crowded in investments in public infrastructure, which in turn helped the establishment of private schools by reducing their setup costs. Relatedly, Andrabi et al. (2013) argue that public investment in secondary education increases the future supply of potential teachers in a region, attracting private schools to set up. Recent studies have also highlighted the importance of education market dynamics in determining the establishment and functioning of private schools (Andrabi et al., 2024). However, to the best of our knowledge, our study is the first to provide systematic evidence that local political leaders influence the establishment of private schools in India.

By showing that the expansion of private educational institutions depends on intermediation by local politicians, we also contribute to the broader literature on the political economy of education provision. Exploring the influence of politics in government

¹⁰We use data on learning outcomes from the Annual Status of Education Report (ASER).

¹¹To do this analysis, we construct a composite school quality index using Principal Component Analysis (PCA), incorporating factors like the percentage of qualified teachers, classroom maintenance, and availability of facilities such as girls’ toilets, electricity, safe drinking water, libraries, computers, boundary walls, playgrounds, and medical facilities.

schools, some studies have highlighted the negative effect of teachers' direct participation in politics and teacher unions on student achievement (Kingdon and Muzammil, 2013; Kingdon et al., 2014). Teacher transfers in government schools have also been found to vary with the electoral cycle, with local political turnover magnifying the post-election teacher transfers and impeding students' learning process (Fagernäs and Pelkonen, 2020). Analyzing the role of local politicians, Lahoti and Sahoo (2020) find that the quality of MLAs, proxied by their formal education levels, matters for school education outcomes only in more developed states. While most of this literature has focused on school education, Kukreja (2024) shows that criminally accused MLAs have a negative effect on the supply of public higher education institutions, although no impact is found on private institutions. We extend this literature by showing that ruling party aligned MLAs increase the supply of private schools and private higher education institutions.

Additionally, our findings contribute to the expanding body of literature on how various characteristics and identities of local political leaders affect public service delivery.¹² While most of these studies show the impact on *public* provision of goods and services, our work contributes by highlighting how leaders' characteristics can also influence *private* providers in the education sector.

The rest of this paper is structured as follows. In Section 2, we offer an overview of India's political structure and lay out a conceptual framework. Section 3 describes the multiple datasets used in this study, followed by a discussion of our empirical methodology in Section 4. Section 5 describes our findings in detail; it includes a discussion on the validity of regression discontinuity design in our specific context, main results, robustness checks, heterogeneity analysis, potential mechanisms driving our primary results, and finally, the broader implications of our findings. Section 6 makes the concluding remarks.

¹²An extensive literature has demonstrated that political leaders' characteristics, such as party affiliation, gender, education, criminal history, religion, and caste, significantly influence policy outcomes across various domains, including education, healthcare, economic growth, public infrastructure, and violence (Brender and Drazen, 2005; Clots-Figueras, 2012; Iyer et al., 2012; Burchi, 2013; Ghani et al., 2013; Bhalotra and Clots-Figueras, 2014; Bhalotra et al., 2014; Nath, 2015; Asher and Novosad, 2017; Gulzar and Pasquale, 2017; Hill and Jones, 2017; Cheng and Urpelainen, 2019; Prakash et al., 2019; Finan and Mazzocco, 2021; Thomas, 2021; Amarasinghe et al., 2023; Jain et al., 2023; Prakash et al., 2024).

2 Background and Conceptual Framework

2.1 The Role of MLAs

India is a federal republic with a parliamentary form of government comprising 28 states and 8 Union Territories. Legislative powers are divided between the Parliament of India at the national level and the legislative assemblies at the state level. This study focuses on the elected members of the state legislative assemblies, called Members of the Legislative Assembly (MLAs). Elections take place every five years, both at the state and national levels, though the timing may vary across states.¹³ Each state is divided into multiple assembly constituencies, and voters residing in each constituency elect a single member to represent their interests in the state legislative body. It implies that each constituency may or may not be represented by an MLA from the ruling party. In our study, we analyze whether having a ruling party-affiliated MLA, compared to its counterpart, makes a difference in the growth of private educational institutions in the constituency.

The Indian Constitution grants substantial administrative and legislative authority to the state governments, with MLAs playing a crucial role in this decentralized structure. State governments hold primary control over various critical sectors, including education, health, law enforcement, public goods provisioning, labor markets, and a range of public services.¹⁴ To administer these functions, state governments operate their own civil services, over which MLAs have considerable indirect control, including the power to assign and transfer bureaucrats across different positions and locations (Sukhtankar and Vaishnav, 2015; Asher and Novosad, 2017). Additionally, state politicians often exercise significant influence over federally appointed bureaucrats working within their

¹³India's national and state elections follow a 'first-past-the-post' system, where constituencies are designed to elect a single representative. The candidate securing the highest number of votes in a given constituency wins the seat.

¹⁴Until 1976, education in India was solely under state jurisdiction, with states responsible for creating and implementing policies. The 42nd Amendment of the Constitution shifted education to the concurrent list, allowing the union government to recommend policies while states retained autonomy in implementation. National policy frameworks periodically guide states, but primary and upper primary schools remain largely managed by state governments.

jurisdiction (Iyer and Mani, 2012; Nath, 2015). Furthermore, MLAs hold ex-officio positions on various committees, including those overseeing education at the district level. Given their authority over bureaucratic assignments within their constituencies, MLAs gain substantial control over local administrative machinery (Gulzar and Pasquale, 2017). This influence is crucial in the private education sector, where the establishment and expansion of private institutions depend on navigating complex administrative procedures and securing timely approvals.

Moreover, existing evidence suggests that MLAs in India play a significant role as intermediaries between constituents and the state (Bussell, 2019). As observed by Jensenius and Suryanarayan (2015), MLAs dedicate much of their time to constituency work, often prioritizing it over legislative debate and policy development within state assemblies. Most legislative decisions are now made by the top leadership of the ruling party and are passed with minimal debate.¹⁵ Consequently, MLAs concentrate their efforts locally – addressing constituents’ grievances, participating in social events, and engaging with local government bodies (Chopra, 1996; Jensenius and Suryanarayan, 2015). This local engagement gives MLAs unique opportunities to influence the growth of private educational institutions in their constituencies.

2.2 Ruling Party Alignment and Establishment of Private Education Institutions

This subsection examines how MLAs aligned with the ruling party can facilitate the establishment of private schools by streamlining the administrative hurdles involved. It focuses on the critical role of political alignment in navigating the complex approval processes required at various stages of school development, including securing land approvals, building safety certifications, and obtaining final approval from state authorities. The involvement of MLAs aligned with the ruling party in the establishment of private schools

¹⁵Over the years, there has been a gradual decline in the time MLAs spend on legislative discussions and policy formulation. Between 1967 and recent years, the average number of days spent on such activities has declined roughly from 45 to 34.

can also be driven by anticipated benefits. They not only have the influence to expedite administrative processes but also possess significant motivations to do so, ranging from enhancing their social status to engaging in rent-seeking activities.

Establishing a private school involves navigating a complex bureaucratic landscape that demands multiple approvals from government authorities at various stages of development (Desai et al., 2009; Mehendale, 2020). During the construction phase, the private school management must secure various approvals and permits from local administrative bodies, including certificates for fire safety, water supply, sanitation, and structural fitness. Upon the completion of the physical infrastructure, a critical requirement is obtaining a ‘No Objection Certificate (NOC)’ issued by the state government. This NOC serves a multifaceted purpose, primarily confirming that the school meets all essential prerequisites and that the state government has no objections to granting further certifications. This certificate is mandatory for further recognition and affiliation with different educational boards.¹⁶

Obtaining a NOC is a challenging task involving engagement with various stakeholders within the government administration (Mehendale, 2020).¹⁷ First, the private school management submits an application to the District Education Officer (DEO), providing detailed information. Subsequently, the DEO schedules an on-site inspection and compiles a comprehensive report for the Director of Public Instruction (DPI). The DPI, usually an Indian Administrative Service (IAS) officer,¹⁸ oversees the Department of School Education in each state. Based on the report submitted by the DEO, the Department, under the DPI’s leadership, provides final approval and recognition for the school through a government-gazetted order. However, anecdotal evidence suggests that officials within the Department of School Education can introduce delays and complications in the ap-

¹⁶Each state operates its own state education board for schools within its jurisdiction. Additionally, there are national-level boards such as the Central Board of Secondary Education (CBSE) and the Indian Certificate of Secondary Education (ICSE). The NOC is a pre-requisite for setting up a private school irrespective of the board with which it may seek affiliation.

¹⁷Given that this is a state-specific issue, it is important to note that while there may be variations across states, the overall structure remains largely similar.

¹⁸An IAS officer is a high-level bureaucrat in the administration.

plication process in multiple ways, such as imposing limitations on approvals, seeking clarifications, demanding resubmissions, and soliciting bribes. At this stage, politicians play a crucial role in enforcing the regulations through their control over bureaucracy. The influence over bureaucracy is largely determined by their alignment with the ruling party. [Bhavnani and Jensenius \(2019\)](#) notes that many MLAs from opposition parties often feel powerless, as the bureaucracy is reluctant to act on their requests for fear of being penalized by the ruling coalition, such as being transferred to less desirable postings. Consequently, these MLAs perceive being part of the ruling party as crucial to achieving tangible outcomes in their constituencies.

The involvement of ruling party aligned politicians in the establishment of private schools may also hinge on the incentives they anticipate receiving. The potential incentives MLAs may have are twofold. First, MLAs may be directly involved in running private schools, as it elevates their social status, provides avenues for patronage, and facilitates discreet financial activities, as observed by [Verma \(2011\)](#). Second, even when not directly involved, MLAs may help private school establishment for electoral or rent-seeking purposes. For instance, when private school management, often comprising influential local figures, seeks assistance from a ruling-party MLA, the MLA may leverage their political power to expedite the necessary approvals. In return, the school management may mobilize voters and provide financial support for the MLA's electoral campaigns. While the NOC process is intended to ensure that private schools meet the necessary standards to deliver quality education, it also creates opportunities for rent-seeking and political manipulation. Authorities may exploit the discretion afforded by this regulation to either fast-track or delay approvals, depending on their interests. This dynamic encourages schools with inadequate infrastructure or low-quality facilities to seek political support, as they can reduce establishment costs by bypassing compliance requirements. Consequently, reduced establishment costs may lead to a proliferation of private schools in constituencies represented by ruling-party MLAs. Therefore, we hypothesize that constituencies aligned with ruling-party MLAs are likely to experience higher growth rates of private schools compared to those represented by opposition MLAs.

3 Data

Our study uses several datasets: the District Information System for Education (DISE), state assembly election results obtained from the Election Commission of India (ECI) and the Association for Democratic Reforms (ADR), the All India Survey on Higher Education (AISHE), the Annual Status of Education Report (ASER), and the inter-calibrated night lights data. We describe these datasets and the main variables extracted from them in the subsequent subsections. Our primary outcome variable, capturing the growth rate of private schools at the constituency level, is constructed using the DISE data, while the treatment variable indicating ruling party alignment status comes from the election data.

3.1 DISE Data

The District Information System for Education (DISE) is one of India’s largest and most comprehensive databases on school education, developed to support educational planning and administration. It was launched by the National Institute of Educational Planning and Administration (NIEPA) in collaboration with the Ministry of Human Resource Development (MHRD) and UNICEF. DISE serves as an annual census of all schools in India, collecting data about 1.5 million institutions each year, including both private and government schools. It captures detailed information on student enrollment (disaggregated by grade, gender, and social categories), teacher demographics, and school infrastructure. For our study, we consider thirteen rounds of DISE, from 2005-06 to 2017-18.¹⁹

We construct our primary outcome variable – the annual growth rate of private schools at the constituency level – using data from the DISE. To map the location of the schools with assembly constituencies, we extract the geographical coordinates (latitude and lon-

¹⁹We are unable to use more recent data because NIEPA discontinued DISE data collection starting in 2018-19. Currently, the data is managed by the Department of School Education and Library under the Ministry of Education. However, to protect school anonymity, many school-specific details are not publicly available, which limits our ability to map them accurately.

gitude) of every school in India from an administrative source using a web scraping technique.²⁰ These coordinates are then matched with their corresponding assembly constituencies using state assembly constituency shapefiles.²¹ We successfully obtained geographical coordinates for 77.1% of all schools considered across the thirteen rounds of DISE data from 2005-06 to 2017-18. To improve the quality of school-to-constituency matching, we impute the coordinates of mapped schools to unmapped schools within the same village under the assumption that all schools in a village fall under a single assembly constituency. This approach enabled us to map approximately 87.6% of all schools in the DISE data. We then aggregate the number of private schools by constituency and year, defining our primary outcome variable as follows:

$$Y_{cdst} = [\log(\text{No of Private Schools}_{cdst+1} + 1) - \log(\text{No of Private Schools}_{cdst} + 1)] \times 100$$

Y_{cdst} measures the growth rate of private schools for an assembly constituency c of district d in state s between the years t and $t + 1$. Similarly, we construct the growth rate of government schools, higher education institutions, and nightlights. Table 1 and A.1 present the summary statistics of these outcome variables for our estimation sample.

3.2 Election Data

We use a comprehensive dataset on Indian state assembly election results from 2001 to 2016.²² This dataset mainly captures candidates' ruling party alignment status, along with additional candidate- and constituency-level details such as total votes cast, vote

²⁰The information was extracted from <https://schoolgis.nic.in/> in January 2023.

²¹Due to significant population changes, constituency boundaries have undergone periodic revisions through various Delimitation Acts since 1952, aimed at ensuring equal representation in the legislature. The latest of these, enacted in 2002, redefined assembly constituencies using the 2001 census population data. Following extensive discussions, the delimitation process was finalized in 2008, resulting in all subsequent elections being conducted under the newly defined constituencies. This necessitates the use of distinct shapefiles for both pre- and post-delimitation periods. The pre-delimitation shapefile is made accessible to the public by Sandip Sukhtankar and Manasa Patnam through this link: <https://uva.theopenscholar.com/sandip-sukhtankar/data>. We obtain the post-delimitation shapefile from: <https://projects.datameet.org/maps/assembly-constituencies/>.

²²Although our outcome data starts in 2005, in some states, the MLAs in office in 2005 were elected in 2001, as MLA terms typically last five years. So, to know who was in office at the start of our data period, we utilized election information from 2001 onward.

counts for each candidate, and their party affiliations, constructed using information from the Election Commission of India (ECI). Additionally, following a 2003 Supreme Court ruling, all candidates were required to submit affidavits to the ECI, disclosing their educational backgrounds, financial assets, criminal records, and other relevant information. The ADR has digitized these affidavits, making the data publicly available for all central and state elections since 2004. We merge ADR data with ECI data to generate a detailed profile of all winning and runner-up candidates in the state assembly elections that occurred after 2004 and until 2016. This augmented dataset has additional information on candidates' education, criminal accusation status, wealth, etc. Summary statistics of key variables considered from the election data are provided in Table 1. Approximately 69% of winners in the state assembly elections are aligned with the ruling party, while the remaining 31% are with the opposition party.

3.3 Additional Data Sources

Further, to investigate the impact of ruling party alignment status on private higher education institutions, we use data from the All India Survey on Higher Education (AISHE). This is an annual online survey conducted by the Ministry of Education, covering information on all higher education institutions in the country, available since 2011. As with the school data, we first match higher education institutions to their corresponding assembly constituencies based on geographic coordinates.²³ Next, we aggregate the number of higher education institutions by constituency for each year. The annual growth rate of these institutions is then calculated as the change in the log of the constituency-level count of higher education institutions between two consecutive years.

We also utilize inter-calibrated night lights data compiled at the constituency level from 2005 to 2016 to investigate if economic growth serves as a potential mechanism driving our primary findings.²⁴ Night lights data is often used as a reliable proxy for

²³The AISHE data includes geographic coordinates for the majority of institutions; for the remaining cases, we extract them using the Google API.

²⁴Li et al. (2020) have generated an integrated and consistent night lights time series data (1992-2018) by harmonizing observations from the Meteorological Satellite Program (DMSP) and Visible Infrared

economic growth due to its significant correlation with economic activities (Henderson et al., 2011). Additionally, we use data on learning outcomes from the Annual Status of Education Report (ASER) to assess the broader educational implications of our primary findings. ASER conducts the largest annual household survey in India, gathering information on children’s schooling and fundamental learning levels. Our study utilizes multiple rounds of ASER from 2006 to 2016. Due to ASER’s lack of precise individual location data – the district being the lowest geographical unit provided in the dataset – we merge ASER data with political data aggregated at the district level.²⁵

Our main analysis relies on a panel dataset at the state assembly constituency level, covering the period from 2005 to 2016.²⁶ It combines information on candidate- and constituency-level characteristics with data on private schools, higher education institutions, and economic growth.²⁷

4 Empirical Strategy

In this study, we look at the impact of having a ruling party aligned leader on the growth rate of private schools at the state assembly constituency level. An OLS regression model could be used to estimate this effect by comparing the growth rate of private schools in constituencies won by ruling party aligned leaders to those won by non-aligned leaders. However, such an approach is likely to face endogeneity issues as the election of ruling party aligned leaders to state legislative assembly may not be random and could be correlated with unobserved voter preferences and other constituency-level characteristics.

Imaging Radiometer Suite (VIIRS) data. We obtained this data from: <https://doi.org/10.6084/m9.figshare.9828827.v2>.

²⁵Using the district-level panel data based on ASER and political variables, we apply a two-stage least squares (2SLS) method to investigate the impact on learning outcomes, as explained in Section 5.6.

²⁶The selection of this time frame for our main analysis is primarily driven by limitations in data availability concerning our key outcome variable, as explained in Subsection 3.1.

²⁷The combined data we have is panel data on constituencies for multiple years, but it is unbalanced due to differences between pre- and post-delimitation constituencies. Despite changes in constituency boundaries following delimitation, each constituency remains within a single district throughout. As constituencies are always nested within districts, we incorporate district fixed effects into our primary specification.

To account for unobserved differences between ruling party aligned and non-aligned constituencies, we focus on closely contested elections between these two groups and employ a regression discontinuity (RD) design, a method widely used in the related literature (Lee, 2008; Lee and Lemieux, 2010; Eggers et al., 2015; Asher and Novosad, 2017; Prakash et al., 2019; Jain et al., 2023). The identifying assumption of this design relies on the quasi-random outcomes of closely contested elections, i.e., constituencies where ruling party aligned leaders win by a narrow margin share similar unobservable characteristics to those where non-aligned leaders win by a narrow margin, allowing us to effectively isolate the causal effect of ruling party affiliation.

The forcing variable in our regression discontinuity design, $margin_{cdst}$, is defined as follows:

$$margin_{cdst} = \frac{Vote_{cdst}^a - Vote_{cdst}^{na}}{Vote_{cdst}^t} \quad (1)$$

where, $Vote_{cdst}^a$ denotes the number of votes secured by the ruling party aligned candidate, while $Vote_{cdst}^{na}$ represents the number of votes obtained by the non-aligned candidate. And $Vote_{cdst}^t$ corresponds to the total number of votes cast in the constituency.²⁸ By construction, the forcing variable, $margin_{cdst}$, takes a positive value for aligned leaders and a negative value for non-aligned leaders. Using this definition, we generate our treatment indicator, $Aligned_{cdst}$, which takes the value 1 if $margin_{cdst}$ is greater than zero, and 0 otherwise. Hence, the likelihood of having a ruling party aligned leader undergoes a sharp discontinuous change precisely at the cutoff point where $margin_{cdst} = 0$. We leverage this discontinuity in treatment assignment and estimate the following model to establish the causal impact of having a ruling party aligned leader on the growth rate of

²⁸We drop constituencies in which one of the top two candidates is an independent who is not affiliated with any recognized political party, as we lack the necessary information to ascertain whether independents align with or oppose the ruling coalition.

private schools within their constituency.

$$\begin{aligned}
Y_{cdst} = & \beta_0 + \beta_1 \text{Aligned}_{cdst} + f(\text{margin}_{cdst}) \\
& + g(\text{margin}_{cdst}) \times \text{Aligned}_{cdst} + \delta_{ds} + \gamma_t + \eta_{st} + \epsilon_{cdst}
\end{aligned} \tag{2}$$

where, $f(\cdot)$ and $g(\cdot)$ are continuous polynomial functions in forcing variable, margin_{cdst} .²⁹ The model further includes district (δ_{ds}), year (γ_t), and state-year (η_{st}) fixed effects to account for district-specific, time-specific, and state-specific time-varying factors, all of which may affect the establishment of new private schools. The errors, ϵ_{cdst} , are clustered at the constituency level. The model is estimated using local linear regression with the optimal bandwidth determined using Calonico, Cattaneo, and Titiunik (CCT) algorithm (Calonico et al., 2014); we also show the robustness of the estimates considering optimal bandwidths following Imbens and Kalyanaraman (2012). The observations are weighted with a triangular kernel to place the highest weight on the closest elections as recommended by Gelman and Imbens (2019). We are primarily interested in β_1 , which identifies the effect of ruling party alignment status on the growth rate of private schools.

5 Results

In this section, we first demonstrate the validity of regression discontinuity design within our specific context. Then, we present the main results, focusing on the impact of ruling party aligned leaders on the growth rate of private schools. Further, we conduct several analyses to ensure the robustness of our primary findings. We also investigate the heterogeneity of treatment effects based on various factors, including the characteristics of schools, leaders, constituencies, and states. Additionally, we explore a few potential mechanisms that may explain our main findings. Finally, we examine the broader implications and significance of our primary results.

²⁹For the main analysis, we estimate the model with a first-order polynomial. Later, in robustness checks, we also control for higher-order polynomials of the forcing variable, and the results remain consistent with the original findings.

5.1 Validity of the RD Design

We use two standard tests to demonstrate the validity of the regression discontinuity design, following [Imbens and Lemieux \(2008\)](#). The first is [McCrary \(2008\)](#) density test, which assesses the presence of a discontinuity in the density of the forcing variable at the treatment threshold. The second test investigates whether the observable predetermined characteristics are continuous around the treatment threshold.

In our context, the first test investigates whether the ruling party aligned candidates disproportionately win the close elections. Concerns exist that these politicians could manipulate the electoral process to gain an advantage in narrowly contested elections. If this were the case, we would expect to observe a significant spike in the density plot at the treatment threshold, where the margin of victory is zero. However, [Figure 2](#) illustrates the continuity of our forcing variable, showing no statistically significant jump at this threshold.³⁰ The point estimate for the discontinuity is 0.057, with a standard error of 0.053 (p -value: 0.287), indicating that ruling party aligned candidates do not have a significant advantage in close elections and cannot selectively push themselves over the winning threshold.³¹

The second test focuses on the continuity of several predetermined constituency-level characteristics around the treatment threshold, considering electorate size, voter turnout, constituency reservation status for Scheduled Castes (SC) or Scheduled Tribes (ST),³² average education level of candidates, average assets and liabilities of candidates, proportion of female candidates, proportion of candidates with criminal records, and whether specific parties contested in the constituency.³³ Additionally, we examine the continuity

³⁰The dataset used to create this graph excludes assembly constituencies from Uttar Pradesh (UP) due to an observed spike at the treatment threshold. Consequently, we also exclude UP from subsequent analyses. Nevertheless, it is worth noting that the primary results remain consistent even when UP is included in the estimation.

³¹The mode of the distribution is to the right of zero, because, on average, the ruling coalition tends to secure more victories than defeats.

³²Scheduled Caste (SC) and Scheduled Tribes (ST) refer to specific social groups in India that have historically faced social disadvantages and discrimination. The Indian Constitution recognizes these groups and provides special provisions to promote their educational, economic, and social development.

³³To assess this, we run our basic specification given in [Equation 2](#) by employing each covariate of interest as the outcome variable with its corresponding optimal bandwidth, using a polynomial of order

of candidate-level characteristics (education, criminal history, financial assets and liabilities, and incumbency status) to ensure they do not exhibit significant discontinuities at the treatment threshold and our estimated effect of ruling party affiliation is not bundled with other candidate-level characteristics.

The results presented in Table A.3 show that almost all point estimates are small and statistically insignificant. This implies that there is no empirical evidence that these predetermined observable constituency- and candidate-level covariates are discontinuous at the treatment threshold of zero. In addition, we include a graphical illustration of the RD effects for each of these covariates. Each covariate is plotted, applying the same identification strategy within its optimal bandwidth (Figures A.1-A.3). Consistent with the formal statistical results, the graphical analysis shows that the right and left intercepts in the local linear fits are very close to each other in most cases. A few plots exhibit a noticeable jump, but the formal statistical analysis given in Table A.3 suggests that almost all of these jumps are statistically insignificant.

Furthermore, we test for the possibility that the outcomes of close elections are biased in favour of ruling party aligned candidates. In this analysis, we consider the outcome variable to be a dummy variable indicating whether the winner in a close election aligns with the ruling party or not, and regress this variable on a number of candidate- and constituency-level characteristics. We find that the outcomes of close elections are not significantly predicted by almost any of the variables related to the constituencies or the candidates (Table A.4).³⁴ The predictors are also jointly insignificant, indicating that the outcomes of close elections are indeed random.

Therefore, the evidence from the McCrary test and continuity checks of predetermined covariates supports the validity of our RD design, indicating that our analysis identifies the causal effect of ruling party alignment status on the outcomes of interest.

one, and a triangular kernel function to assign weights to the observations. The CCT algorithm has been applied to estimate the optimal bandwidth for this analysis.

³⁴In column (3) of Table A.4, two variables - SC/ST constituency and average candidate liabilities - are statistically significant at the 10% level. Later in the robustness checks, we add these as control variables, and the results remain consistent with the original findings.

5.2 Main Results

Table 2 presents our main regression discontinuity results examining the impact of having a ruling party aligned leader on the growth rate of private schools. Our findings indicate that constituencies aligned with the ruling party experience a higher growth rate in the number of private schools compared to those that are not aligned.³⁵ Panel A presents the estimates without any fixed effects, while Panel B introduces year and state fixed effects. Panel C controls for year and district fixed effects, and Panel D incorporates both state-year and district fixed effects. In column (1), we employ a local linear regression with the optimal bandwidth determined by the CCT algorithm (Calonico et al., 2014). The estimates on *Aligned Winner* indicate that constituencies with ruling party aligned politicians grew more – by approximately 3 to 5 percentage points – in the number of private schools compared to opposition constituencies. The magnitude of this effect is quite large: considering that the average growth rate in private schools is around 14%, the coefficients imply a 21-30% increase over the mean.

To ensure the robustness of our findings, we provide additional results using alternate bandwidths in columns (2)-(4). In column (2), we apply the bandwidth determined by Imbens and Kalyanaraman (2012), which we denote as IK. The estimates in this column are similar to those in column (1). Columns (3) and (4) present the results with the CCT bandwidth adjusted by a factor of 1.5 and halved, respectively. In both columns, the results are consistent with the previous columns, showing a significantly higher growth rate in private schools in constituencies with aligned leaders. Figure 3 provides a visual representation of our key result.³⁶ Locations just to the right of zero represent the constituencies narrowly won by the aligned candidates, while locations just to the left of zero indicate those narrowly won by the non-aligned candidates. The observable jump in the regression line at zero is a visual analogue of the positive and

³⁵We also run a plain OLS specification and find that while the estimates are significant, they are slightly smaller in magnitude (Table A.5).

³⁶The specification used to generate this plot controls for year and district fixed effects, and the RD estimate is calculated using CCT bandwidth with a local linear regression employing a triangular kernel.

significant estimates observed in Table 2, suggesting that constituencies narrowly electing ruling party aligned leaders experience a higher growth rate in the number of private schools compared to those electing non-aligned leaders.

Table 3 presents the results for the growth rate of government schools in the same format as Table 2. The point estimates for government schools are small and statistically insignificant. These findings are interesting, particularly given that public representatives such as MLAs bear the responsibility of procuring government resources and facilities for their constituencies. Despite this expectation, we do not observe any significant differential impact on government schools between ruling party aligned and non-aligned assembly constituencies. In contrast, we find a positive and significant effect on the growth rate of private schools, which is consistent with the conceptual framework outlined in Section 2.2. This difference between government and private schools could also be attributed to the centralized nature of government school establishment, which is typically determined by state-level planning rather than local decision-making. Conversely, private schools often emerge from local initiatives and community efforts, thus reflecting the influence of locally aligned political leaders more directly.

Next, we examine the impact of having a ruling party aligned leader on student enrollment separately for private and government schools. Given the observed growth in the number of private but not government schools, we anticipate a corresponding increase in private school enrollment. The results are shown in Table 4. The outcome variables in columns (1) and (3) represent the growth rate in the total number of students enrolled in private and government schools at the constituency level, whereas in columns (2) and (4), they reflect the growth rate in enrollment shares for private and government schools. Consistent with our primary findings on the growth rate of private schools, we find positive and significant effects on student enrollment and enrollment share only in private schools. Along with the increase in the share of students enrolled in private schools, there is a corresponding decline in the share of enrollment in government schools in response to having an aligned leader.

Furthermore, we look at the impact of ruling party alignment status on the growth

rate of higher education institutions; the findings are presented in Table 5. Column (1) includes all higher education institutions managed by the central and state governments, as well as private entities. Column (2) excludes those under central government management. Column (3) focuses solely on institutions managed by state governments, while column (4) examines only privately managed institutions. Similar to the results found in schools, we observe positive and significant effects only for private higher education institutions.

5.3 Robustness Checks

While we have already shown the robustness of our main findings by considering different bandwidths and various combinations of fixed effects in Table 2, we conduct additional analyses to assess the sensitivity of the estimates. These include controlling for higher-order polynomials of the forcing variable, incorporating additional control variables, and excluding election years from the sample. In Table 6, we control for higher-order polynomials of the forcing variable. Column (1) shows the original results for comparison, while columns (2) and (3) respectively present the RD model estimated with a quadratic and cubic function of the forcing variable as controls. The estimates in columns (2)-(3) are consistent with those from the original model in column (1).

In Section 5.1, when we examined the likelihood of ruling party aligned candidates winning the close election, we identified two variables – SC/ST constituency and average liabilities of candidates – to be statistically significant at the 10% level (Table A.4). Therefore, in the next robustness check, we add these two variables as controls in our model. The results, presented in column (1) of Table 7, are similar to our original findings. Additionally, in column (2) of Table 7, we estimate the main specification excluding the election years from the sample. This is to mitigate any concerns about ambiguity in the attributions of new private schools that come up in the election years to the incoming or outgoing politicians. The resulting estimates align with our original findings. Overall, these different analyses support the robustness of our main findings.

A remaining methodological concern is whether the RD design based on close elec-

tions between aligned and non-aligned politicians identifies the effect of leaders’ political alignment purged from other characteristics, or “compensating differentials”, that determine the existence of such close elections (Marshall, 2024). This concern usually arises when the comparison is based on a predetermined characteristic observable to the voters – like gender, religion, education, or criminality – that could affect a politician’s margin of victory. However, in our case, the treatment is defined by a post-election variable, i.e., the ruling party alignment, therefore, this is unlikely to be a concern for our estimates.³⁷

5.4 Heterogeneity Analysis

In this subsection, we examine whether our main findings on the growth rate of private schools differ based on various characteristics of leaders and regions.³⁸

Poor vs. Better Quality Government Schools. Firstly, we examine the differential effects on the growth rate of private schools based on the quality of existing government schools.³⁹ This is relevant because the rise in private schools may be driven by the low quality of government schools, prompting ruling party MLAs to facilitate the establishment of more private educational alternatives. To conduct this analysis, we first categorize the districts into four groups based on the quality of government schools reported in 2005, the first year in our sample, and reestimate our model. Consistent with our expectation, the results indicate that the positive effect of ruling party alignment status on private school growth is statistically significant only in districts that are classified as having exceedingly low-quality government schools in 2005 (Figure 4). Estimates from

³⁷Nevertheless, if voters expect a certain party to come to power based on the incumbent’s performance, their voting behavior might change, affecting the margin of victory and the existence of close elections. For instance, if we consider candidate ‘competence’ as the compensating differential and assume that more competent politicians help establish more private schools, then our analysis will likely underestimate the effect of ruling party aligned leaders. This happens because non-aligned candidates must demonstrate higher competence for the election to be competitive.

³⁸The specifications used for these analyses control for year and district fixed effects, and the RD estimates are calculated using CCT bandwidth with a local linear regression employing a triangular kernel. Following Feigenberg et al. (2023), the models are estimated by interacting the relevant heterogeneity variable with all the variables on the right-hand side of Equation 2.

³⁹We use PCA to create a composite index of school quality, represented by the first principal component. This index incorporates factors such as the percentage of qualified graduate teachers, well-maintained classrooms, and the availability of facilities like girls’ toilets, electricity, safe drinking water, libraries, computers, boundary walls, playgrounds, and medical facilities.

Table A.6 reveal that the impact of aligned leaders in the bottom quartile of the quality distribution is significantly higher than that in the top two quartiles.

Incumbent vs. Non-incumbent. In Indian politics, there exists a closely intertwined relationship between politicians and bureaucrats. Therefore, we hypothesize that the effect of alignment with the ruling party would manifest largely among incumbent leaders in comparison to their non-incumbent counterparts, as incumbents have greater experience navigating bureaucratic processes. Additionally, incumbents may engage in patronage politics by streamlining the approval processes for private schools, thereby distributing resources in a way that rewards supportive constituencies and solidifies their political support. Figure 4 shows the marginal effects of aligned leaders across incumbent and non-incumbent politicians, revealing a larger positive effect for aligned incumbents, supporting our hypothesis. However, it is statistically not distinguishable from the effect of non-incumbent aligned leaders (Table A.7).

Weak vs. Strong Institutions. The prevailing conditions in a state may impact the extent to which ruling party aligned leaders can exert their influence on the bureaucracy and governance. Evidence suggests that states with strong institutions limit the actions of powerful politicians, while those with weaker institutions may allow for lawlessness and impunity (Fisman et al., 2014; Prakash et al., 2024). As a result, ruling party aligned politicians may have a greater impact on the growth rate of private schools in states with weaker institutions. To explore this, we classify states into two groups based on the ‘BIMAROU’ classification.⁴⁰ The ‘BIMAROU’ states are known for weaker judicial, police, and political institutions, and are often associated with corruption and low economic development. Consistent with our hypothesis, our findings show a large and significant effect for ‘BIMAROU’ states, while the effect is not significant in ‘Non-BIMAROU’ states (Figure 4). However, the effects are not statistically distinguishable between the two groups of states (Table A.8).

⁴⁰The group ‘BIMAROU’ includes Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Orissa, and Uttar Pradesh. However, we exclude Uttar Pradesh from the estimation, for the reason mentioned in Section 5.1. The term ‘BIMAROU’ is derived from the Hindi word for ‘sick’.

Weak vs. Strong Opposition. In states with weak opposition, ruling party leaders may face fewer checks and balances, allowing them to exert more influence over bureaucratic processes and decision-making. In contrast, in states with strong opposition, ruling party MLAs may have limited ability to implement their agenda, resulting in weaker influence on governance. This dynamic suggests that ruling party aligned politicians may have a greater impact on the growth rate of private schools in states with weaker opposition. To examine this, we categorize state governments into two groups based on the strength of opposition in the legislative assembly: if more than 60% of the total MLAs are aligned with the ruling party, we categorize the opposition as weak; otherwise, it is classified as strong. In support of our hypothesis, we find that the effect is large and significant only in states with weak opposition (Figure 4), though it is statistically indistinguishable from the effect in states with stronger opposition (Table A.9).⁴¹

5.5 Mechanisms

This subsection explores a few potential channels that may explain the higher growth rate of private schools in ruling party aligned constituencies. We focus on three mechanisms: political control over bureaucracy, economic growth, and politicians establishing schools themselves.

Political Control over Bureaucracy. In India, it is widely recognized that political leaders maintain indirect control over the bureaucracy, primarily through their authority over bureaucratic appointments and transfers (Iyer and Mani, 2012; Jensenius and Suryanarayan, 2015; Nath, 2015; Sukhtankar and Vaishnav, 2015; Asher and Novosad, 2017; Gulzar and Pasquale, 2017). As a result, bureaucrats often consider the preferences of influential politicians, particularly those aligned with the ruling party. As we discussed in Section 2.2, ruling party aligned politicians may use this indirect influence to facilitate

⁴¹We also assess the heterogeneity effects based on several other characteristics such as the leader's gender, age, social category, education, criminal record, wealth, constituency type, school category, school location, and state corruption level. We do not observe any significant differences in the impact of ruling party aligned leaders based on these attributes. The results are presented in Figures A.4 - A.5, and Tables A.13 - A.23.

private school establishment for their constituents, thereby enhancing their voter appeal and re-election chances. Therefore, we postulate that politicians' control over bureaucracy is the key mechanism behind the observed higher growth of private schools in their constituencies. However, given the nature of this data, we are unable to perform any empirical test to directly validate this argument. Nevertheless, our heterogeneity analysis provides supporting evidence. As seen in Figure 4, the impact is larger in constituencies with incumbents, likely because their experience enables them to better navigate bureaucratic structures and handle challenges more effectively than non-incumbents.

Furthermore, Figure 4 reveals that the effect is larger and significant in states characterized by weaker institutions and less-powerful opposition parties. As mentioned earlier, evidence suggests that strong institutions and active opposition constrain the actions of influential politicians, while weaker institutions and less-powerful opposition may encourage lawlessness and grant a sense of impunity to politicians and bureaucrats (Fisman et al., 2014; Prakash et al., 2024). This suggests that the higher growth of private schools in these states is likely driven by the control that politicians maintain over the bureaucracy. Thus, all three heterogeneity analyses support the idea that politicians' control over bureaucracy is a key mechanism driving our primary findings.

Economic Growth. Previous studies, such as Asher and Novosad (2017), show that electing a ruling party politician results in a 4 percent increase in economic output as measured by night lights. Improved economic conditions may drive parents to seek higher-quality education for their children. This often increases demand for private schools, which is usually considered superior to government schools. Therefore, we explore whether the economic growth associated with ruling party aligned leaders can explain our findings on the growth rate of private schools in their constituencies.

Similar to Asher and Novosad (2017), our analysis also reveals a positive and statistically significant effect on the growth in night lights (Table A.11), though smaller in magnitude. However, further analysis shows that this effect becomes significant only toward the end of the electoral cycle, as highlighted in the right panel of Figure 5. In contrast, the impact of ruling party alignment status on the growth rate of private schools

appears primarily in the initial years of the electoral cycle, as shown in the left panel of Figure 5. This suggests that the economic growth associated with ruling party alignment status may not explain our findings on the private schools. However, anecdotal evidence suggests that many private schools begin operating without proper recognition or affiliation and may make informal adjustments with recognized schools to facilitate their students' participation in board exams.⁴² When the political environment becomes favourable, especially with new leaders taking office, they try to obtain official recognition promptly. This could explain why we observe a higher growth of private schools in the early years of the electoral cycle.

Politicians Starting Schools. Finally, we examine the possibility that ruling party aligned politicians or their relatives may be directly involved in setting up private schools. Verma (2011) observes that political families often invest in the education sector to build their reputation, driven by multiple reasons. Firstly, some politicians feel a sense of responsibility to address educational needs when public provisions are lacking. Secondly, establishing private schools or colleges can elevate their social and political status within the community. Additionally, these institutions offer politicians valuable opportunities for patronage, including control over admissions and hiring for teaching positions. Lastly, educational institutions allow for more discreet financial management, as they are often operated under trusts with less transparency than registered companies. Similarly, Altbach (1993) notes that educational institutions often serve as focal points for political activities, those affiliated with these institutions assist politicians in mobilizing the public support.

Based on these observations, we hypothesize that ruling party aligned politicians themselves may establish private schools, and their political alignment may facilitate smoother processes for obtaining necessary recognitions for these schools. However, data limitations preclude us from directly testing this hypothesis. Nonetheless, to indirectly

⁴²In India, board exams are major standardized tests taken by students at the end of Grades 10 and 12. These exams are conducted by various education boards like CBSE, ICSE, and state boards. The results play a big role in determining students' future academic and career paths, including their eligibility for college admissions and entrance exams.

reflect on this channel, we categorize MLAs into five groups based on their primary occupational characteristics: agriculture, business, education, professional, and social work. The ‘education’ category includes cases where either the politicians themselves or their spouses are involved in educational trusts, own educational institutions, or hold official positions in educational establishments. Table 8 indicates that the marginal effect is statistically significant for the education category at the 15% level (p -value: 0.101) but remains statistically insignificant for other MLA categories. This suggests that the higher growth of private schools in constituencies aligned with the ruling party may be driven by politicians establishing these schools themselves.

5.6 Implications

Finally, we reflect on the educational implications of our findings, evaluating whether the ruling party alignment truly promotes educational progress or primarily supports private sector interests. First, we examine the implications for learning outcomes. Private schools are usually perceived to have higher quality than government schools; thus, parents who can afford them enroll their children in private schools with the expectation of better academic performance.⁴³ Accordingly, we may anticipate improved learning outcomes in constituencies aligned with the ruling party, given the higher growth of private schools in these areas. To investigate this, we use data on individual-level learning outcomes from ASER. Since ASER lacks precise individual location information and is representative only at the district level, we aggregate political data accordingly and apply a two-stage least squares (2SLS) method to assess the effect on learning outcomes.⁴⁴ Our analysis, however, does not show any statistically significant positive impact on learning outcomes, as shown in Table 9.

⁴³Existing studies show large heterogeneity in the quality of private schools, with private schools performing marginally better than government schools on average, although they are more efficient (Muralidharan and Sundararaman, 2015; Singh, 2015).

⁴⁴In this method, the treatment variable is defined at the district level, and we use the fraction of seats won by ruling party aligned candidates in close elections between aligned and non-aligned candidates as an instrument for the overall fraction of seats held by aligned leaders at the district level. This empirical approach has been widely employed in the related literature (Clots-Figueras, 2011, 2012; Bhalotra and Clots-Figueras, 2014; Bhalotra et al., 2014; Lahoti and Sahoo, 2020).

In addition, we investigate the implications for school quality, as presented in Table 10.⁴⁵ Consistent with our findings on learning outcomes, our analysis reveals no significant impact on the quality of either private or government schools. These results suggest that while legislators aligned with the ruling party may facilitate the establishment of more private schools, it does not necessarily translate into better school quality. Moreover, it is reasonable to assume that schools fulfilling all the necessary criteria and requirements may not need politicians' involvement to gain recognition and affiliation. Consequently, schools that are established with political support may not necessarily adhere to high-quality standards, raising concerns about the effectiveness of such involvement in enhancing educational outcomes.

6 Conclusion

This study examines the impact of political favouritism on the growth of private educational institutions in India, using a constituency-level panel dataset and a close-election regression discontinuity design. Our findings highlight the significant role that ruling party aligned politicians play in the establishment of private schools and higher education institutions, revealing a 3 to 5 percentage point higher growth rate in private schools in constituencies represented by aligned leaders compared to non-aligned constituencies. However, we do not observe a similar pattern in government institutions, both schools and higher education establishments. This might be explained by the fact that government institutions are typically established through centralized state-level planning based on predetermined criteria that limit the influence of local leaders. In contrast, private schools often originate from local initiatives, allowing greater involvement by local political leaders.

Our primary findings hold up in a battery of robustness checks. The heterogeneity

⁴⁵For this analysis, first, we construct a quality index for each school using PCA as previously described in Subsection 5.4. This index is then normalized and aggregated at the constituency level. We define growth in quality as the change in the logarithm of constituency-level quality between two consecutive years.

analysis further reveals that the effect of political alignment is larger in states with weaker institutions and less powerful opposition parties, as well as among aligned politicians who are also incumbents. These findings support the hypothesis that political control over bureaucratic processes – especially in contexts where institutional checks are weaker – plays a critical role in the growth of private schools. Unlike the existing studies in the literature, which mainly emphasize the underperformance of government schools, the importance of improved public infrastructure, and the dynamics of the education market (Andrabi et al., 2002; Muralidharan and Kremer, 2008; Pal, 2010; Jagnani and Khanna, 2020; Andrabi et al., 2024), our study provides systematic evidence on the role of local politicians in the privatization of education provision. Despite the increased establishment of private schools in politically aligned constituencies, our analysis finds no significant improvement in school quality or learning outcomes, raising concerns about the quality of schools established through political support. Policymakers should consider the implications of this politically driven expansion and develop regulatory frameworks that ensure school growth is accompanied by quality assurance.

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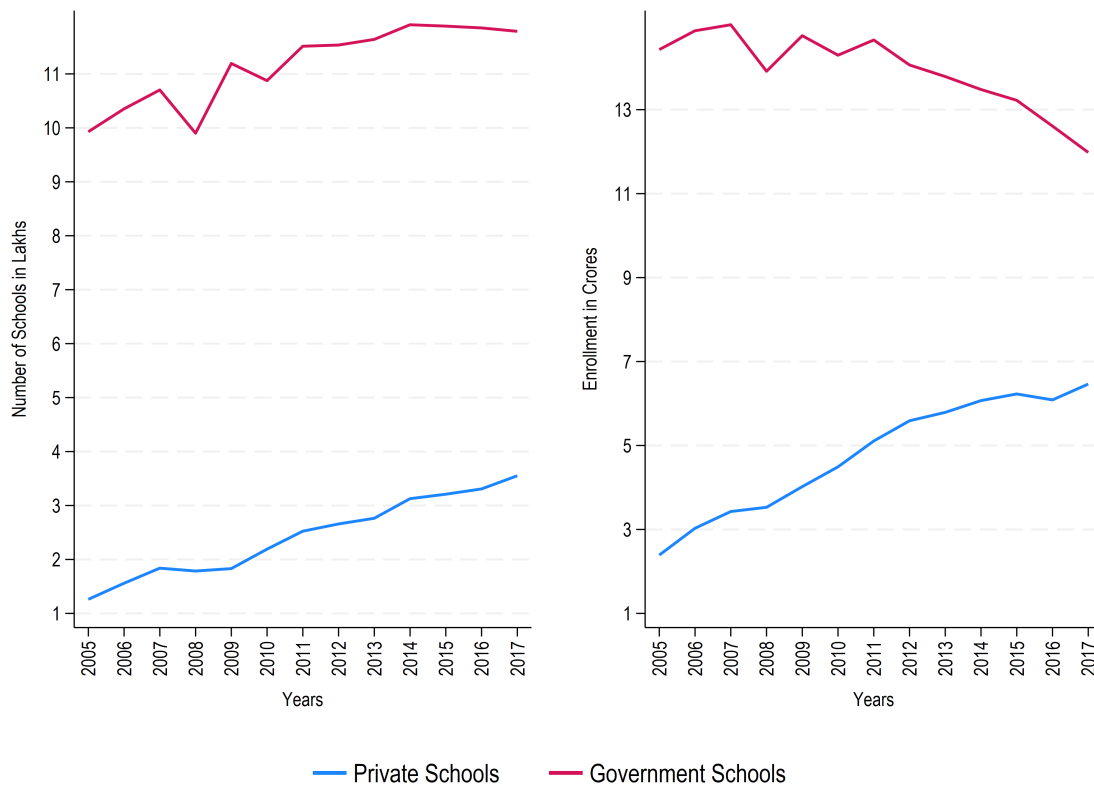
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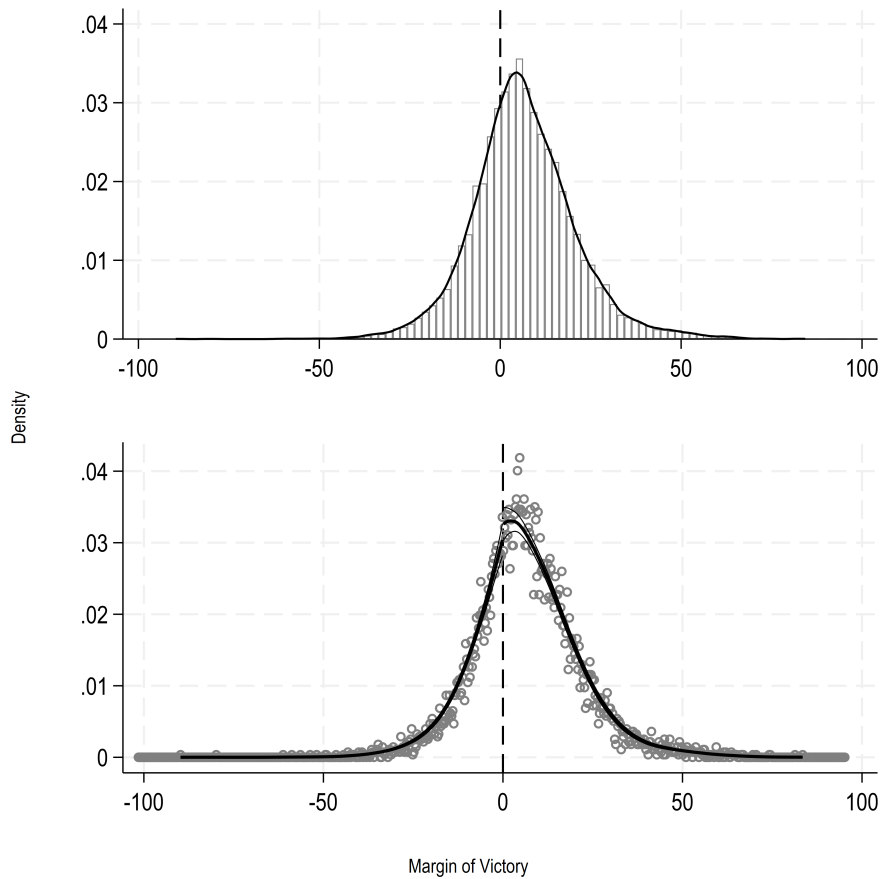
Figures and Tables

Figure 1: Distribution of Government and Private Schools in India



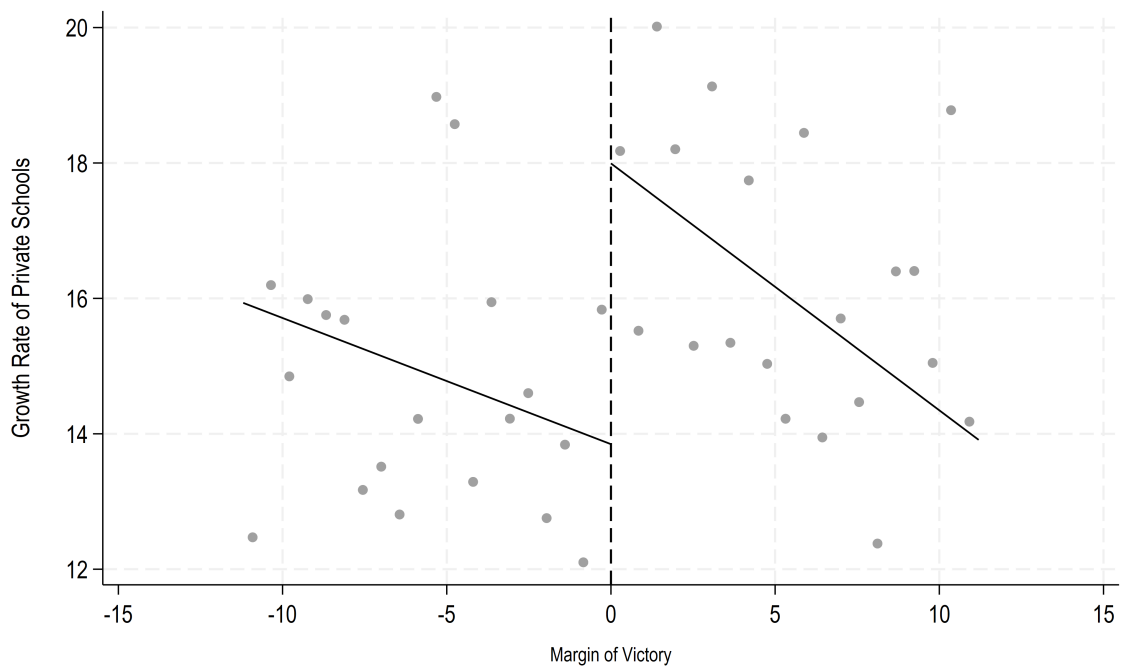
Notes: The figure presents the distribution of government and private schools in India from 2005 to 2017. Government schools are defined as those funded and managed by government entities, including union, state, and local government authorities. This definition also includes government-aided schools that are managed privately. Private schools include both recognized and unrecognized institutions. The left panel displays the number of schools (in lakhs), while the right panel shows the total enrollment (in crores). This is calculated using the data from DISE.

Figure 2: Distribution of Forcing Variable (Margin of Victory).



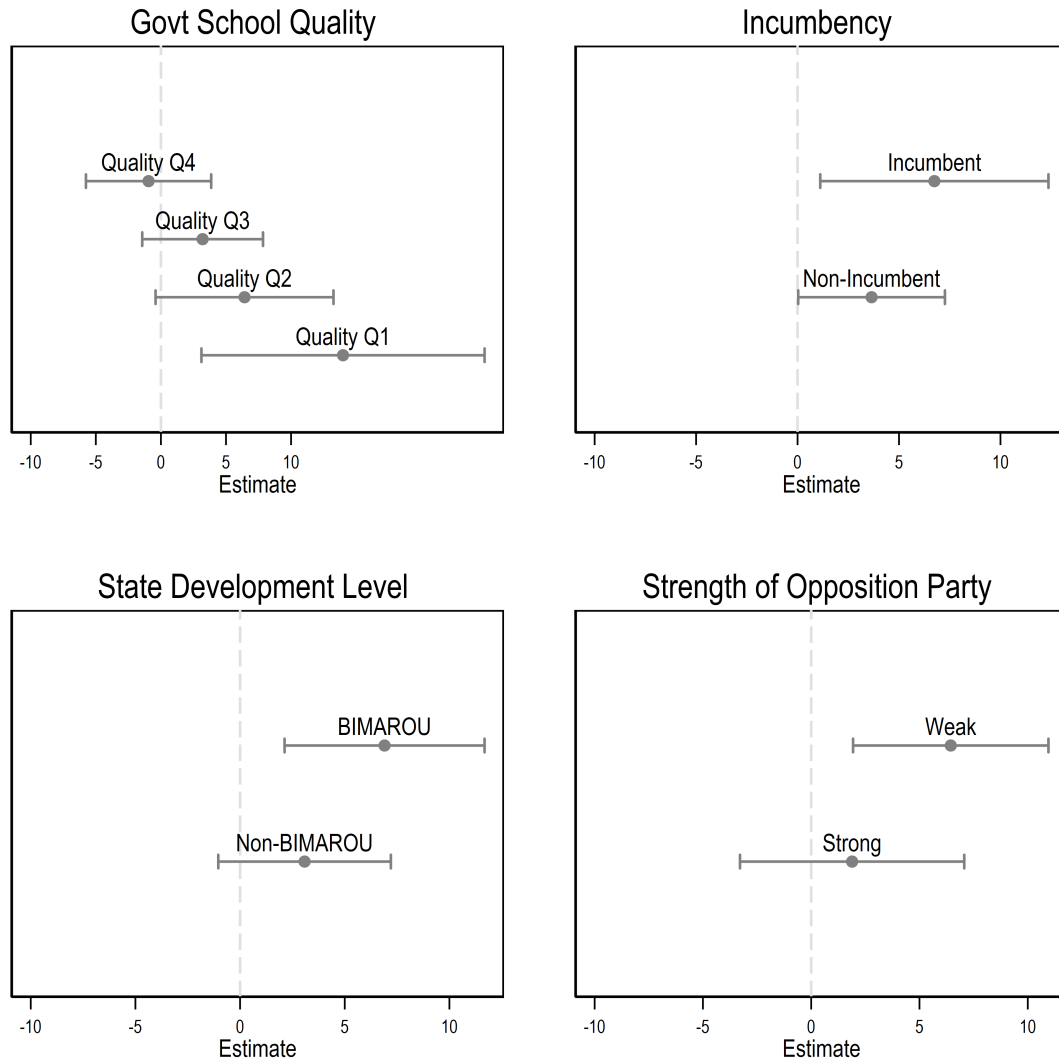
Notes: The figure illustrates the continuity of the forcing variable, which is the margin of victory, defined as the difference in vote share between the ruling party aligned leaders and the non-aligned leaders. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. By construction, the margin of victory is positive for ruling party aligned leaders and negative for non-aligned leaders. The upper panel plots the kernel density of the margin, and the lower panel plots the density test for a discontinuity at the cutoff where the margin of victory is 0. The point estimate for the discontinuity is 0.057, with a standard error of 0.053 (p -value: 0.287).

Figure 3: Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools



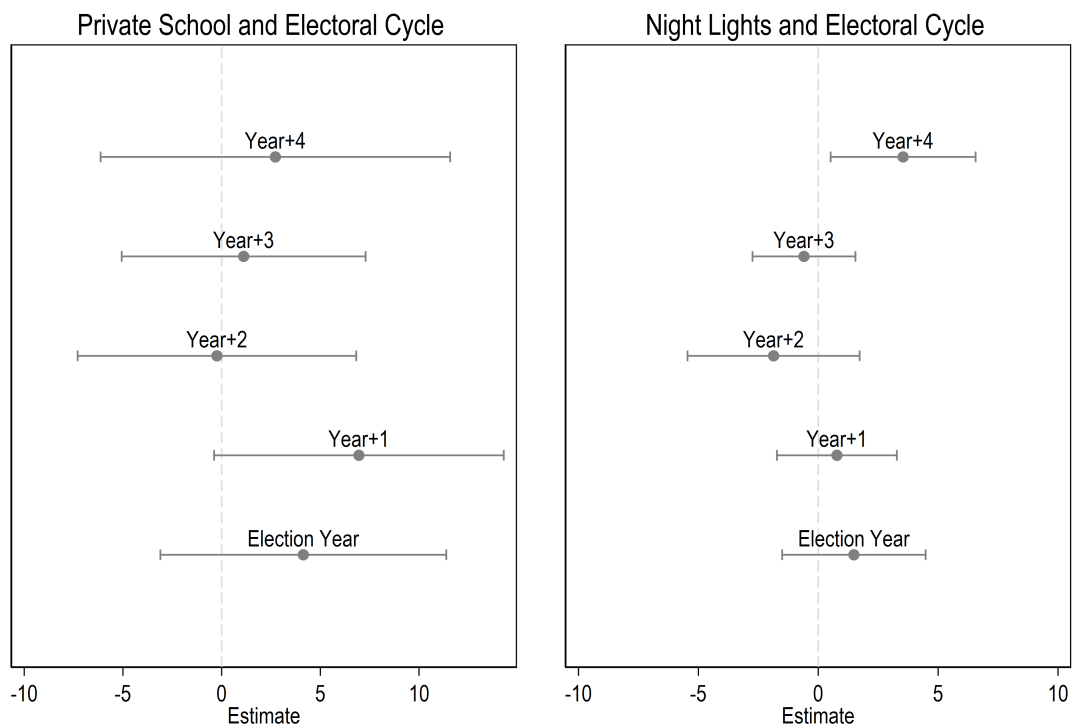
Notes: The figure plots the dependent variable, the growth rate of private schools against the margin of victory, which is the difference in vote share between the ruling party aligned leaders and the non-aligned leaders in mixed elections. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Points to the right of zero represent locations won by leaders aligned with the ruling party, while points to the left of zero correspond to locations won by non-aligned leaders. Each dot in the figure depicts the averages over successive intervals of around 0.5% of the margin of victory.

Figure 4: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools



Notes: The figure displays the regression discontinuity estimates of the effect of having a ruling party aligned leader on the growth rate of private schools on different subsamples. These subsamples are based on the quality of government schools (districts are divided into four quantiles based on the quality of government schools in 2005), the leaders' incumbency status, the development level of states (with the 'BIMAROU' group including Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Orissa, and Uttar Pradesh), and the strength of opposition parties (determined by the share of ruling party aligned MLAs; if their share exceeds 60% of the total MLAs, the opposition is categorized as weak, otherwise as strong). Dots denote point estimates, and lines represent 95% confidence intervals. All regressions control for year and district fixed effects, and RD estimates are calculated using CCT bandwidth with a local linear regression employing a triangular kernel.

Figure 5: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate in Private Schools and Night Lights by Electoral Cycle



Notes: The figure plots the heterogeneous effect of having a ruling party aligned leader on growth rate in private schools and night lights by electoral cycle. Dots denote point estimates, and lines represent 95% confidence intervals. The regression controls for year and district fixed effects, and the RD estimate is calculated using CCT bandwidth with a local linear regression employing a triangular kernel.

Table 1: Summary Statistics - Full and Mixed Sample

	Full Sample			Mixed Sample		
	N	Mean	SD	N	Mean	SD
Growth of private schools	33564	15.61	68.43	30434	15.72	68.82
Growth of govt schools	33564	3.79	58.79	30434	3.78	57.94
Growth of private enrollment	33564	27.41	171.15	30434	27.93	171.80
Growth of govt enrollment	33564	0.66	79.85	30434	0.70	78.80
General constituency	33564	0.71	0.45	30434	0.71	0.45
SC constituency	33564	0.15	0.36	30434	0.15	0.36
ST constituency	33564	0.14	0.35	30434	0.14	0.34
SC/ST constituency	33564	0.29	0.45	30434	0.29	0.45
Electorate size (log)	33564	11.88	0.74	30434	11.89	0.74
Voter (log)	33564	11.50	0.70	30434	11.51	0.70
Turnout	33564	69.89	13.41	30434	70.07	13.45
Aligned winner	33564	0.66	0.47	30434	0.69	0.46
Aligned runner-up	33564	0.31	0.46	30434	0.31	0.46
Graduate leader	28084	0.61	0.49	25506	0.61	0.49
Graduate runner-up	27831	0.61	0.49	25256	0.61	0.49
Winner's assets (log)	28850	15.87	1.80	26217	15.85	1.80
Runner-up's assets (log)	28810	15.68	1.84	26179	15.67	1.83
Winner's liabilities (log)	28908	8.67	6.82	26275	8.60	6.83
Runner-up's liabilities (log)	28908	8.67	6.73	26275	8.64	6.72
Winner's criminality	28908	0.30	0.46	26275	0.29	0.45
Runner-up's criminality	28908	0.29	0.45	26275	0.28	0.45
Winner's age	30027	50.51	10.26	27212	50.61	10.31
Runner-up's age	30027	50.25	10.49	27212	50.29	10.40
Male winner	33564	0.92	0.27	30434	0.92	0.28
Male runner-up	33564	0.91	0.29	30434	0.91	0.29
Winner's education	28084	13.55	3.47	25506	13.57	3.49
Runner-up's education	27831	13.49	3.58	25256	13.49	3.60
Female winner	33564	0.08	0.27	30434	0.08	0.28
Incumbent winner	26453	0.34	0.47	24002	0.34	0.48
Congress contested	28908	0.77	0.42	26275	0.77	0.42
BJP contested	28908	0.69	0.46	26275	0.68	0.47
Regional party contested	28908	0.93	0.26	26275	0.92	0.27
Left party contested	28908	0.35	0.48	26275	0.35	0.48
Independent candidate contested	28908	0.64	0.48	26275	0.63	0.48

Notes: Summary statistics are computed using constituency-year level data. The growth variables are defined as logarithmic difference in the number of schools within the constituency between two consecutive years, and then multiplying this value by 100. The full sample includes all constituencies with winner and runner-up candidates. The mixed sample includes constituencies where ruling party aligned candidate won against non-aligned candidate or vice versa. The ruling party alignment is defined based on the election result that determines which party holds power in the state government.

Table 2: Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools

	(1)	(2)	(3)	(4)
Panel A - (No Fixed Effects)				
Aligned Winner	3.229** (1.483)	4.435** (1.878)	2.453* (1.267)	4.519** (2.018)
R-squared	0.000	0.000	0.000	0.000
Mean Dep Variable	14.23	14.62	14.36	14.47
Bandwidth	15.11	8.81	22.66	7.55
Observations	21730	14877	26442	13151
Panel B - (Year and State Fixed Effects)				
Aligned Winner	3.065** (1.514)	3.795** (1.839)	2.458* (1.291)	4.297** (2.046)
R-squared	0.053	0.056	0.052	0.057
Mean Dep Variable	14.38	14.62	14.35	14.61
Bandwidth	13.90	8.81	20.85	6.95
Observations	20658	14877	25690	12215
Panel C - (Year and District Fixed Effects)				
Aligned Winner	4.456*** (1.714)	4.538** (1.938)	3.122** (1.424)	5.078** (2.423)
R-squared	0.074	0.079	0.067	0.094
Mean Dep Variable	14.61	14.62	14.20	14.78
Bandwidth	11.20	8.81	16.80	5.60
Observations	17825	14876	23162	9997
Panel D - (State-Year and District Fixed Effects)				
Aligned Winner	3.390*** (1.313)	3.260** (1.376)	3.311*** (1.082)	2.503 (1.862)
R-squared	0.428	0.430	0.421	0.444
Mean Dep Variable	14.54	14.62	14.29	13.95
Bandwidth	9.71	8.81	14.56	4.85
Observations	16040	14876	21248	8754
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2

Notes: The table shows regression discontinuity estimates of the effect of having a ruling party aligned leader on the growth rate of private schools in their constituency. In all panels, ‘Aligned Winner’ is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 3: Effect of Having a Ruling Party Aligned Leader on Growth Rate of Government Schools

	(1)	(2)	(3)	(4)
Panel A - (No Fixed Effects)				
Aligned Winner	1.035 (0.907)	1.128 (1.018)	0.933 (0.793)	1.008 (1.129)
R-squared	0.000	0.000	0.000	0.000
Mean Dep Variable	3.26	3.39	3.26	3.65
Bandwidth	12.22	8.34	18.34	6.11
Observations	18880	14322	24188	10917
Panel B - (Year and State Fixed Effects)				
Aligned Winner	0.836 (0.939)	0.922 (1.037)	0.804 (0.820)	0.808 (1.183)
R-squared	0.023	0.024	0.020	0.026
Mean Dep Variable	3.20	3.39	3.24	3.58
Bandwidth	11.58	8.34	17.37	5.79
Observations	18232	14322	23542	10374
Panel C - (Year and District Fixed Effects)				
Aligned Winner	0.477 (1.030)	0.352 (1.114)	0.759 (0.864)	0.355 (1.337)
R-squared	0.041	0.043	0.035	0.050
Mean Dep Variable	3.33	3.39	3.32	3.35
Bandwidth	10.07	8.34	15.10	5.03
Observations	16515	14320	21727	9067
Panel D - (State-Year and District Fixed Effects)				
Aligned Winner	0.822 (0.957)	0.805 (0.964)	1.126 (0.808)	1.029 (1.386)
R-squared	0.353	0.354	0.340	0.393
Mean Dep Variable	3.37	3.39	3.28	3.26
Bandwidth	8.49	8.34	12.74	4.25
Observations	14479	14320	19469	7702
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2

Notes: The table shows regression discontinuity estimates of the effect of having a ruling party aligned leader on the growth rate of government schools in their constituency. In all panels, ‘Aligned Winner’ is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 4: Effect of Having a Ruling Party Aligned Leader on Growth Rate in School Enrollment

	Private		Government	
	Enrollment Count	Enrollment Share	Enrollment Count	Enrollment Share
	(1)	(2)	(3)	(4)
Panel A - (No Fixed Effects)				
Aligned Winner	6.303* (3.582)	2.450* (1.301)	0.300 (1.179)	-0.609 (0.428)
R-squared	0.000	0.000	0.000	0.000
Mean Dep Variable	24.26	11.95	-0.17	-2.66
Bandwidth	13.77	13.08	11.41	10.62
Observations	20550	19837	18064	17177
Panel B - (Year and State Fixed Effects)				
Aligned Winner	6.169* (3.454)	2.207* (1.221)	0.039 (1.197)	-0.697* (0.395)
R-squared	0.059	0.040	0.015	0.024
Mean Dep Variable	24.17	11.78	-0.16	-2.66
Bandwidth	13.94	14.06	11.04	11.97
Observations	20689	20802	17662	18618
Panel C - (Year and District Fixed Effects)				
Aligned Winner	10.364** (4.304)	3.531** (1.463)	-0.593 (1.323)	-1.021** (0.421)
R-squared	0.077	0.058	0.031	0.038
Mean Dep Variable	25.24	12.00	-0.05	-2.66
Bandwidth	10.13	10.41	9.93	10.28
Observations	16612	16931	16359	16754
Panel D - (State-Year and District Fixed Effects)				
Aligned Winner	7.109** (3.406)	2.955** (1.233)	0.029 (1.315)	-0.942** (0.468)
R-squared	0.376	0.292	0.285	0.161
Mean Dep Variable	24.91	11.99	0.14	-2.56
Bandwidth	8.90	9.98	8.02	8.35
Observations	15045	16422	13866	14314
Bandwidth Type	CCT	CCT	CCT	CCT

Notes: The table shows regression discontinuity estimates of the effect of having a ruling party aligned leader on enrollment growth rate in both private and government schools. Columns (1) and (3) represent outcome variables as the growth rate in enrollment numbers, while columns (2) and (4) depict outcome variables as the growth rate in enrollment shares. In all panels, 'Aligned Winner' is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 5: Effect of Having Ruling Party Aligned Leader on Growth Rate of Higher Education Institutions

	All Institutions (1)	All Institutions (No Central) (2)	State Govt. Institutions (3)	Private Institutions (4)
Panel A - (No Fixed Effects)				
Aligned Winner	0.371 (0.318)	0.382 (0.320)	0.216 (0.225)	0.626* (0.380)
R-squared	0.000	0.000	0.000	0.000
Mean Dep Variable	3.71	3.71	1.06	3.91
Bandwidth	11.63	11.58	10.71	11.39
Observations	21789	21741	20578	21521
Panel B - (Year and State Fixed Effects)				
Aligned Winner	0.321 (0.257)	0.344 (0.264)	0.252 (0.198)	0.529 (0.324)
R-squared	0.076	0.076	0.022	0.058
Mean Dep Variable	3.65	3.65	1.03	3.86
Bandwidth	15.10	14.33	13.37	13.80
Observations	25868	25074	24025	24509
Panel C - (Year and District Fixed Effects)				
Aligned Winner	0.530* (0.294)	0.539* (0.297)	0.171 (0.193)	0.843** (0.362)
R-squared	0.117	0.117	0.044	0.100
Mean Dep Variable	3.75	3.75	1.07	3.95
Bandwidth	10.81	10.73	14.55	10.64
Observations	20731	20607	25289	20520
Panel D - (State-Year and District Fixed Effects)				
Aligned Winner	0.534* (0.300)	0.535* (0.301)	0.159 (0.208)	0.786** (0.369)
R-squared	0.204	0.203	0.119	0.177
Mean Dep Variable	3.71	3.71	1.03	3.90
Bandwidth	8.48	8.53	11.34	8.58
Observations	17199	17248	21445	17287
Bandwidth Type	CCT	CCT	CCT	CCT

Notes: The table shows regression discontinuity estimates of the effect of having a ruling party aligned leader on the growth rate of higher education institutions in their constituency. In all panels, ‘Aligned Winner’ is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. Column (1) includes all types of higher education institutions managed by central and state governments, as well as private entities. Column (2), on the other hand, excludes central government institutions. Column (3) specifically focuses on higher education institutions managed by state governments. In column (4), we consider only privately managed institutions. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 6: Robustness Check: Sensitivity Analysis of RD Specification to Higher Order Polynomials

	Outcome Variable: Growth Rate of Private Schools		
	Linear (1)	Quadratic (2)	Cubic (3)
Panel A - (No Fixed Effects)			
Aligned Winner	3.229** (1.483)	5.208** (2.110)	5.803** (2.351)
R-squared	0.000	0.000	0.000
Mean Dep Variable	14.23	14.19	14.36
Bandwidth	15.11	15.47	21.93
Observations	21730	22014	26162
Panel B - (Year and State Fixed Effects)			
Aligned Winner	3.065** (1.514)	4.447** (2.079)	5.169** (2.421)
R-squared	0.053	0.053	0.052
Mean Dep Variable	14.38	14.23	14.32
Bandwidth	13.90	15.29	19.59
Observations	20658	21872	24976
Panel C - (Year and District Fixed Effects)			
Aligned Winner	4.456*** (1.714)	5.585*** (1.998)	6.056** (2.467)
R-squared	0.074	0.067	0.066
Mean Dep Variable	14.61	14.23	14.27
Bandwidth	11.20	17.49	19.05
Observations	17825	23600	24612
Panel D - (State-Year and District Fixed Effects)			
Aligned Winner	3.390*** (1.313)	3.785** (1.498)	3.181* (1.789)
R-squared	0.428	0.420	0.419
Mean Dep Variable	14.54	14.15	14.27
Bandwidth	9.71	15.53	17.84
Observations	16040	22099	23862
Bandwidth Type	CCT	CCT	CCT

Notes: Column (1) presents the original results for the comparison. In column (2), the RD model is estimated by quadratic control function, whereas in column (3) by cubic control function. In all panels, ‘Aligned Winner’ is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 7: Additional Robustness Checks

Outcome Variable: Growth Rate of Private Schools		
	With Additional Control Variables (1)	Excluding Election Years (2)
Panel A - (No Fixed Effects)		
Aligned Winner	3.594*** (1.324)	2.706 (1.833)
R-squared	0.001	0.000
Mean Dep Variable	11.31	13.47
Bandwidth	15.11	14.45
Observations	18818	16790
Panel B - (Year and State Fixed Effects)		
Aligned Winner	3.381*** (1.295)	2.974* (1.727)
R-squared	0.054	0.064
Mean Dep Variable	11.39	13.41
Bandwidth	13.90	15.10
Observations	17891	17261
Panel C - (Year and District Fixed Effects)		
Aligned Winner	4.069*** (1.373)	3.959** (1.996)
R-squared	0.077	0.098
Mean Dep Variable	11.49	13.67
Bandwidth	11.20	11.30
Observations	15410	14279
Panel D - (State-Year and District Fixed Effects)		
Aligned Winner	2.851*** (1.042)	3.063** (1.482)
R-squared	0.384	0.471
Mean Dep Variable	11.31	13.74
Bandwidth	9.71	10.64
Observations	13946	13676
Bandwidth Type	CCT	CCT

Notes: Column (1) incorporates additional control variables, and in Column (2), the election years have been excluded. In all panels, ‘Aligned Winner’ is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table 8: Mechanism: Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools, Varying with Leader's Occupational Characteristics

	(1)	(2)	(3)	(4)
Aligned	-0.846 (0.949)	-0.136 (1.307)	-0.793 (0.830)	1.526 (1.950)
Aligned × Business	-0.503 (2.413)	-2.208 (3.427)	-0.083 (1.936)	-5.781 (4.957)
Aligned × Education Field	15.913* (9.233)	8.290 (11.557)	16.928** (8.407)	-2.859 (13.102)
Aligned × Professional	9.032 (7.876)	14.907 (12.923)	3.667 (4.952)	33.787 (24.807)
Aligned × Social Work	3.347 (4.876)	1.234 (7.768)	5.388 (3.694)	0.165 (10.719)
Marginal Effects				
Agriculture	-0.846 (0.949)	-0.136 (1.307)	-0.793 (0.830)	1.526 (1.950)
Business	-1.349 (2.222)	-2.344 (3.150)	-0.876 (1.758)	-4.255 (4.489)
Education Field	15.067† (9.177)	8.155 (11.460)	16.134* (8.364)	-1.333 (12.915)
Professional	8.186 (7.823)	14.772 (12.858)	2.873 (4.886)	35.313 (24.730)
Social Work	2.501 (4.809)	1.098 (7.726)	4.595 (3.609)	1.692 (10.623)
R-squared	0.099	0.117	0.086	0.127
Mean Dep Variable	6.853	6.953	7.029	6.914
Bandwidth	14.18	9.35	21.27	7.09
Observations	7233	5354	9130	4210
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: Aligned is a dummy variable that takes 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. This analysis divides MLAs into five groups based on their primary occupation: agriculture, business, education, professional, and social work. The 'Education Field' category includes cases where either the politicians themselves or their spouses are involved in educational trusts, own educational institutions, or hold official positions in educational establishments. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols †, *, **, and *** indicate significance at the 15%, 10%, 5%, and 1% levels, respectively.

Table 9: Implication: 2SLS Estimates on the Effect of Having Ruling Party Aligned Leader on Learning Outcomes

	Outcome at t+1		Outcome at t+2	
	Reading (1)	Math (2)	Reading (3)	Math (4)
Ruling Seat Share	-0.054 (0.050)	-0.068 (0.054)	-0.028 (0.052)	-0.041 (0.060)
First Stage F-stat	308.17	308.07	262.97	263.21
Observations	3726876	3713701	3381579	3369888
Closed Election Margin	3 %	3 %	3 %	3 %
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: This table considers child-level learning outcomes obtained from the ASER between 2006 and 2016. In columns 1 and 3, the outcome variable is the reading score, while in columns 2 and 4, it is the mathematics score. In the first two columns, the ruling seat share variable (measured in year t) is matched with outcomes for year $t+1$, whereas in the last two columns, it is matched with outcomes for year $t+2$. Learning outcomes are matched with the political data at the district-year level. The ‘Ruling Seat Share’ is defined as the fraction of seats won by leaders aligned with the ruling party against non-aligned leaders in a given district; this variable is instrumented by the fraction of seats won by the ruling party aligned candidates in close elections between aligned and non-aligned candidates. Robust standard errors clustered at the district level are given in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

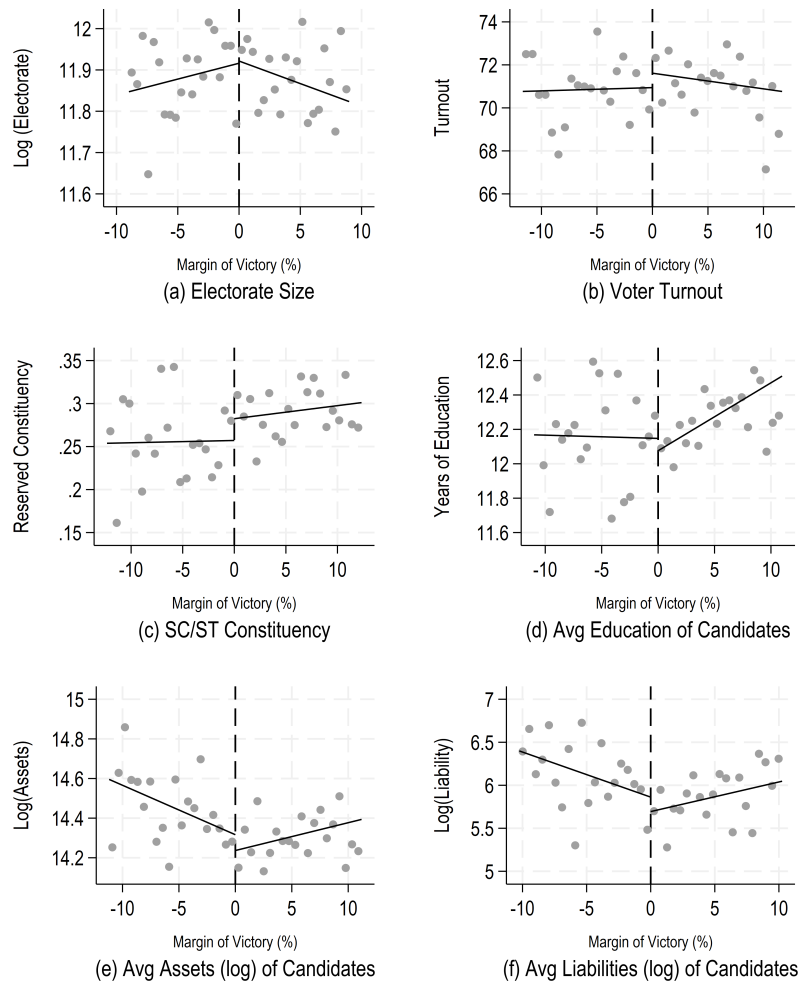
Table 10: Effect of Having a Ruling Party Aligned Leader on the Growth Rate of School Quality

	Overall (1)	Private (2)	Govt (3)
Aligned Winner	0.189 (0.171)	0.429 (0.326)	0.131 (0.184)
R-squared	0.138	0.066	0.113
Mean Dep Variable	3.27	1.80	3.36
Bandwidth	15.16	13.84	13.55
Observations	21737	17922	20288
Bandwidth Type	CCT	CCT	CCT
Year Fixed Effects	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes

Notes: The table shows regression discontinuity estimates of the effect of having a ruling party aligned leader on the school quality growth. The quality variable is constructed using Principal Component Analysis (PCA), incorporating factors like the percentage of qualified teachers, classroom maintenance, and availability of facilities such as girls' toilets, electricity, safe drinking water, libraries, computers, boundary walls, playgrounds, and medical facilities. Column (1) includes both government and private schools, column (2) restricts to private schools and column (3) to government schools. 'Aligned Winner' is a dummy variable that is 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

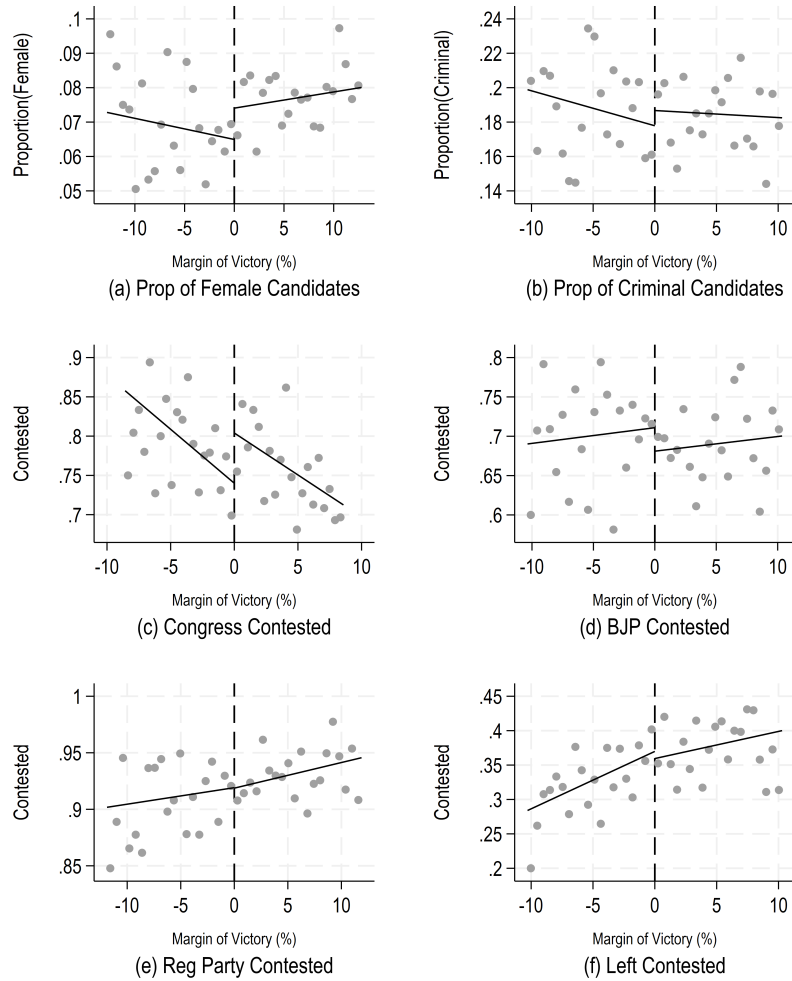
Appendix.

Figure A.1: Continuity Checks of Predetermined Constituency Level Variables - 1



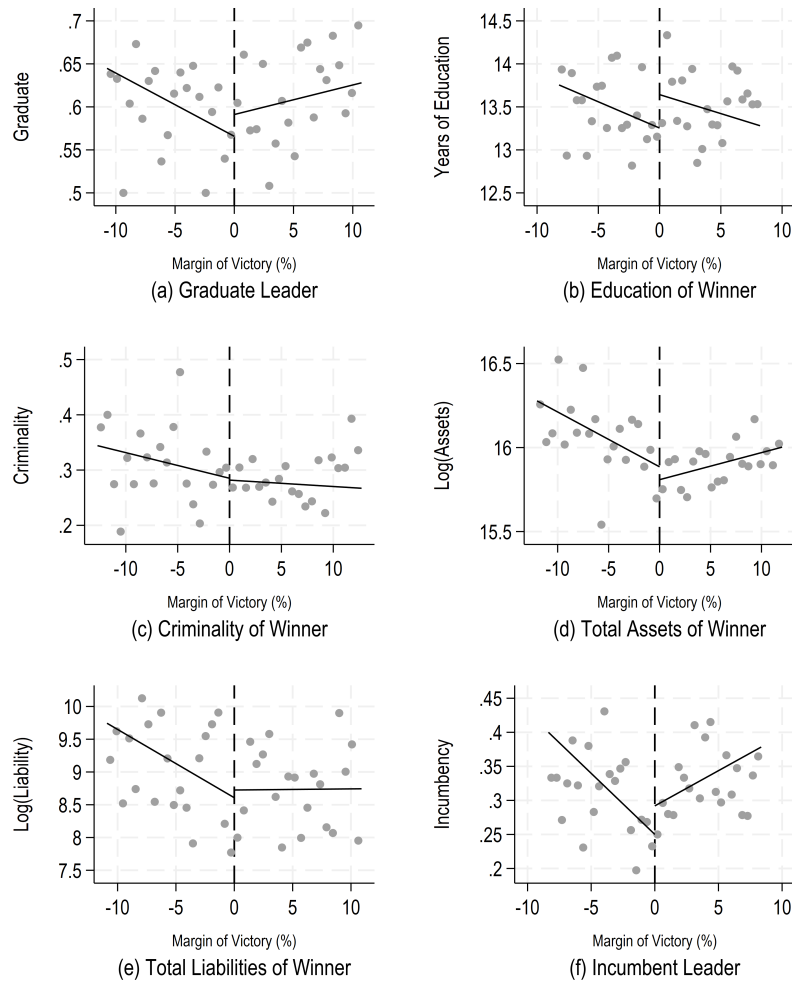
Notes: The figure plots the continuity checks for constituency-level variables. Each variable is plotted against the margin of victory, which is the difference in vote share between the ruling party aligned leaders and the non-aligned leaders in mixed elections. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Points to the right of zero represent locations won by leaders aligned with the ruling party, while points to the left of zero correspond to locations won by non-aligned leaders. Each dot in the figure depicts the averages over successive intervals of around 0.5% of the margin of victory.

Figure A.2: Continuity Checks of Predetermined Constituency Level Variables - 2



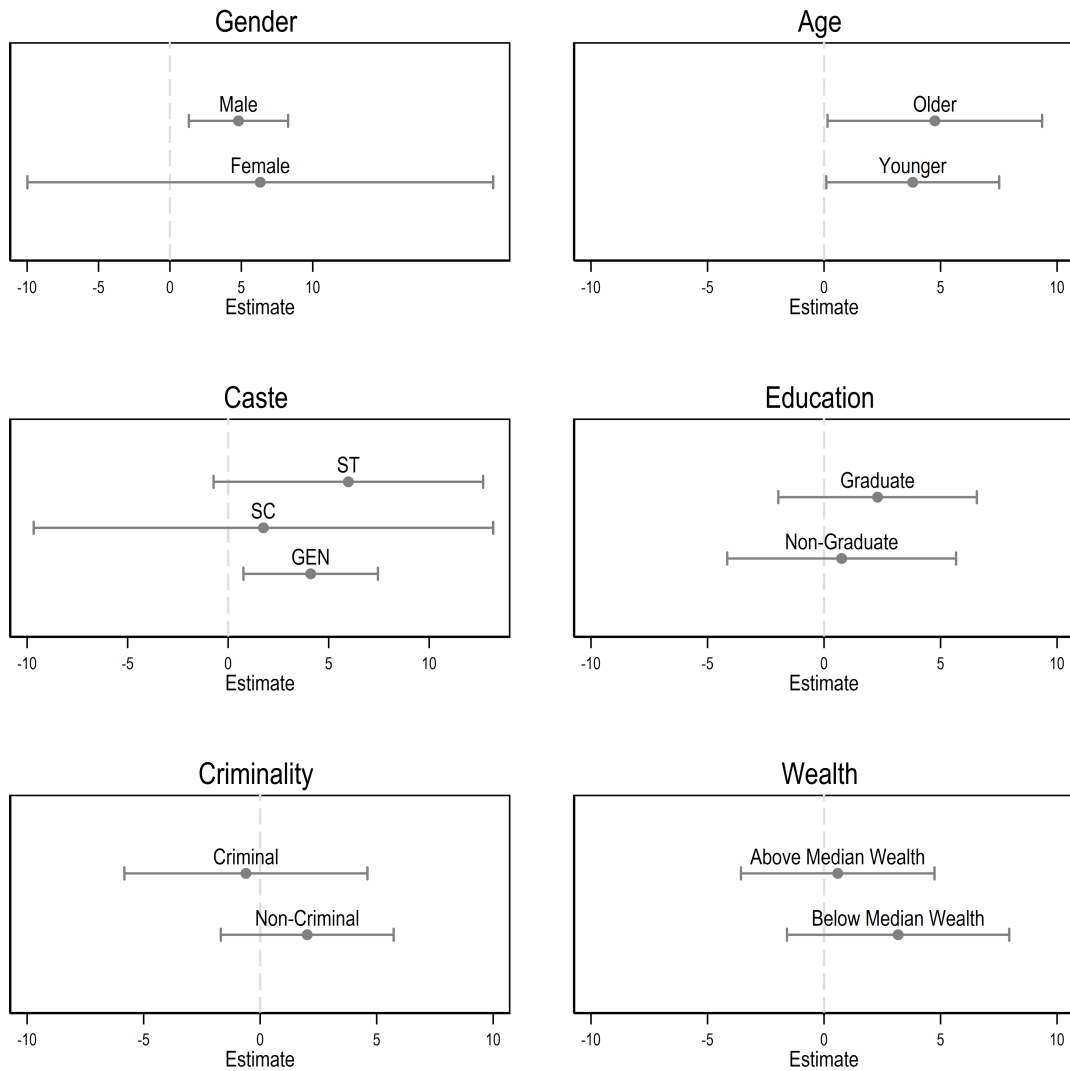
Notes: The figure plots the continuity checks for constituency-level variables. Each variable is plotted against the margin of victory, which is the difference in vote share between the ruling party aligned leaders and the non-aligned leaders in mixed elections. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Points to the right of zero represent locations won by leaders aligned with the ruling party, while points to the left of zero correspond to locations won by non-aligned leaders. Each dot in the figure depicts the averages over successive intervals of around 0.5% of the margin of victory.

Figure A.3: Continuity Checks of Predetermined Candidate Level Variables



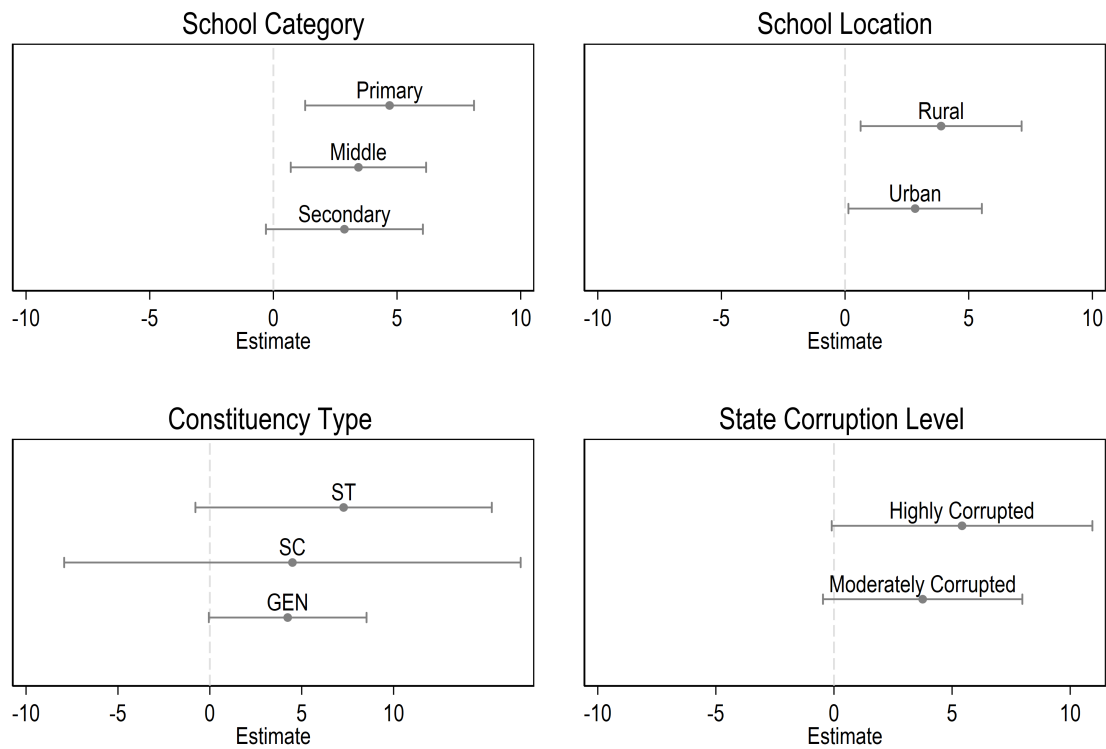
Notes: The figure illustrates continuity checks for candidate-level variables. Each variable is plotted against the margin of victory, which is the difference in vote share between the ruling party aligned leaders and the non-aligned leaders in mixed elections. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Points to the right of zero represent locations won by leaders aligned with the ruling party, while points to the left of zero correspond to locations won by non-aligned leaders. Each dot in the figure depicts the averages over successive intervals of around 0.5% of the margin of victory.

Figure A.4: Heterogeneous Effect of Ruling Party Alignment Status on Growth Rate of Private Schools by Leader Characteristics



Notes: The figure plots the regression discontinuity estimates of the effect of having a ruling party aligned leader on growth rate of private schools on different subsamples. These subsamples are based on leaders' gender, age, caste, education, criminality, and wealth. Dots denote point estimates, and lines represent 95% confidence intervals. All regressions control for year and district fixed effects, and RD estimates are calculated using CCT bandwidth with a local linear regression employing a triangular kernel.

Figure A.5: Heterogeneous Effect of Ruling Party Alignment Status on Growth Rate of Private Schools by School, Constituency and State Level Characteristics.



Notes: The figure plots the regression discontinuity estimates of the effect of having a ruling party aligned leader on growth rate of private schools on different subsamples. These subsamples are based on school category, school location, constituency type, and state corruption level (States are classified into two groups: ‘Highly Corrupted’ and ‘Moderately Corrupted’ states, based on a corruption index created by Transparency International India (TII) using data from the Indian Corruption Study of 2008. Accordingly, Assam, Bihar, Goa, Jammu and Kashmir, Karnataka, Madhya Pradesh, Meghalaya, Nagaland, Rajasthan, Sikkim, and Tamil Nadu are classified as highly corrupted states; and Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Kerala, Maharashtra, Manipur, Mizoram, Orissa, Puducherry, Punjab, Tripura, Uttarakhand, and West Bengal as moderately corrupted states). Dots denote point estimates, and lines represent 95% confidence intervals. All regressions control for year and district fixed effects, and RD estimates are calculated using CCT bandwidth with a local linear regression employing a triangular kernel.

Table A.1: Summary Statistics - Higher Education Institutions and Night Lights

	Full Sample			Mixed Sample		
	N	Mean	SD	N	Mean	SD
Growth of all higher education institutions	40372	3.60	9.28	36328	3.67	9.34
Growth excluding central govt institutions	40372	3.60	9.31	36328	3.68	9.38
Growth of state govt institutions	40372	1.22	8.10	36328	1.20	8.02
Growth of private institutions	40372	3.76	11.23	36328	3.86	11.36
Growth in night lights	35130	6.63	23.46	31826	6.61	23.54

Notes: Summary statistics are computed using constituency-year level data. The full sample includes all constituencies with winner and runner-up candidates. The mixed sample includes constituencies where ruling party aligned candidate won against non-aligned candidate or vice versa. The ruling party alignment is defined based on the election result that determines which party holds power in the state government.

Table A.2: Summary Statistics - Variables from ASER

	Obs (1)	Mean (2)	Std Dev (3)	Min (4)	Max (5)
Math score	3713701	3.40	1.33	1.00	5.00
Reading score	3726876	3.64	1.46	1.00	5.00
Child age	3726876	10.31	3.25	5.00	16.00
Child gender	3726876	0.47	0.50	0.00	1.00
Parent went to school	3726876	0.82	0.39	0.00	1.00

Notes: This table presents summary statistics for the sample used to estimate the impact of having a leader aligned with the ruling party on learning outcomes. The data comes from eleven rounds of ASER collected between 2006 and 2018.

Table A.3: Regression Discontinuity Estimates for Predetermined Covariates

	Bandwidth	RD Estimate	<i>p</i> -value
Electorate size (log)	8.988	0.005	0.903
Turnout	11.680	0.671	0.357
SC/ST constituency	12.335	0.025	0.304
Average years of education of candidates	10.989	-0.072	0.617
Average assets (log) of candidates	11.184	-0.080	0.305
Average liabilities (log) of candidates	10.251	-0.168	0.455
Proportion of female candidates	12.804	0.009	0.129
Proportion of criminal candidates	10.320	0.009	0.511
Congress contested	8.576	0.064	0.039
BJP contested	10.360	-0.030	0.328
Regional party contested	11.883	-0.000	0.981
Left party contested	10.291	-0.010	0.750
Independent candidate contested	11.497	-0.005	0.883
Graduate leader	10.744	0.025	0.447
Winner's education	8.203	0.389	0.130
Winner's criminality	12.729	-0.003	0.905
Winner's assets (log)	12.022	-0.077	0.496
Winner's liabilities (log)	10.905	0.118	0.794
Incumbent winner	8.358	0.042	0.216

Notes: We run our basic specification in Equation 2 by employing each covariate of interest as the outcome variable with its corresponding optimal bandwidth, using a polynomial of order one, and a triangular kernel function to assign weights to the observations.

Table A.4: Probability that Ruling Party Aligned Candidate Wins in Close Elections

	(1)	(2)	(3)
Electorate size (log)	-0.000 (0.015)	-0.041 (0.049)	0.001 (0.048)
Turnout	0.001 (0.001)	-0.001 (0.001)	-0.001 (0.001)
SC/ST constituency	0.023 (0.021)	0.035 (0.022)	0.046* (0.025)
Average years of education of candidates	0.006 (0.004)	0.002 (0.004)	-0.001 (0.005)
Average assets (log) of candidates	-0.007 (0.009)	0.007 (0.010)	0.011 (0.012)
Average liabilities (log) of candidates	-0.002 (0.003)	-0.003 (0.003)	-0.007* (0.004)
Proportion of female candidates	0.088 (0.071)	0.057 (0.071)	0.061 (0.080)
Proportion of criminal candidates	0.042 (0.046)	0.059 (0.049)	0.063 (0.054)
Congress contested	-0.020 (0.022)	-0.001 (0.031)	-0.020 (0.036)
BJP contested	0.001 (0.019)	0.004 (0.025)	-0.003 (0.029)
Regional party contested	0.032 (0.035)	0.050 (0.041)	0.047 (0.045)
Left party contested	0.035* (0.020)	-0.018 (0.024)	0.014 (0.027)
Independent candidate contested	0.002 (0.021)	0.033 (0.025)	0.020 (0.029)
Observations	3204	3204	3204
R-squared	0.006	0.029	0.150
F statistics	1.538	0.779	0.910
P-value for joint significance	0.096	0.683	0.542
Year FE	No	Yes	Yes
State FE	No	Yes	Yes
District FE	No	No	Yes

Notes: In this analysis, we consider the dependent variable to be a dummy indicating whether the winner of close elections is aligned with the ruling party or not and regress it on various candidate- and constituency-level variables. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.5: OLS Estimates for the Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools

	Full Sample				Mixed Sample			
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Aligned Winner	2.334*** (0.863)	2.432*** (0.842)	2.544*** (0.886)	2.128*** (0.658)	1.773* (0.948)	2.088** (0.934)	2.118** (0.975)	2.108*** (0.705)
R-squared	0.000	0.047	0.055	0.401	0.000	0.053	0.062	0.401
Mean Dep Variable	14.01	14.01	14.01	14.01	14.24	14.24	14.24	14.24
Observations	33564	33564	33564	33564	30434	30434	30432	30432
Year fixed effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
State fixed effects	No	Yes	Yes	Yes	No	Yes	Yes	Yes
District fixed effects	No	No	Yes	Yes	No	No	Yes	Yes
State-Year fixed effects	No	No	No	Yes	No	No	No	Yes

Notes: ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against any other candidate and 0 if a non-aligned candidate wins against any other candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. The full sample includes all constituencies with winner and runner-up candidates. The mixed sample includes constituencies where ruling party aligned candidate won against non-aligned candidate or vice versa. Robust standard errors clustered at the constituency level are given in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.6: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by the Initial Quality of Government Schools

	(1)	(2)	(3)	(4)
Aligned	14.901*** (5.295)	16.460*** (5.846)	8.737** (4.404)	17.406** (7.553)
Aligned × Quality Q2	-8.993 (6.318)	-10.506 (6.982)	-4.308 (5.271)	-11.153 (9.040)
Aligned × Quality Q3	-12.121** (5.755)	-13.519** (6.363)	-6.814 (4.827)	-15.363* (8.132)
Aligned × Quality Q4	-16.148*** (5.837)	-18.700*** (6.434)	-8.852* (4.870)	-19.700** (8.173)
R-squared	0.122	0.128	0.113	0.145
Mean Dep Variable	14.61	14.61	14.22	14.94
Bandwidth	11.00	8.86	16.51	5.50
Observations	16795	14278	21770	9372
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. In this analysis, the districts are divided into four quantiles based on the quality of government schools in 2005, and the omitted category is the districts with the lowest quality (Quantile 1). The quality index is constructed using Principal Component Analysis (PCA), incorporating factors like the percentage of qualified teachers, classroom maintenance, and availability of facilities such as girls’ toilets, electricity, safe drinking water, libraries, computers, boundary walls, playgrounds, and medical facilities. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.7: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Incumbency Status

	(1)	(2)	(3)	(4)
Aligned	3.648** (1.844)	3.155 (2.140)	3.763** (1.521)	4.047 (2.745)
Aligned × Incumbent	3.094 (3.397)	4.606 (4.070)	1.157 (2.721)	3.246 (5.319)
R-squared	0.093	0.101	0.085	0.113
Mean Dep Variable	11.27	11.25	11.08	11.50
Bandwidth	11.00	8.35	16.51	5.50
Observations	13924	11410	18141	7805
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.8: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by State Development Level

	(1)	(2)	(3)	(4)
Aligned	3.081 (2.103)	2.689 (2.357)	2.352 (1.739)	1.966 (2.934)
Aligned \times BIMAROU	3.821 (3.219)	5.311 (3.568)	1.965 (2.726)	10.265** (4.448)
R-squared	0.093	0.097	0.087	0.113
Mean Dep Variable	14.63	14.62	14.20	14.80
Bandwidth	11.00	8.81	16.51	5.50
Observations	17630	14876	22930	9858
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. The group ‘BIMAROU’ includes Bihar, Chhattisgarh, Jharkhand, Madhya Pradesh, Rajasthan, Orissa, and Uttar Pradesh. However, we exclude Uttar Pradesh from the estimation, for the reason mentioned in Section 5.1. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.9: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by the Strength of Opposition Party

	(1)	(2)	(3)	(4)
Aligned	1.890 (2.642)	1.538 (2.982)	0.947 (2.159)	1.789 (3.895)
Aligned \times Weak Opposition	4.555 (3.501)	5.117 (3.958)	3.834 (2.891)	5.147 (5.143)
R-squared	0.114	0.120	0.105	0.131
Mean Dep Variable	14.63	14.63	14.20	14.69
Bandwidth	11.00	8.81	16.51	5.50
Observations	17624	14867	22924	9842
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. The strength of opposition is determined by the proportion of ruling party aligned MLAs; if their share exceeds 60% of the total MLAs, the opposition is categorized as weak, otherwise as strong. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.10: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Electoral Cycle

	(1)	(2)	(3)	(4)
Aligned	4.137 (3.695)	3.883 (4.085)	2.547 (3.173)	7.532 (5.158)
Aligned \times Year 1	2.817 (5.883)	3.398 (6.376)	2.560 (5.207)	0.618 (7.743)
Aligned \times Year 2	-4.375 (5.110)	-5.750 (5.612)	-3.162 (4.417)	-12.733* (7.076)
Aligned \times Year 3	-3.022 (4.897)	-2.790 (5.392)	-1.758 (4.185)	-6.223 (6.789)
Aligned \times Year 4	-1.415 (5.719)	-1.026 (6.329)	0.680 (4.839)	-3.811 (7.956)
R-squared	0.521	0.544	0.492	0.597
Mean Dep Variable	14.74	14.72	14.24	14.94
Bandwidth	11.00	8.83	16.51	5.50
Observations	17406	14633	22754	9429
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.11: Mechanism: Effect of Having a Ruling Party Aligned Leader on Growth in Night Lights

	(1)	(2)	(3)	(4)
Panel A - (No Fixed Effects)				
Aligned Winner	1.431** (0.682)	0.814 (0.867)	1.250** (0.570)	0.521 (0.931)
R-squared	0.001	0.001	0.001	0.001
Mean Dep Variable	5.70	5.50	5.65	5.76
Bandwidth	9.38	5.52	14.07	4.69
Observations	16471	10351	21835	8878
Panel B - (Year and State Fixed Effects)				
Aligned Winner	1.216** (0.559)	1.289* (0.679)	1.046** (0.471)	0.963 (0.760)
R-squared	0.274	0.275	0.272	0.276
Mean Dep Variable	5.72	5.50	5.66	5.63
Bandwidth	8.52	5.52	12.78	4.26
Observations	15251	10351	20428	8116
Panel C - (Year and District Fixed Effects)				
Aligned Winner	1.123** (0.562)	1.225* (0.666)	1.162** (0.467)	1.235 (0.817)
R-squared	0.302	0.308	0.294	0.314
Mean Dep Variable	5.69	5.50	5.66	5.51
Bandwidth	7.56	5.52	11.34	3.78
Observations	13835	10347	18826	7126
Panel D - (State-Year and District Fixed Effects)				
Aligned Winner	1.189*** (0.438)	1.209** (0.501)	1.149*** (0.371)	0.915 (0.625)
R-squared	0.589	0.597	0.581	0.616
Mean Dep Variable	5.72	5.50	5.71	5.42
Bandwidth	7.26	5.52	10.88	3.63
Observations	13305	10342	18326	6824
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2

Notes: In all panels, ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Panels A, B, C, and D estimate the model using different fixed effects. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.12: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth in Night Lights by Electoral Cycle

	(1)	(2)	(3)	(4)
Aligned	1.487 (1.527)	2.028 (1.852)	1.232 (1.257)	2.386 (2.408)
Aligned × Year 1	-0.708 (2.097)	-1.527 (2.516)	-0.148 (1.711)	-2.393 (3.214)
Aligned × Year 2	-3.350 (2.384)	-2.888 (2.923)	-2.434 (1.931)	-3.169 (3.950)
Aligned × Year 3	-2.082 (1.786)	-3.441 (2.117)	-1.444 (1.473)	-3.204 (2.646)
Aligned × Year 4	2.053 (2.288)	1.179 (2.828)	1.985 (1.814)	-0.547 (3.789)
R-squared	0.603	0.612	0.587	0.632
Mean Dep Variable	5.46	5.26	5.52	5.11
Bandwidth	7.53	5.55	11.29	3.76
Observations	13535	10001	18626	6472
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.13: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Gender

	(1)	(2)	(3)	(4)
Aligned	6.325 (8.320)	8.044 (9.027)	5.440 (6.989)	16.785 (13.088)
Aligned \times Male	-1.524 (8.520)	-3.379 (9.268)	-2.118 (7.149)	-12.103 (13.387)
R-squared	0.081	0.087	0.077	0.103
Mean Dep Variable	14.52	14.50	14.20	14.71
Bandwidth	11.00	8.81	16.51	5.50
Observations	17623	14871	22923	9850
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.14: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Age

	(1)	(2)	(3)	(4)
Aligned	3.807** (1.892)	4.926** (2.120)	2.867* (1.608)	7.882*** (2.939)
Aligned × Older	0.948 (3.028)	-0.212 (3.411)	0.655 (2.477)	-2.656 (4.491)
R-squared	0.072	0.078	0.066	0.095
Mean Dep Variable	11.80	11.64	11.65	11.76
Bandwidth	11.00	8.86	16.51	5.50
Observations	15772	13436	20525	8790
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. In this analysis, ‘Older’ refers to leaders whose age is above the median age of other candidates. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.15: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Social Category

	(1)	(2)	(3)	(4)
Aligned	4.105** (1.707)	4.573** (1.900)	3.380** (1.410)	6.740*** (2.418)
Aligned × SC	-2.351 (6.076)	-6.166 (6.609)	0.142 (5.020)	-14.646 (9.153)
Aligned × ST	1.874 (3.823)	1.063 (4.159)	1.658 (3.335)	-2.331 (4.898)
R-squared	0.072	0.079	0.064	0.094
Mean Dep Variable	11.74	11.58	11.66	11.58
Bandwidth	11.00	8.86	16.51	5.50
Observations	15770	13432	20520	8787
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Scheduled Caste (SC) and Scheduled Tribes (ST) refer to specific social groups in India that have historically faced social disadvantages and discrimination. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.16: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Education

	(1)	(2)	(3)	(4)
Aligned	0.755 (2.505)	0.276 (2.974)	0.985 (2.009)	0.502 (4.097)
Aligned × Graduate	1.543 (3.251)	2.368 (3.801)	0.208 (2.627)	2.597 (5.222)
R-squared	0.100	0.107	0.090	0.127
Mean Dep Variable	12.26	12.11	12.29	12.38
Bandwidth	11.00	8.88	16.51	5.50
Observations	11892	10174	15524	6659
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.17: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Criminal Record

	(1)	(2)	(3)	(4)
Aligned	2.020 (1.893)	1.870 (2.195)	1.962 (1.511)	3.770 (2.873)
Aligned \times Criminal	-2.630 (3.274)	-2.823 (3.718)	-3.950 (2.791)	-5.840 (4.783)
R-squared	0.102	0.110	0.092	0.129
Mean Dep Variable	12.07	11.98	12.14	12.18
Bandwidth	11.00	8.82	16.51	5.50
Observations	12239	10383	15941	6842
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.18: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Leader’s Wealth

	(1)	(2)	(3)	(4)
Aligned	3.179 (2.433)	3.404 (2.805)	2.547 (2.006)	5.252 (3.703)
Aligned × Rich	-2.590 (3.274)	-3.338 (3.828)	-2.350 (2.596)	-5.369 (5.273)
R-squared	0.107	0.115	0.098	0.134
Mean Dep Variable	12.11	12.02	12.17	12.20
Bandwidth	11.00	8.81	16.51	5.50
Observations	12223	10347	15921	6828
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. In this analysis, ‘Rich’ denotes leaders with wealth above the median. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.19: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by its Category

	(1)	(2)	(3)	(4)
Primary Schools				
Aligned Winner	4.699*** (1.741)	4.522** (1.956)	3.492** (1.438)	4.730* (2.489)
R-squared	0.073	0.078	0.065	0.093
Mean Dep Variable	14.83	14.65	14.25	15.00
Bandwidth	10.84	8.70	16.26	5.42
Observations	17422	14704	22718	9698
Middle Schools				
Aligned Winner	3.439** (1.396)	3.868** (1.681)	2.462** (1.167)	4.716** (1.942)
R-squared	0.056	0.065	0.051	0.074
Mean Dep Variable	13.41	13.40	13.22	13.35
Bandwidth	12.09	8.15	18.14	6.05
Observations	18719	14053	24072	10816
Secondary Schools				
Aligned Winner	2.872* (1.619)	2.461 (1.826)	2.841** (1.362)	2.870 (2.268)
R-squared	0.065	0.072	0.058	0.090
Mean Dep Variable	13.33	12.82	12.96	13.15
Bandwidth	10.95	8.48	16.43	5.48
Observations	17576	14469	22856	9810
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: In all panels, ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. All the panels estimate the model using year and district fixed effects. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.20: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by its Location

	(1)	(2)	(3)	(4)
Rural Private Schools				
Aligned Winner	3.884** (1.660)	3.720** (1.858)	2.854** (1.374)	4.010* (2.354)
R-squared	0.076	0.082	0.068	0.099
Mean Dep Variable	12.92	12.69	12.26	12.82
Bandwidth	10.67	8.56	16.01	5.34
Observations	17232	14544	22493	9570
Urban Private Schools				
Aligned Winner	2.833** (1.376)	3.321** (1.623)	2.325** (1.160)	3.811** (1.938)
R-squared	0.038	0.044	0.033	0.052
Mean Dep Variable	10.50	10.45	10.91	10.41
Bandwidth	11.64	8.26	17.46	5.82
Observations	18287	14204	23581	10414
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: In all panels, ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. Both panels estimate the model using year and district fixed effects. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.21: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by Constituency Type

	(1)	(2)	(3)	(4)
Aligned	4.237* (2.189)	4.533* (2.457)	2.877 (1.794)	4.721 (3.123)
Aligned \times SC	0.258 (6.705)	-1.044 (7.409)	1.747 (5.490)	-2.679 (9.603)
Aligned \times ST	3.044 (4.661)	3.758 (5.095)	1.400 (3.959)	8.971 (5.773)
R-squared	0.086	0.093	0.078	0.114
Mean Dep Variable	14.56	14.56	14.19	14.73
Bandwidth	11.00	8.81	16.51	5.50
Observations	17621	14864	22923	9843
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.22: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private Schools by State Corruption Level

	(1)	(2)	(3)	(4)
Aligned	3.754* (2.153)	3.693 (2.377)	3.112* (1.804)	3.304 (2.905)
Aligned \times Highly Corrupted	1.667 (3.544)	1.768 (4.015)	0.196 (2.906)	3.495 (5.220)
R-squared	0.094	0.099	0.087	0.114
Mean Dep Variable	14.63	14.62	14.20	14.80
Bandwidth	11.00	8.81	16.51	5.50
Observations	17630	14876	22930	9858
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: ‘Aligned’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. In this analysis, states are classified into two groups: ‘Highly Corrupted’ and ‘Moderately Corrupted’ states, based on a corruption index created by Transparency International India (TII) using data from the Indian Corruption Study of 2008. According to this, Assam, Bihar, Goa, Jammu and Kashmir, Karnataka, Madhya Pradesh, Meghalaya, Nagaland, Rajasthan, Sikkim, and Tamil Nadu are classified as highly corrupted states; and Andhra Pradesh, Arunachal Pradesh, Chhattisgarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Kerala, Maharashtra, Manipur, Mizoram, Orissa, Puducherry, Punjab, Tripura, Uttarakhand, and West Bengal as moderately corrupted states. Robust standard errors clustered at the constituency level are given in parentheses. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.23: Heterogeneous Effect of Having a Ruling Party Aligned Leader on Growth Rate of Private School Enrolment by Social Category

	(1)	(2)	(3)	(4)
SC/ST Private School Enrollment				
Aligned Winner	7.389** (3.524)	7.454** (3.679)	5.698* (2.939)	10.589** (4.937)
R-squared	0.074	0.075	0.073	0.089
Mean Dep Variable	25.87	25.58	24.53	25.77
Bandwidth	10.87	9.94	16.30	5.43
Observations	17470	16374	22760	9729
OBC Private School Enrollment				
Aligned Winner	2.488 (3.732)	2.457 (3.854)	2.169 (3.122)	5.126 (5.385)
R-squared	0.063	0.063	0.064	0.069
Mean Dep Variable	28.27	27.98	27.04	28.19
Bandwidth	10.61	9.94	15.91	5.30
Observations	17164	16369	22421	9525
General Private School Enrollment				
Aligned Winner	10.786*** (3.969)	11.202** (4.516)	7.735** (3.267)	12.763** (5.697)
R-squared	0.068	0.072	0.063	0.080
Mean Dep Variable	20.86	20.82	19.79	20.06
Bandwidth	11.26	8.80	16.89	5.63
Observations	17899	14873	23197	10051
Bandwidth Type	CCT	IK	CCT*1.5	CCT/2
Year Fixed Effects	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes

Notes: In all panels, ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. All the panels estimate the model using year and district fixed effects. In column (1)-(4), the RD model is estimated by a local linear regression using a triangular kernel. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.24: Implication: Effect of Having a Ruling Party Aligned Leader on Learning Outcomes in t+1

	Standard-5			Standard-8		
	All (1)	Private (2)	Govt (3)	All (4)	Private (5)	Govt (6)
Aligned Winner	-0.010 (0.010)	0.005 (0.012)	-0.003 (0.010)	-0.002 (0.008)	-0.010 (0.016)	0.001 (0.009)
R-squared	0.727	0.476	0.750	0.785	0.483	0.788
Mean Dep Variable	0.65	0.76	0.61	0.57	0.74	0.53
Bandwidth	6.57	8.75	6.93	7.31	6.16	7.42
Observations	3811	4451	3971	4195	3132	4223
Bandwidth Type	CCT	CCT	CCT	CCT	CCT	CCT
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The outcome variable in this analysis represents the percentage of children who achieve a passing score of 60% or higher. This variable is constructed using data from DISE, with outcomes in period t+1 matched to the ruling party alignment status from period t. ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.

Table A.25: Implication: Effect of Having a Ruling Party Aligned Leader on Growth Rate in Learning Outcomes

	Standard-5			Standard-8		
	All (1)	Private (2)	Govt (3)	All (4)	Private (5)	Govt (6)
Aligned Winner	-1.254 (3.255)	-0.880 (3.308)	-1.914 (2.972)	-1.685 (2.971)	-1.324 (3.266)	-3.005 (3.127)
R-squared	0.770	0.603	0.736	0.763	0.553	0.730
Mean Dep Variable	53.48	41.07	49.11	51.42	36.44	47.04
Bandwidth	10.77	11.88	11.54	12.43	10.90	10.30
Observations	17216	18220	18121	19004	17287	16736
Bandwidth Type	CCT	CCT	CCT	CCT	CCT	CCT
Year Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes
District Fixed Effects	Yes	Yes	Yes	Yes	Yes	Yes

Notes: The outcome variable is defined as the growth rate of students at the constituency level who achieve a passing score of 60% or higher, and it is constructed using data from DISE. ‘Aligned Winner’ is a dummy variable that takes value 1 if the ruling party aligned candidate wins against a non-aligned candidate and 0 if a non-aligned candidate wins against an aligned candidate. The ruling party alignment is defined based on the election result that determines which party holds power in the state government. Robust standard errors clustered at the constituency level are given in parentheses. The symbols *, **, and *** indicate significance at the 10%, 5%, and 1% levels, respectively.