

Identity Politics, Targeted Redistribution and Private Investment: Evidence from India's Silent Revolution

Subrata Kumar Ritadhi and Abhay Aneja*

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Abstract

This paper causally identifies the welfare gains emanating from increased democratic participation of socio-economically disadvantaged citizens in public policy. Exploiting a unique political setting in India, the paper measures democratic participation through the political mobilization of economically deprived low caste citizens resulting in the formation of caste-based political parties, exclusively representing the interests of low caste populations. Using the outcome of close elections between caste-based and mainstream parties as a source of quasi-random variation, the paper shows that the marginal legislator from caste-based parties significantly increases the share of public resources allocated towards low caste citizens. Exploiting the existing institution of electoral quotas, the paper shows that low caste legislators elected through electoral quotas from caste-based parties allocate a significantly higher share of public expenditures towards low caste citizens as opposed to low caste legislators from mainstream national parties. The paper also identifies the potential costs associated with redistributive spending undertaken by fiscally constrained politicians. We first show that the increased welfare expenditures by caste-based parties is financed through a reduction in non-exclusive public goods which dampens regional inflows of private investment. (JEL Codes: H32, H53, H54, I38, J15, O12, O23, P16).

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1 Introduction

The role of political institutions in reducing inequality remains a fundamental question in economics (Acemoglu and Robinson, 2008; Bardhan, 2016). Classical economic theory predicts that increased democratic participation amongst citizens would lead to higher levels of redistribution through an improved representation of the median voter’s preferences (Meltzer and Richard, 1981). However, in a review of existing empirical works, Acemoglu et al. (2013) note the absence of a robust correlation between democracy and redistribution. Explaining the lack of such a relationship, Acemoglu et al. (2013) provide a theoretical framework whereby elite capture of institutions through lobbying or control of political parties limit the redistributive gains attained from political reforms aiming to expand citizen participation in public policy. To overcome this, Acemoglu et al. (2013) propose that reforms to political institutions guaranteeing representation to select citizens (*de jure* political power), need to be complemented with broader changes in the distribution of political power in society (*de facto* political power) to realize the full redistributive impact of such reforms. Exploiting a unique setting in India concerning the political representation of economically deprived ethnic minorities, this paper empirically tests this proposition by comparing the redistributive gains obtained by marginalized citizens through the respective channels of *de jure* and *de facto* political power.

Over the past century, the inclusion of marginalized citizens and women in public institutions has been a critical challenge for societies across the world. Duflo (2012) notes that significant progress in this direction has been achieved in the past two decades with respect to women’s representation through the adoption of quotas in political institutions, guaranteeing a threshold level of representation for women. In the Indian context, there exists an analogous system of electoral quotas to ensure the inclusion of economically deprived low caste ethnic minorities - namely *Dalits* (Scheduled Castes or SCs) and *Adivasis* (Scheduled Tribes or STs) in federal and state legislatures.¹ The constitutionally mandated electoral quotas sets aside or ‘reserves’ a pre-determined share of electoral constituencies from which only low caste candidates can contest elections. Consequently, the institution of electoral reservations mechanically ensures the presence of a fixed share of low caste candidates across state (federal) legislatures - proportional to their regional (national) population shares - altering in the process the *de jure* distribution of political power in favour of low caste citizens. The welfare gains obtained through these electoral quotas for low caste citizens has been the subject of numerous studies in the literature with researchers

¹ The quotas were introduced after the nation’s independence in 1947 in federal and state legislatures. Since 1993, under the 73rd and 74th amendments, these quotas have been expanded to local government and also includes provisions for women. The electoral quotas are in addition to an aggressive program of affirmative action in public employment and higher education for these same ethnic minority groups

obtaining divergent results.²

In a departure from the existing literature focusing exclusively on the welfare gains obtained through changes in *de jure* political power, the present paper empirically identifies the economic impacts of changes in *de facto* political power, stemming from the political mobilization of low caste citizens, led by the *Dalits* and the Other Backward Castes (OBCs). This process of political mobilization, initiated in the mid-1980s, resulted in the formation of political parties on the basis of caste identity, which contested elections to challenge the existing political elite who had dominated India's polity since independence and were drawn mostly from the privileged upper castes (Jaffrelot, 2003). The primary goal of these caste-based parties was to capture political power through electoral competition and subsequently, redirect state resources towards low caste groups and increase the representation of low caste citizens in public institutions. A key policy tool for these parties to achieve the latter objective was the use of affirmative action quotas in public institutions, leading us to term them as 'Affirmative Action' (AA) parties for the remainder of the paper.³

As described by Jaffrelot (2003), the electoral success of caste based 'AA' parties between 1990 and 2010 resulted in a shift in *de facto* political power from upper caste elites to low caste citizens, over and beyond what was achieved through the institution of electoral quotas. We exploit the electoral success of AA parties to identify the welfare impacts for low caste citizens emanating from this shift in *de facto* political power, relative to that obtained through electoral quotas. Through this comparison, the paper also addresses a key debate focusing on the impact of a legislator's ascriptive identity on public policy. Using the system of electoral reservations to control for the caste identity of individual legislators, the paper provides causal evidence that the mandated representation of politicians from low caste backgrounds translates into economic benefits for low caste citizens only when low caste politicians belong to political parties with a strong policy preference for low caste welfare. While providing empirical evidence supporting the hypothesis forwarded by Acemoglu and Robinson (2008) and Acemoglu et al. (2013), this finding highlights the critical role played by the policy objectives of political parties in determining policy outcomes, consistent with citizen candidate models predicting full policy divergence (Lee et al., 2004).

For causal identification, the paper extends a regression discontinuity design based on the outcome of close elections between AA and non-AA parties. This generates quasi-random regional variation in the number of legislators elected from parties exclusively representing low caste interests and by extension, quasi-random variation

² Initial papers studying the impact of mandated political representation of ethnic minorities such as Besley et al. (2005); Chin and Prakash, (2011) Clots-Figueras (2011); Chattopadhyay and Duflo (2004); and Pande (2003) report welfare gains from this policy for low caste citizens. However, more recent papers such as Dunning and Nilekani (2013), Jensenius (2015), and partially, Bardhan et al. (2010) do not find any welfare gains on comparable policy outcomes.

³ Many of these parties have been categorized as 'soft Left' political parties by Besley and Burgess (2000).

in *de facto* political power. The paper uses this quasi-random variation to causally identify the economic impacts resulting from the election of an additional AA party legislator, both for low caste populations, and the broader regional economy. The economic relevance of this change in *de facto* political power in favour of low caste citizens is heightened due to the extensive socio-economic deprivation faced by low caste groups in India. This is discussed extensively by Kijima (2006) and Thorat et al. (2009) who show that a disproportionately higher share of low caste SC households are located below the poverty line, have lower land holdings, and are under-represented in both public and private sector employment.

The key empirical results of the paper show that the electoral success of caste-based AA parties increases the share of public resources allocated towards low caste households⁴ with the marginal AA party legislator causally increasing the share of state expenditures allocated towards both targeted and untargeted low caste welfare programs. In monetary terms, the impact of the marginal AA party legislator is equivalent to a 0.6 percent increase in the monthly per capita consumption for an urban low caste household.⁵ The marginal legislator however impacts public expenditures only when AA parties have won at least 30 percent of the elections in the state for that electoral cycle, underlining that a threshold level of political power is necessary before individual legislators can significantly influence social welfare allocations in favour of marginalized citizens.

To compare the respective impacts of *de jure* and *de facto* political power on targeted welfare spending for low caste citizens, the paper focuses solely on elections contested in constituencies reserved for low caste candidates through the electoral quotas. This implicitly controls for the caste identity⁶ of elected politicians and identifies how welfare expenditures are affected through variations in the legislator's party affiliation. If changes to *de jure* political power and the caste identity of legislators - guaranteed through electoral quotas - are sufficient to influence public policy, we would expect no difference in welfare expenditures between legislators elected from reserved constituencies across AA and non-AA parties. The empirical results show that relative to low caste legislators from mainstream national parties, low caste legislators from AA parties allocate a significantly higher share of state expenditures towards targeted welfare transfers for low caste citizens, consistent with Acemoglu and Robinson (2008) and Acemoglu et al. (2013).

Finally, by examining the spending preferences of AA party legislators, the paper documents the tradeoffs arising from the electoral success of political parties with strong preferences for welfare spending in a setting where legislators are fiscally constrained. We show that the restriction on state legislators in India to impose direct

⁴ To estimate economic impacts, we include all three of *Dalits*, *Adivasis* and OBCs in the category of low caste citizens.

⁵ This share would be doubled if the reference point was a rural low caste household.

⁶ Caste identity here refers more to the *varna* than the *jati*.

taxes or borrow from private markets lead AA party legislators to engage in a redistribution of public resources from non-exclusive public investments in physical infrastructure towards select welfare schemes benefitting low caste citizens. Specifically, the marginal AA party legislator has no impact on aggregate state expenditures, revenues, and deficits, but is associated with a 3 percent reduction in the share of public expenditures allocated towards electricity generation and road construction. As physical infrastructures are strongly correlated with firm performance in both cross-country and firm-level studies, we identify the impact of AA parties on private investment. The reduced form results shows that the marginal legislator from AA parties affects private investment along both the extensive and the intensive margin, resulting in reductions in both the number of manufacturing units in operation and aggregate capital investments in the manufacturing sector. However, this negative impact is observed only when AA parties have also won over 30 percent of the elections in the state and is concentrated amongst industries which are most reliant on physical infrastructure - namely capital intensive industries having a high level of fuel consumption. These differential effects offer suggestive evidence that the redistributive expenditure choices of AA party legislators can serve as a potential mechanism to explain their corresponding negative impact on manufacturing investment.

Within the literature, this paper provides causal evidence in support of the theoretical predictions of Acemoglu and Robinson (2008) and Acemoglu et al. (2013). The paper, to the best of our knowledge, is the first to study the interaction between political institutions and the policy preferences of political parties, and causally identify their respective impacts on economic outcomes for marginalized citizens. In the process, the paper also contributes to the growing literature studying the economic impacts of political representation for social and ethnic minorities. Contrary to existing studies which focus on the impact of legislators' ascriptive identity on policy outcomes, this paper identifies the welfare gains obtained through the electoral success of political parties with a specific policy mandate for disadvantaged citizens.⁷

By documenting the impact of political party policy preferences on budgetary allocations, this paper also adds to the broader literature studying the impact of political parties on economic outcomes. Ferreira and Gyourko (2009) and Beland and Oloomi (2016) report no impact of party affiliation on public expenditures in the U.S. in both local and state governments. By identifying a significant impact of caste-based AA parties on public spending, this paper provides alternative evidence that party agendas can significantly impact public expenditure choices. Importantly, the paper looks at the impact of party platforms on state spending which is an explicit function of the budgetary choices made by legislators, permitting a clear delineation of

⁷ While Dunning and Nilekani (2013) provide some initial insight that party affiliations might be dampening the impact of electoral quotas on economic outcomes, their paper interprets the results through a model of political clientelism and not party agendas mediating politicians' spending choices.

the mechanism through which party platforms map into economic outcomes. Finally, by studying the potential costs on private investment arising from the redistributive spending preferences of AA party legislators, this paper also provides empirical evidence in support of existing theoretical models which predict that redistributive spending by politicians can lead to economic inefficiencies (Persson and Tabellini, 2000; Lizzeri and Persico, 2001).

The remainder of the paper is organized as follows: Section 2 presents a conceptual framework and discusses the potential channels through which AA party legislators can affect economic outcomes; Section 3 contains a brief overview of the electoral process in India and a description of the AA parties; Section 4 describes in detail our empirical strategy centered around close contests between AA and non-AA parties and Section 5 performs a series of empirical tests to validate our identification strategy; Section 6 presents the key results of the paper which we validate with a number of robustness checks in Section 7. Section 8 offers some concluding comments.

2 Conceptual Framework: Electoral Success of Political Parties and Economic Outcomes

2.1 State Legislators and Public Expenditures

The key agent of interest in this paper are state legislators in India. Under India's federal polity, state governments are responsible for law and order, education, public health, nutrition, social welfare, intra-state physical infrastructure, as well as allocations to local governments (Clots-Figureas, 2011). This makes state legislators influential players in the overall development process. A fundamental responsibility of state legislators is to determine public spending undertaken by the state government. Every year, state legislators vote to determine various allocations to be made by the state government across different expenditure categories for the upcoming year. The annual state budget is prepared by the incumbent government and presented in the legislature in the first quarter of each calendar year. Subsequently, after a few weeks of debate, the budget is put to vote and adopted only if a simple majority of legislators vote in its favour. During the period of debate, individual legislators also have the opportunity to table additional allocations which are adopted through majority voting (Clots-Figureas, 2011).

Based on the above institutional framework and as per Rehavi (2008), spending allocations, Y , on any budgetary category k , in a N -member legislature in state s and year y can be mathematically expressed as:

$$Y_{st}^k = \phi_{st}^k + \sum_{j=1}^N \pi_{jst} y_{jst}^k \quad (1)$$

In equation (1), ϕ is a state-year specific factor determining allocations to category Y , irrespective of the preferences of individual legislators. The individual spending preference of each legislator on category k is represented by y . π is the weight accorded to each legislator's desired level of spending and can be considered to be the share of legislators who support the individual legislator's preferred level of spending and is a function of the bargaining power and legislative support available to each individual legislator.

In the simplest framework, the budgetary process can be considered equivalent to a two-stage game where legislators can initially approach the state's finance department responsible for framing the budget, with their preferred levels of spending. Alternatively, they can present their spending proposals during the discussion of the budget. In either event, the final outcome is conditional on the legislative support accorded to the individual legislator's desired level of spending by the remaining legislature. Accordingly, based on (1) and the majority voting rule, the final spending level on category k will be close to a legislator's preferred level if π is sufficiently large, signifying a sufficient degree of support from the remaining legislators.

Applying this framework to compare the respective impacts of *de jure* and *de facto* political power with respect to the institution of electoral reservations, the first observation is that while electoral quotas guarantee the election of a fixed share of low caste legislators, this share is below 30 percent in the majority of states and moreover, is typically split across two or more political parties. As shown by Jaffrelot (2003), very few low caste legislators belonging to traditional mainstream parties were elected from non-reserved constituencies, implying that prior to the electoral success of AA parties, low caste legislators were never a numerical majority in legislatures. Resultantly, unless there is a convergence in the spending preferences between low and high caste legislators, equation (1) suggests that electoral quotas by themselves would be insufficient to shift public resource allocation in favour of low caste citizens.

Moreover, a key distinction between traditional mainstream parties and caste-based AA parties is that the leadership positions of the former are dominated by high caste citizens. In such a situation, even if the majority of low caste legislators elected through the reservation system belong to a mainstream party which has obtained a legislative majority, their preferred level of budgetary allocations might not be realized if other party legislators and the party leadership assign a low weight to the individual preferences of low caste legislators during the process of budgetary allocations. This possibility is supported through the findings of Jensenius (2015), who shows through interviews of politicians and bureaucrats that the quality of low caste politicians elected through electoral reservations have been consistently questioned, with the majority of peers and bureaucrats labeling these politicians as 'inefficient' and 'weak' (Jensenius, 2015). This suggests that the bargaining power of legislators elected from reserved constituencies would be low in a traditional mainstream party and even when the mainstream party enjoys a legislative majority, final budgetary allocations on Y^k would diverge from low caste legislators' preferred allocation, y^k , unless the party's

policy preferences on category k are sufficiently aligned with the preferences of low caste legislators.

On the contrary, a caste-based AA party by virtue of its social composition and overarching policy preference can overcome the hindrances mentioned above. First, as both the majority of legislators and party leaders in such parties hail from lower caste origins, it is conceivable that a higher weight would be assigned to legislator preferences for increasing budgetary allocations for low caste citizens. This is also consistent with the policy goals of AA parties which have a strong welfare agenda directed towards low caste citizens and rely heavily on targeted public expenditures to achieve their political objectives (Jaffrelot, 2003). Moreover, if the concerned AA party enjoys a legislative majority, higher spending allocations proposed by AA party legislators on issues pertaining to the welfare of low caste citizens would have a higher propensity of receiving legislative support - in other words, π would be sufficiently high, resulting in the convergence of Y^k and y^k .⁸

2.2 Potential Costs from Higher Welfare Expenditures: Impact on Private Investment

If AA party legislators choose to use the public exchequer to funnel state resources to low caste citizens, its net impact on the regional economy would depend on the financing of such expenditures. If legislators are able to impose taxes or run deficits, the higher spending on low caste citizens can come through an expansion in public expenditures.⁹ The Indian Constitution however assigns limited fiscal powers and borrowing abilities to state legislators. State legislators are incapable of imposing direct taxes and rely solely on indirect consumption taxes¹⁰ for their own source of revenue.¹¹ The inability of state legislators to levy direct taxes is compounded by states' inability to borrow from private markets. State deficits have to be financed by public sector banks or the federal government and as the reduction of fiscal deficit

⁸ It is worth noting that voter demographics and politician quality have the potential to impede this process. This is discussed in detail by Jensenius (2015) who show through politicians' surveys that low caste politicians are often hindered by public expectations and electoral incentives from redistributing towards their own groups. For instance, some low caste legislators report avoiding targeted welfare transfers as they do not wish to be viewed as working solely for their own communities. Other low caste legislators report that they have to depend on electoral support from non low caste populations, which precludes their ability to target state resources towards their respective communities (Jensenius, 2015).

⁹ The imposition of higher taxes or a higher level of fiscal deficit would have a distortionary impact on the economy but that would affect economic outcomes through channels other than public expenditures.

¹⁰ These are chiefly the sales tax/value added tax and excise duties.

¹¹ For instance, in 2013, only 50 percent of state revenues across all states were generated through own tax revenues.

was a key agenda of the economic reforms undertaken since 1991, there has been considerable pressure on state governments since to contain their deficits. The sum of these regulations place a significant constraint on state politicians' budgets, restricting their ability to finance higher outlays through revenues or deficits.

Intuitively, this suggests that higher welfare spending for low caste citizens by AA party legislators would be implemented through a redistribution of public resources across spending categories. This paper empirically examines if such a redistribution indeed occurs and whether it occurs through the reallocation of public expenditures from non-exclusive public goods such as investments in physical infrastructure to targeted welfare spending. This particular form of reallocation is of interest due to the vital role played by infrastructure investments on the medium and long run health of the economy, particularly through facilitating entrepreneurial activity. This is documented in the large literature studying the relationship between physical infrastructures - which is a major component of the regional investment climate - and firm performance.¹² For instance, Dethier et al. (2010) discuss how an improved investment climate increases returns to existing investments which subsequently attract future investments. In their extensive review of the existing literature, Dethier et al. (2010) discuss a number of papers which have detected a positive relationship between infrastructure investment - particularly reliable power supply - and economic performance, using both country and firm-level data. Specifically, using panel data across 88 countries over 40 years, Calderon et al. (2011) estimate the output elasticity of infrastructure capital to be 0.1, distinguishing in the process infrastructure capital from other forms of physical capital. Their paper also finds little heterogeneity in the output elasticity of infrastructure capital across countries on the basis of countries' per capita incomes or initial endowments of infrastructure capital.

The results using country-level data are consistent with those obtained using firm-level data. Dollar et al. (2005) show using firm-level surveys across India, Pakistan, Bangladesh and China that the reliable supply of electricity has a significant impact on firm output, capital formation and profits. Using the same firm-level data, Datta (2012) studies the impact of major improvements of national highways in India on firm activity. The results show that firms located close to the upgraded highways benefit through a reduction in the holding of inventories and optimizing the suppliers of their inputs. Similarly, Kneller and Misch (2014) show using data from South Africa that a higher share of public spending towards health and transportation increases firm sales.

In view of this large literature linking infrastructure investments to firm performance, we first empirically identify whether resource constrained AA party legislators reallocate public expenditures from non-exclusive to targeted public goods, and subsequently, examine whether such redistributive spending impact regional inflows of

¹² See for instance Aschauer (1989); Aterido et al. (2007); Bastos and Nasir (2004); Calderon et al. (2011); Dollar et al. (2005); Escribano and Guasch (2005); Escribano et al. (2010).

private investment.

3 Background on India's Electoral System and AA Parties

3.1 Background on Elections to State Legislative Assemblies

There are three tiers of government in India - federal, state and local, all of which are democratically elected in a multi-party system. As this paper examines the economic impacts of state legislators, we focus exclusively on state-level elections. Each state legislature has a number of electoral constituencies, proportional to the state's population. There remains considerable variation across states in the number of electoral constituencies with the most populous state in the sample (Uttar Pradesh) having a total of 403 constituencies, and the smallest state (Uttarakhand) having 70 constituencies. Elections are conducted by the Election Commission of India which is a constitutional body, unaffiliated to any political party and independent of the incumbent federal (state) government. The results of each election is based on the first-past-the-post principle with the party securing the maximum number of votes within an electoral constituency being declared the winner.¹³

The candidate associated with the winning party is subsequently elected to the state legislature and is responsible for representing that constituency for the term of the legislature (typically 5 years). During matters of voting on legislations, each legislator has a single vote. To form the government, a party has to win at least half the electoral constituencies in a state.¹⁴

3.2 Brief Overview of AA Parties

The political mobilization of historically underprivileged low caste groups started primarily in the mid-1980s, under the auspices of two political parties, namely the Janata Dal (JD) and the Bahujan Samaj Party (BSP). The latter catered exclusively to the Scheduled Castes (SC) or *Dalits* while the former mainly represented a broader coalition of underprivileged groups - the Other Backward Castes (OBC) - drawn mostly from the lowest strata of the fourfold caste hierarchy. Both the parties had very similar political objectives: namely to capture political power through electoral

¹³ The pluralist framework of Indian democracy allows for multiple political parties contesting the election in each electoral constituency. Individuals unaffiliated to any political party may also contest the elections as independent candidates.

¹⁴ In the event that no single party has won at least 50 percent of the electoral constituencies, a coalition government can be formed with multiple parties.

politics and subsequently, increase the representation of low caste individuals in public institutions along with the targeted redistribution of public resources to low caste groups. There were two key features common to both these parties, distinguishing them from other mainstream parties: first, the majority of the leadership of these parties were comprised of individuals hailing from the lower castes; and second, a high proportion of electoral candidates from these parties also hailed from low caste backgrounds.¹⁵

The nascent political party, JD, firmly established itself in the Indian political scenario in the aftermath of the federal elections of 1989, when it was able to lead a coalition government at the federal level and enact the legislation which set aside 27 percent of all federal public sector positions for the OBC community¹⁶. The JD also managed to secure electoral majorities across multiple states through the 1990s, particularly in the populous north Indian states of Uttar Pradesh and Bihar. During this period, the JD fragmented into multiple constituents leading to the rise of powerful regional parties which wielded considerable clout at the state level. Between 1995 and 2012, all the major regional off-shoots of the erstwhile JD enjoyed at least one full five year stint in power across four major states - one located in southern India (Karnataka), one in eastern India (Orissa) and the remaining two in north India (Uttar Pradesh and Bihar).¹⁷ Similarly, the BSP, after two short-lived attempts at governance, successfully obtained a majority in 2007 and ruled Uttar Pradesh till 2012.

Along with the regional off-shoots of the JD, we also include the Left parties and the DMK based in the southern state of Tamil Nadu within the ambit of AA parties. These parties have been in existence for longer than either the JD or the BSP and have achieved electoral successes since 1967 in the states of Tamil Nadu, Kerala and West Bengal. While the Left have typically preferred to frame policy debates around

¹⁵ For instance, the JD committed that 60 percent of its candidates to the federal elections would be from low caste background (Jaffreot, 2003).

¹⁶ This was on the basis of the recommendations of the Mandal Commission. The Mandal Commission was established in 1977 by the federal government to determine caste groups eligible for affirmative action, and also quantify the level of affirmative action required to adequately represent lower castes in public institutions. Although the commission submitted its recommendations in 1980, the subsequent federal governments led by the Congress Party refused to act upon the proposed recommendations.

¹⁷ Aside from winning the requisite number of elections to form state governments, the JD and its regional constituents have maintained over the past two decades a considerable electoral presence in at least five major states. For instance, in the 2000-2010 period, the two major fragments of the JD¹⁸ in Bihar have consistently polled between 35 and 45 percent of the popular vote. Likewise, in Uttar Pradesh, the BSP and the principal JD offshoot¹⁹ received 30 percent of the votes in 1993, and their combined vote share steadily increased to over 50 percent by 2002 and have stayed at that level for the next decade. The stability in vote shares of the AA parties underline the presence of a core support base which can provide them with the necessary bargaining power in the state legislature to influence public policy, even when they are part of the opposition benches.

class as opposed to caste, the strong correlation between caste and income results in lower castes forming a major support base for the Left parties. The DMK on the other hand was formed after a split in the Justice Party in 1946, which was essentially a ‘rationalist’ anti-upper caste party, formed in the 1920s to challenge the hegemony of the upper castes in the southern state of Tamil Nadu. Both the Left and the DMK²⁰ have consistently formed electoral alliances with the BSP and the JD off-shoots, and supported them on legislative issues within state and federal legislatures.²¹ These parties also have very similar policy objectives to the JD and the BSP.²² However, as these parties are not strictly formed along caste identities, we undertake a robustness check in Section 7 to ascertain that our core results are not sensitive to this broader classification of AA parties.

4 Empirical Strategy and Data

4.1 Defining the Source of Exogenous Variation for AA Party Success

The primary goal of this paper is to identify the economic impacts of a change in *de facto* political power in the favour of low caste citizens due to the electoral success of AA parties. To this effect, we aim to estimate an equation of the form:

$$Y_{st} = \alpha_s + \delta_t + \beta PCAA_{st} + \gamma X_{st} + \epsilon_{st} \quad (2)$$

In (1), Y represents the outcome of interest in state s and time period t . Time-invariant state-level determinants of the outcome are captured through the state fixed-effect α and shocks common across all states in time period t are controlled

²⁰ The DMK as a party split in 1972 leading to the formation of the All India Anna Dravida Munnetra Kazhagam (AIADMK). In this paper, we do not classify the AIADMK as an AA party as the core leadership of this party has been dominated by upper castes and the party had a distinctly toned down ‘anti-upper caste’ rhetoric after splitting from its parent organization.

²¹ The Left parties and the DMK for instance supported the National Front federal government led by the JD in 1990; they also were part of the federal United Front government which was a coalition government formed mainly by the splinter groups associated with the JD. In Bihar and Uttar Pradesh, the Left parties have typically allied with the JD and its splinter groups - namely the RJD and the SP.

²² When in power, both the Left parties and the DMK have also implemented policies targeted to benefit low caste populations. The DMK for instance championed affirmative action policies in Tamil Nadu, leading to a large percentage of public sector jobs being reserved for low caste citizens; the Left parties have successfully engaged in far reaching land reforms comprising of titling sharecroppers and providing land ownership to landless labourers, both of whom were drawn mostly from low caste populations.

through fixed effect δ . $PCAA$ denotes the share of elections won by AA parties in the state during the time period of interest while X includes a set of time-varying state specific covariates.

Specification (1) estimated using OLS would provide biased estimates of β due to unobservables correlated with both the electoral success of AA parties in a region, and the relevant outcomes of interest, with the direction of the bias being ambiguous.²³ To overcome this endogeneity concern, our paper constructs a state-specific AA party representation shock for each electoral period, based on the outcome of close elections between AA and non-AA parties. Critically, our measure of AA party representation shock hinges on the assumption that the outcome of close elections between AA and non-AA parties can be deemed as ‘good as random’.

The challenge in constructing a state-specific electoral shock is compounded in our case as unlike most other regression discontinuity designs (RDD), we have state level outcomes and constituency level elections. Thereby, we are unable to use a sharp RDD which have characterized the majority of studies in this literature. As there are multiple electoral constituencies within a state, this warrants an aggregation of the constituency level results to the state level. Based on this aggregation of the electoral results at the constituency level, the exogenous variation in the number of AA party legislators for any state s and time period t is expressed as:

$$RAA_{st} = \sum_{c=1}^N \mathbb{I}(AACW_{sct}) - 0.5 * \sum_{c=1}^N \mathbb{I}(ACE_{sct}) \quad (3)$$

In (2), N denotes the total number of electoral constituencies located in state s . $AACW$ is an indicator variable equaling 1 if an AA party won a close election against a non-AA party in constituency c , while ACE is an indicator variable equaling 1 if there was a close election involving an AA party and a non-AA party in constituency c . As each contestant in a close election has an equal chance of winning, we scale the second term in Equation (3) by 0.5. The first term in Equation (3) captures the actual number of AA party legislators elected in the state during a given electoral cycle while the second term denotes the expected number of AA party legislators who should have been elected on the basis of the number of close elections contested by AA parties against non-AA parties. The difference provides us with the ‘unexpected’ variation in the number of AA party legislators elected from the state in the given

²³ For instance, we would expect the support for AA parties to be higher in regions with a higher proportion of low castes voters. However, a higher proportion of low caste voters would also mechanically increase their representation in public institutions, thereby imposing an upward bias in our estimated impact of AA party success on economic outcomes. Similarly, states such as Bihar and Uttar Pradesh, where AA parties have been successful have historically been states with low rates of economic growth, human capital formation and a poor investment climate. This can bias the impact of AA party success on private investment inflows downwards, overstating the negative impact AA parties might have on state-level investment inflows.

electoral period. By construction, we would expect this measure to be centred around 0.

It is important to note that above exogenous measure of AA party representation does not take into account two types of electoral contests - those involving two AA parties in a close race, and those involving two non-AA parties in a close race as in either event, regardless of the identity of the winner, an AA (non-AA) party legislator is elected. However, when an AA party contests against a non-AA party in a close election, and the AA (non-AA) party emerges victorious, there is a quasi-random switch from a non-AA (AA), to an AA (non-AA) party legislator and the paper relies solely on such elections to identify the impact of AA party legislators on economic outcomes.

Subsequently, the core empirical specification becomes:

$$Y_{st} = \alpha_s + \delta_t + \beta RAA_{st} + \gamma X_{st} + \epsilon_{st} \quad (4)$$

Conditional on the total number of close elections contested by AA parties, β in Equation (4) identifies the causal effect of a ‘positive AA representation shock’, occurring due to an additional close election won by an AA party against a non-AA party. As the total number of close contests occurring in a state is almost certainly endogenous to regional economic outcomes, it is included as a covariate in each specification.

Constitutionally, elections to state legislative assemblies are held every 5 years and the timing of elections is state-specific, with approximately 6 states facing elections in any given year. In this respect, RAA is invariant for a given state within each electoral cycle, and we control for the years lapsed since the previous election in the state in our specifications.

Finally, for the purposes of this paper, an election is determined to be ‘close’ if the difference in the margin of victory between an AA and a non-AA party is less than 5 percent of the total votes cast in the election. To verify that our results are not sensitive to this choice, we undertake in Section 7.1 robustness checks where we reduce the threshold to 4 and 2 percent and demonstrate that our core results do not change substantially due to this alteration.

4.2 Data

This paper uses data from three sources: the electoral data is obtained from the Election Commission of India (ECI). The data for state expenditures is obtained from the Reserve Bank of India (RBI), while the data on private investment is obtained from the Annual Survey of Industries’ (ASI). Additional covariates are sourced from the decennial Census of India and the Handbook of Statistics on the Indian Economy.

The electoral data provided by the ECI covers every election to state legislative assemblies across all states. We use a rich sample covering over 22,000 elections

between 1987 and 2010 across 19 major Indian states. Out of these 22,000 elections, nearly three-fourths, or about 16,000 elections, involved at least one AA party. For the elections involving at least one AA party, 2,450 - or about 15 percent - are deemed to be close elections at the 5 percent margin, involving one AA and one non-AA party.²⁴ Out of these 2,450 close elections involving an AA and a non-AA party at the 5 percent margin, AA parties won 1,214 close elections - or about 49.5 percent - and lost 1,236 close elections, providing preliminary support to the contention that the outcome of close elections between AA and non-AA parties are drawn from a stochastic process. Table A.1 in the Appendix present the summary statistics for the electoral variables. On average, there are 200 elections per state during any electoral cycle, with 25 elections deemed close at the 5 percent margin involving an AA and a non-AA party (Appendix, Table A.1) and the quasi-random variation in state-level AA party representation is not significantly different from 0.

To determine the spending preferences of AA party legislators, we use data from the RBI's annual publication titled 'State Finances: A Study of Budgets'. This contains annual state government revenues and expenditures for major spending categories across all states and includes both revenue and capital expenditures. For the purposes of this paper, we combine for each category revenue and capital expenditures to obtain total expenditures for that category in each year. As the expenditure amounts are measured in current rupees, we convert all annual values to 2012 rupees using an imputed inflation index.²⁵ The data on public expenditures is available from 1990 and as the rise of AA parties began in the late 1980s, we are able to identify the impact of AA party legislators on public expenditures over a two decade interval between 1990 and 2010, across 16 (19²⁶) major states covering 90 percent of the nation's population. The summary statistics for per capita expenditures and their respective shares in total expenditures for six major expenditure categories are presented in Table A.2 in the Appendix.

To determine if the electoral success of AA parties affect regional private investment, we use data from the Annual Survey of Industries (ASI). The ASI presents key industrial statistics for all registered²⁷ manufacturing plants across India. The sam-

²⁴ An additional 389 'close' elections within the 5 percent bandwidth were contested between two AA parties while two non-AA parties contested an additional 2,160 elections within the 5 percent margin. Table A.2 in the Appendix presents some descriptive statistics comparing these three types of constituencies.

²⁵ The lack of a readily available annual inflation index for each state forces us to impute the inflation rate from the growth of current and constant net state domestic product (NSDP). Specifically, we calculate our estimated rate of inflation as the difference between NSDP growth measured in current rupees and constant rupees. We use this imputed inflation index to convert all the remaining monetary measures to 2012 rupees.

²⁶ In 2000, three states, namely Uttar Pradesh, Madhya Pradesh and Bihar, were bifurcated to form three new states: Uttarakhand, Chhattisgarh and Jharkhand.

²⁷ Units which employ over 20 workers (10 if using electricity) have to register themselves with the state government under the provisions of the Factory Act of 1947.

pling unit for the ASI is the ‘factory’ - equivalent to a manufacturing unit - and the variables covered include fixed capital, gross capital formation, value of inputs and output, net value added, aggregate fuel consumption, number of workers employed and wages paid to workers. The ASI’s annual publications aggregates the factory-level data across all industries in the state and also provides state-level estimates disaggregated at the 2-digit industry level.²⁸ We extract this data to construct state-level estimates of fixed capital and gross capital formation - our two key measures of private investment - for each 2-digit industry. The annual monetary values are converted to 2012 values using the state-specific inflation index. The summary statistics for these variables are presented in Table A.3 in the Appendix.

5 Empirically Validating that the Outcome of Close Elections is Exogenous

5.1 Constituency Level Covariate Balance

Prior to presenting the reduced form results, we empirically validate our claim that the outcome of close elections involving AA parties at the 5 percent margin is indeed ‘as good as random’, and the state-level AA party representation shock is exogenous to state-level observables. As electoral outcomes are determined at the constituency level, we first demonstrate graphically that the outcome of close elections are uncorrelated across constituency level observables.

At the constituency level where we have a sharp RD, the running variable of interest is the victory margin of AA parties ($AAVM$) which is the difference in vote share between an AA and a non-AA party with a positive (negative) victory margin signifying an AA party victory (defeat).²⁹ We graphically show in Figure 1 the McCrary density test, testing for a discontinuity in the running variable - $AAVM$ - at the cutoff point 0, where the electoral outcome changes discontinuously from AA party

²⁸ This is based on the industry codes provided by the National Industrial Classification.

²⁹ In the simplest case where an election has two candidates, one belonging to an AA party and the other to a non-AA party, the victory margin is the difference in vote share between the AA and the non-AA party. With multiple candidates from AA and non-AA parties, we define AA victory margin - $AAVM$ - as the following: in the event of an AA party victory in constituency c and election year y ;

$$AAVM_{cy} = WAAVS_{cy} - \max(NAAVS_{cy}) \quad (5)$$

where $AAVM$ denotes the AA party victory margin in constituency c and election year y . The vote share of the winning AA party is represented by $WAAVS$ and we subtract from it the maximum vote share received amongst all non-AA parties contesting the election. The victory margin is defined analogously, in the event of a non-AA party winning the election.

defeat to AA party victory. We present results from a total of 16,277 constituency level elections, held across 19 states in the 1987-2010 period. The horizontal axis is divided into 500 bins between AA party victory margins of -0.3 and 0.3 with the red vertical line at 0 representing the cutoff point. The grey shaded circles represent the number of observations in each bin corresponding to the respective AA party victory margin; the red and orange lines display the fitted values from a local second order polynomial regression with the black lines representing 95 percent confidence intervals. Visually, the plot shows no evidence of any discontinuity at the cutoff and the 95 percent confidence intervals also overlap, validating that there is no selective sorting of electoral outcomes at the cutoff point.

Next, we perform covariate balance checks for 8 constituency-level observables³⁰ across the support of AA party victory margin. For each observable, we calculate its unconditional mean in each of the 500 bins of AA victory margin between -0.3 and 0.3. Figure 2 presents the graphical plots from this exercise. Akin to Figure 1, AA party victory margin is plotted on the horizontal axis with the red vertical line representing the cutoff point at 0. The grey shaded circles are the unconditional means of the covariates while the coloured lines are the fitted values from a second order local polynomial regression with the black lines denoting the 95 percent confidence intervals. For each of the 8 covariates displayed in the figure, we cannot visually identify any break or discontinuity at the cutoff and the confidence intervals also overlap in every plot, confirming covariate balance at the cutoff for AA party victory margin.

5.2 State-Level Covariate Balance

As the paper’s identification strategy hinges on the number of ‘unexpected’ legislators elected from AA parties in a state, we first present a graphical comparison between expected close wins and actual close wins for AA parties in the state. If our core assumption that either party contesting a close election has an equal chance of winning is correct, we would expect AA parties to win half the number of close elections they contest in the state. The results from this exercise are presented in Figure 3 where the horizontal axis plots the expected number of AA party victories, based on the number of close contests at the 5 percent margin between AA and non-AA parties in the state. The vertical axis records the actual number close wins scored by AA parties against non-AA parties. The green line is the 45 degree line where expected number of close wins equal actual close wins while the red dashed line plots the linear relationship between expected and actual close wins. Reassuringly, the linear trend line is very close to the 45 degree line and the majority of the points are evenly spread

³⁰ These are AA party vote share; number of registered voters (natural log); voter turnout; share of constituencies reserved for low caste SC/ST candidates; number of candidates; share of male winners; share of winners from SC/ST communities; and age of the winner.

around the 45 degree line, providing preliminary evidence that AA parties have an equal likelihood of winning close elections contested against a non-AA party at the 5 percent margin.

Formally, we validate the exogeneity of the quasi-random variation in regional AA party representation by individually regressing our independent variable of interest, RAA , on state-level observables. We perform our test on 8 political covariates obtained from the ECI, and 8 socio-economic covariates obtained from the decennial Census and the RBI’s Handbook of Statistics of the Indian Economy.³¹ In each specification, we control for the total number of close elections contested by AA parties as well as state and year fixed effects - akin to the main specifications - and the standard errors are clustered at the level of state-electoral cycle. The results are presented in Tables 1 and 2 and none of the state-level observables significantly predict the quasi-random variation in state AA party representation.

6 Results

This section contains the key findings of the paper. We first document the redistributive aspect of AA parties by showing the causal impact of AA party legislators on public expenditures. Subsequently, we present the reduced form results documenting the causal impact of AA parties on manufacturing investment. Finally, we present empirical evidence consistent with the claim investors’ response to the expenditure choices made by AA party legislators is a potential channel explaining the negative impact of AA party electoral success on private investment.

6.1 AA Party Success and State Expenditures

This section presents results identifying the effect of a change in *de facto* political power for low caste citizens on the composition of public spending. We identify the impact of a quasi-random increase in AA party representation on the share of state expenditures allocated across six expenditure heads: namely targeted low caste welfare; untargeted low caste welfare in the form of social security transfers and rural development;³² road construction and investments in power generation; health and

³¹ The political covariates include total elections; the share of elections reserved for minority SC/ST candidates; the number of contestants in each election; AA party vote share; state voter turnout; the total number of close elections involving AA parties in the state; and the share of elections won by AA parties in the previous electoral cycle. The socio-economic covariates are: logged state population; share of low caste SC/ST population in the state; share of literates; share of workers; share of urban households; state gender ratio; state population density; and logged net state domestic product.

³² This is inclusive of grants made to rural local government institutions (Panchayati Raj Institutions) and expenditures under the category of nutrition

education spending; agriculture and irrigation expenditures; and pensions and administrative expenses. Collectively, these six categories account for almost 85 percent of state government expenditures in our sample.

The first category measures public expenditures exclusively targeted towards low caste citizens whereby recipients must belong to a low-caste household to be a beneficiary.³³ Expenditures under this category typically take the form of scholarships to low caste students, construction of housing for low caste populations and also the targeted provision of public goods exclusively to low caste households. While this remains the most direct measure of state benefits accruing to low caste households, we use expenditures on rural development and social welfare programs as a measure of untargeted welfare spending for low caste citizens. This is motivated by the fact that a disproportionately high share of low caste households are located in rural areas and almost one out of every three low caste households fall below the official poverty line. Low caste households therefore would have a larger propensity to benefit from overall rural development and social protection schemes such as the provision of subsidized food grains to poor citizens.

If AA party legislators implement their party agenda to transfer state resources to low caste citizens, we would expect their impact to be channelized along the two above discussed expenditure categories. To test whether AA party legislators transfer resources to low caste citizens through redistributive spending, we identify the causal impact of AA party legislators on health and education; road and capital investments in power generation; agriculture and irrigation; and administrative salaries and pensions. The empirical specification used to identify the impact of AA party legislators on state expenditures is:

$$Y_{sy}^j = \alpha_s + \delta_y + \beta RAA_{sy} + \gamma X_{sy} + \epsilon_{sy} \quad (6)$$

The dependent variable measures the share of state expenditures allocated to each expenditure category j . The unit of observation is state-year with s representing the state and y the year. To facilitate the interpretation of the coefficients, each expenditure share is multiplied by 100. β in Equation (6) measures the causal impact of a positive AA party representation shock on the percentage point increase (decrease) in expenditure category j . Time-varying state-level covariates are contained in X ³⁴ while α and δ denote state and year fixed effects. The standard errors are clustered at the level of state-electoral cycle. The selection of this level of clustering as opposed to the more traditional state level is motivated due to the relatively small number of states (19) in India which creates a concern about having too few clusters

³³ This includes OBCs, *Dalits* and *Adivasis*.

³⁴ This includes both political and economic covariates such as the total number of close elections contested at the state-level by AA parties; state-level political competition; state-level voter turnout; the share of constituencies reserved for minority candidates in the state; constant net state domestic product; and the state-level share of literates, share of workers and rate of urbanization.

(Clots-Figureas, 2011). We verify in Section 7.4 that the results are not sensitive to this choice of clustering.

6.1.1 Reduced Form Results

The reduced form results identifying the impact of AA party legislators on state government expenditures is shown in Table 3. Panel A reports the results with covariates while Panel B excludes all covariates with the exception of total close elections contested by AA parties and state and year fixed effects. The inclusion of covariates do not influence the coefficients in Panel A which are statistically indistinguishable from those obtained in Panel B. In this regard, all subsequent results include covariates.

Columns (1) and (2) of Panel A shows that the marginal AA party legislator has a positive and statistically significant impact on the share of targeted and untargeted welfare expenditures towards low caste citizens. At the mean expenditure shares, the coefficients imply that the marginal AA party legislator increases the share of state expenditures allocated towards targeted low caste welfare schemes by 2 percent and untargeted low caste welfare schemes by a little over 1 percent.³⁵

To have a better understanding of the relative magnitude of the marginal legislator's impact, we convert the percentage amounts to monetary terms and benchmark it against the per capita monthly consumption of low caste households. In 2012 values, the average per capita expenditure for targeted and untargeted low caste welfare was 162 and 668 rupees respectively. Conditional on AA parties having no impact on aggregate public spending (verified in Table A.4, Appendix), a 2 and 1.3 percent increase in each expenditure category amounts to a combined per capita increase of 12 rupees in state expenditures allocated towards low caste welfare. As the average urban low caste household's monthly per capita expenditure in 2011-12 was 2,000 rupees (National Sample Survey, 2011-12), the monetary impact of the marginal AA party legislator's is equivalent to a 0.6 percent increase in the monthly per capita consumption of an urban low caste household.³⁶

Column (3) of Table 3 shows that the marginal AA party legislator has a significant negative impact on the share of state expenditures allocated towards physical infrastructure - namely road construction and investment in electricity generation. At the mean of the dependent variable, the coefficient in column (3) amounts to a 3 percent reduction in the share of state expenditures allocated to physical infrastructure.³⁷ In monetary terms, the average per capita expenditure on roads and power investments in 2012 rupees was 441 rupees, with a 3 percent decline amounting to a net reduction of 14 rupees per capita (aggregate state expenditures being constant) -

³⁵ 0.0617/3.104 in column (1) and 0.1499/13.399 respectively.

³⁶ If the benchmark is the per capita monthly consumption of rural low caste households, the corresponding increase would be 1.2 percent

³⁷ Evaluated as -0.2708/8.422

almost equivalent to the 12 rupees per capita increase in low caste welfare spending. This is evidence of the marginal AA party legislator redistributing state resources from non-exclusive to targetable public goods.

The last three columns (columns 4-6) of Table 3 inform us that AA party legislators have little impact on health and education or agriculture and irrigation spending but increase the share of state expenditures allocated towards pensions and administrative salaries by 1 percent. As the primary research question of this paper focuses on the redistributive spending preferences of AA party legislators, we restrict our attention to the share of targeted and untargeted low caste transfers and public spending on physical infrastructures for the remainder of the paper. We also verify in Table A.4 (Appendix) that AA party legislators have no significant impact on state expenditures, revenues or deficits. This confirms that the increase in welfare spending undertaken by AA party legislators is neither financed through higher revenues, nor deficits. This is consistent with the limited fiscal powers allocated to Indian states by the Constitution and the constraints placed on them to borrow from private markets.

6.1.2 Differential Impact of AA Party Legislators by Legislative Strength of AA Party

The results discussed in Section 6.1.1 identifies the average effect of the marginal AA party legislator on various state expenditure categories. However, given that the median state legislature comprises of 200 legislators, it warrants the question as to how influential an additional representative would be in such a large pool of individuals. To answer this question, we identify heterogeneous impacts of the marginal AA party legislator by the legislative strength of AA parties in the state legislature. As the average state in our sample witnesses 30 percent of elections being won by AA parties, we identify the differential impact of the marginal AA party legislator when AA parties win more than 30 percent of the elections to the state legislature. Specifically, we estimate the following equation:

$$Y_{sy} = \alpha_s + \delta_y + \beta_1 RAA_{sy} + \beta_2 \mathbb{I}(ShAAWin > 0.3)_{sy} * RAA_{sy} + \beta_3 \mathbb{I}(ShAAWin > 0.3)_{sy} + \gamma X_{sy} + \epsilon_{sy} \quad (7)$$

In Equation (7), $\mathbb{I}(ShAAWin > 0.3)$ is a categorical variable equaling 1 if AA parties have won more than 30 percent of the elections in the state for the given electoral cycle. The results in Table 4 show that the marginal AA party legislator is influential only when more than 30 percent of the legislators in the state legislature hail from AA parties. In each instance, β_1 is statistically insignificant and even though the interaction term also fails to attain statistical significance, the sum of β_1 and β_2 in each case is significant at the 5 percent margin, signifying that the marginal AA

party legislator has a causal impact on state expenditures only if AA parties control at least 30 percent of the state legislature. This result is consistent with majority voting rules required to enact legislation, as well as Acemoglu and Robinson (2008) and Acemoglu et al.'s (2013) prediction that substantial changes in the distribution of political power is necessary for higher levels of redistribution towards disadvantaged populations.

6.1.3 Mandated Representation or Party Agenda? Comparing the Impact of Low Caste Politicians from AA Parties and Mainstream Parties

The reduced form results in Section 6.1.1 provides causal evidence that changes in *de facto* political power for disadvantaged citizens can enhance targeted redistribution. In this section, we exploit the system of electoral quotas to compare the respective impacts of changes in *de jure* and *de facto* political power for low caste populations on targeted welfare allocations for low caste citizens. This comparison also permits us to determine what drives public resource allocation for disadvantaged populations: the socio-ethnic identity of individual legislators or a broader policy preference specific to political parties.

Constitutionally, since independence, electoral quotas ensure that every state has a certain number of 'reserved' constituencies from which only candidates belonging to low caste backgrounds can contest elections.³⁸ The specific number of reserved constituencies are proportional to the fraction of low caste citizens in the state with the average share of reserved constituencies equaling 23 percent across all major states. As only low caste candidates can contest an election from a reserved constituency, the elected representatives from such constituencies are also low caste, irrespective of party affiliation. We exploit this feature to compare the impact of low caste legislators on targeted welfare transfers for low caste citizens across AA parties and two mainstream national parties - the right-wing BJP and the centrist Congress party.³⁹ If electoral reservations - guaranteeing the representation of a fixed share of low caste politicians - is the key driver of redistributive spending, we should expect to see no difference in the impact of legislators elected from reserved constituencies on targeted

³⁸ Low caste herein refers to the Scheduled Castes and the Scheduled Tribes only and does not include the Other Backward Castes

³⁹ Regarding the choice of parties for the comparison, the BJP and the Congress are two of India's largest and richest political parties, functioning across the country. The BJP, dominated by upper caste leaders and drawing its support mostly from citizens belonging to the upper and middle castes lie on the opposite spectrum to AA parties. The Congress on the other hand is India's centrist 'catch-all' party which prior to the AA parties was the premier party for low caste populations, making it the primary competitor for AA parties in the 1980s. However, despite its broad appeal to the citizenry, the majority of the Congress leadership and legislators hails from the upper castes, which drove the opposition of AA parties to the Congress (Jaffrelot, 2003).

transfers to low caste citizens across the three parties.

The results are presented in Table 5. The empirical specification is identical to Equation (6). The only variance is that the AA party representation shock is now estimated separately across close elections occurring in reserved and non-reserved constituencies between AA and non-AA parties. For each party, the first column identifies the causal impact of the marginal legislator elected from reserved constituencies and the second column identifies the impact of the marginal legislator elected from non-reserved constituencies. The dependent variable in each instance is the share of state expenditures allocated exclusively to low caste welfare. From Table 5, we see that regardless of the type of constituency from which they are elected, the marginal AA party legislator (columns 1 and 2) has a positive and significant impact on the share of state expenditures allocated to targeted low caste welfare. In contrast, neither the marginal BJP legislator (columns 3 and 4), nor the marginal Congress legislator (columns 5 and 6) has any significant impact on the share of state expenditures targeted towards low caste citizens.

In terms of relative magnitudes, we are unable to reject the equality of the coefficients for the marginal Congress legislator and the marginal AA party legislator across reserved and non-reserved constituencies. However, the coefficient for the marginal Congress legislator from reserved constituencies (column 5) is less than half the impact of the marginal AA party legislator from reserved constituencies (column 1) and the former is also not statistically significant. When comparing the marginal BJP legislator against the marginal AA party legislator, we are able to reject the equality of the coefficients across both reserved and non-reserved constituencies. Moreover, we are also able to reject the hypothesis that the marginal BJP legislator elected from a reserved constituency has the same impact on the share of targeted spending for low caste citizens as the marginal AA party legislator elected from a non-reserved constituency (comparison of columns 1 and column 3).

The results in Table 5 provide two key insights. First, it shows that redistributive spending for disadvantaged populations is impacted only when changes in *de facto* political power complement the changes in *de jure* political power. This is consistent with Acemoglu and Robinson (2008) and Acemoglu et al.'s hypothesis (2013). The results also inform that mandated political representation for disadvantaged citizens would increase redistribution only when accompanied by political parties with a strong policy preference for redistribution towards disadvantaged populations. In the absence of such a party mandate, elite capture of political parties, combined with majority voting rules, can subdue the impact of mandated political representation of minority politicians on welfare expenditures.

6.2 AA Party Representation Shock and Private Investment: Reduced Form Results

The reduced form results in Section 6.1 provide evidence on the redistributive spending preferences of AA party legislators. As a number of studies (discussed in Section 2.2) highlight the critical role of physical infrastructure on firm performance, we identify the effect of AA parties on state-level investment inflows. For this exercise, our outcome variables are sourced from annual publications of the Annual Survey of Industries (ASI) which provides state level estimates for manufacturing activity, disaggregated at the two-digit level of industrial classification.

The impact of AA party legislators on private investment is identified along both the extensive and the intensive margins. Along the extensive margin, we identify the impact of AA party legislators on the total number of manufacturing units or ‘factories’ operating in the state for each industrial category. Along the intensive margin, we identify the impact of AA party legislators on two measures of capital investment - gross capital formation and fixed capital for each industrial category. The ASI defines gross capital formation as the sum of fixed capital formation and all other physical assets while fixed capital is the depreciated value of all fixed assets held by a manufacturing unit.⁴⁰ The conceptual framework in Section 2.2 described how reductions in public investments on physical infrastructure can affect private investment by reducing the returns on investments for owners of capital. To test this hypothesis, we also identify the impact of AA party legislators on state-level net value added for each industrial category, defined as the difference between total outputs and inputs in a year, net of depreciation.

The specification used to identify the impact of AA party legislators on private investment is the following:

$$\ln(Y_{isy}) = \alpha_s + \delta_{iy} + \phi_{is} + \beta RAA_{sy} + \lambda \mathbf{X}_{sy} + \epsilon_{isy} \quad (8)$$

In equation (8), the unit of observation is state-industry-year, with Y being the industrial outcome of interest for the 2-digit industry i , located in state s and year y . α and δ denote state-industry and industry-year fixed effects. The industry-year fixed effects control for annual shocks common to each industrial category across all states while the state-industry fixed effects account for time-invariant state-specific shocks in each state. ϕ however varies from a standard state-industry fixed effect as the industrial classifications have changed thrice⁴¹ during the period of interest. To this effect, there are three sets of state-industry fixed effects, each specific to the industry

⁴⁰ Fixed assets include land, buildings, machinery and transport equipment owned by the manufacturing unit.

⁴¹ The industrial classifications which correspond to the data used in the paper are the National Industrial Classifications (NIC) 1987, 1998 and 2008. While there was also an NIC issued in 2004, it was identical to NIC 1998 at the 2-digit level of industrial classification.

classification in use in the corresponding time period. Due to this, state-fixed effects α are also included to account for time-invariant shocks to industrial outcomes common to all industries in the state. Time-varying political and demographic covariates are included in \mathbf{X} and the standard errors are clustered as before at the level of state-electoral cycle. Finally, we exclude the years 1990 to 1993 from our sample as it coincided with the initiation of the policies of economic liberalization, undertaken by the federal government, causing significant changes to the manufacturing sector. The core results (not shown) are unaffected by this restriction.

The reduced form results identifying the impact of the marginal AA party legislator on industrial outcomes is presented in Table 6 with Panel A showing the results with time-varying state-level covariates and Panel B showing the results without covariates. The inclusion of covariates do not affect the magnitude or precision of the reduced form coefficients and all subsequent specifications include covariates. The reduced form coefficients in Panel A identify a negative relationship between an AA party representation shock and capital investments in the manufacturing sector along both the intensive and the extensive margins. Along the intensive margin, the marginal AA party legislator is associated with 3 and 2 percent reductions in fixed capital (column 2) and gross capital formation (column 3). This is accompanied by a decline in manufacturing investment along the extensive margin - the marginal AA party legislator reduces the number of factories in operation in the state by 1 percent. In the absence of firm-level panel data however, one cannot infer whether this is due to firms relocating operations to a different state or exiting the market.

Consistent with our explanation in Section 2.2, the return on capital investments are also lower in the presence of AA party legislators with the marginal legislator being associated with a 3 percent decline in net value added (column 5). As firm output should be correlated with firm investments, we show the impact of AA party legislators on gross output and expectedly, the marginal AA party legislator is associated with a 2 percent decline in output (column 4) in the manufacturing sector. Finally, column (6) informs that the decrease in capital investment is not due to AA party legislators influencing the hiring decisions of firms and causing a substitution of capital with labour - the marginal AA party legislator is associated with a 2 percent decline in the number of workers hired.

As AA party legislators are associated with a causal decline in the number of factories, a potential concern is that the intensive margin results occur mechanically due to the decline in investment along the extensive margin. To verify if this is indeed the case, we divide our investment, value added, output and labour outcomes by the number of factories in operation. The results shown in Table 7 verify that this is not the case. Even after normalizing by the number of factories in operation, the marginal AA party legislator has a negative and significant effect on investment, value added, output and number of workers, confirming that AA party legislators impact private investment along both the extensive and intensive margins.

6.3 Establishing the Mechanism: Public Expenditure Choices of AA Party Legislators and Private Investment

Having established the reduced form impact of AA party legislators on private investment, we now empirically establish that the redistributive expenditure choices of AA party legislators is one channel explaining their negative impacts on private investment in the state. We contend that the reductions in infrastructure investment undertaken by AA party legislators reduces the returns to private investments, resulting in a decline in capital inflows. We provide empirical evidence to establish this mechanism by identifying the heterogenous impact of AA party legislators on private investment and state expenditures across the legislative strength of AA parties, industry fuel consumption, and industry capital intensity. At the outset though, it is important to emphasize that this is not the only mechanism which can explain the negative impact of AA parties on manufacturing investment. While the empirical evidence provided is consistent with our claim, in the absence of additional firm level evidence explaining investors' investment decisions, the results in this section should be interpreted as suggestive and not conclusive.

6.3.1 Differential Impact of AA Party Legislators on State Expenditures and Private Investment by Legislative Strength of AA Parties

The results in Section 6.1.2 established that the marginal AA party legislator has a significant impact on public expenditures only when AA parties win at least 30 percent of the elections in the state. In this regard, if investors are responding to the redistributive spending choices made by AA party legislators, we would also expect the reductions in investment to occur when AA parties have a corresponding presence in the state legislature. To test this hypothesis, we use the following equation to test for the heterogeneous impacts of the marginal AA party legislator on manufacturing investment by the legislative strength of AA parties.

$$\ln(Y_{isy}) = \alpha_s + \delta_{iy} + \phi_{sy} + \beta_1 RAA_{sy} + \beta_2 \mathbb{I}(ShAAWin > 0.3)_{sy} * RAA_{sy} + \lambda \mathbf{X}_{sy} + \epsilon_{isy} \quad (9)$$

In equation (9), $\mathbb{I}(ShAAWin > 0.3)$ is a binary variable as in equation (7), equaling 1 when AA parties win more than 30 percent of the elections in the state during an electoral cycle. The results in Panel A of Table 8 show that the coefficient on β_2 is negative in each instance albeit not statistically significant. The sum of the coefficients are negative and jointly significant at the 5 percent level for all the outcomes while the the coefficient on β_1 is not statistically significant for any of the outcomes. These results confirm that the marginal AA party legislator has no impact on private investment and returns to investment when AA parties do not have a critical level of support in the state legislature. This is consistent with the results

in Section 6.1.2 where the marginal AA party legislator has an impact on public expenditures only when AA parties have won more than 30 percent of the elections in the state.

6.3.2 Differential Impact of AA Party Legislators on Private Investment by Industry Fuel Consumption

Section 6.1 established that the marginal AA party legislator has a significant negative impact on the share of state expenditures allocated to physical infrastructure. If this reduction in infrastructural spending drives investors' decisions to reduce manufacturing investment, we would expect the reduction in investment to be restricted to industries which are more reliant on physical infrastructure. We empirically test this by identifying the heterogeneous impact of AA party legislators on manufacturing investment across industries with high and low fuel consumption. Fuel consumption, as reported by the ASI includes the consumption of both electricity and fossil fuels. For all years, we normalize aggregate fuel consumption for each industry in the state by the total number of factories in operation. This provides us with fuel consumption per factory for each industry-state-year combination and we would expect industries with relatively higher values of fuel consumption per factory to be more reliant on electricity and roads and thereby, more responsive to reductions in public investments in these categories. We therefore classify industries in each state and year as high (low) fuel consuming industries, if their annual fuel consumption per factory exceeds (is less than) the median fuel consumption per factory across all states and industries in the year 1993. The formal equation is expressed as:

$$\ln(Y_{isy}) = \alpha_s + \delta_y + \phi_i y + \beta_1 RAA_{sy} + \beta_2 HighFuel_{isy} * RAA_{sy} + \gamma_2 X_{sy} + \epsilon_{isy} \quad (10)$$

In Equation (10), *HighFuel* is a categorical variable equaling 1 if aggregate fuel consumption per factory for any industry i , in state s and year y exceeds the median fuel consumption per factory across all states and industries in 1993. The results from this estimation, shown in Panel B of Table 8 are consistent with our hypothesis. The coefficient on the interaction term, β_2 , is negative and statistically significant for three of the six specifications while the coefficient on β_1 is significant in only one instance. The sum of the coefficients are also jointly significant at the 5 percent level for each outcome, confirming that the marginal AA party legislator is associated with a causal reduction in private investment only for industries with a high level of fuel consumption per factory.

6.3.3 Differential Impact of AA Party Legislators on Private Investment by Industry Capital Intensity

The results in the previous section established that the negative impact of AA party legislators on private investment is restricted to industries with high levels of fuel consumption. As industries' fuel consumption is highly correlated to industries' fixed capital and capital formation (the correlation coefficient in our sample exceeds 0.8), our final test of the mechanism is a test of heterogeneous effects by the capital intensity of firms. Capital intensity is defined as the ratio of fixed capital to workers hired. We define industries as 'high capital intensity' if the industry's fixed capital to workers ratio in a given year exceeds the median fixed capital to workers ratio across all states and industries in the year 1993. The specification is identical to equation (10) with the exception that instead of *HighFuel*, the dummy variable used is *CapInt* denoting high capital intensity. The results in Panel C of Table 8 are very similar to those obtained in Panel B. The interaction term is negative in each instance although not precisely estimated. The sum of β_1 and β_2 however is negative and statistically significant at the 5 percent level in each specification while β_1 is not statistically significant in all but one specification, confirming that the negative impact of the marginal AA party legislator on private investment is restricted to industries which have high capital intensity.

7 Robustness Checks

7.1 Altering the Threshold to Determine Close Elections

All the results discussed in Section 6 are based on the threshold where a 5 percent difference in vote share between the winner and the runners-up constitute a 'close election'. A natural concern therefore is whether our results are sensitive to this particular definition of close elections. We thereby test the validity of our results at two alternate and narrower margins of close elections: namely 4 and 2 percent.

The results are presented in Panels A and B of Tables 9 and 10. Panel A in each table shows the results when the threshold for close elections is 4 percent; Panel B shows the results when the threshold is further lowered to 2 percent. At the 4 percent threshold for close elections, the marginal AA party legislator has a significant positive impact on the share of expenditures allocated to targeted and untargeted low caste welfare, accompanied by a negative and significant impact on physical infrastructure spending. The causal impact of AA parties on manufacturing investment is negative although the precision of the coefficients are dampened.

At the 2 percent threshold for close elections, the state-level results on gross capital formation and fixed capital remain negative and statistically significant while the remaining coefficients remain negative and significant at the 15 percent level.

For state expenditures, we are able to detect a negative and statistically significant impact of the marginal AA party legislator on roads and power investments while the coefficients for targeted and untargeted low caste welfare are positive and statistically indistinguishable from those obtained with a 5 percent threshold for close elections, albeit imprecisely estimated.

7.2 Robustness Check: Verifying that Results are not Driven by Individual State

The primary source of exogenous variation in the paper is quasi-random shocks to the number of AA party legislators elected to the state legislative assembly in each electoral cycle. As the majority of AA parties are regional parties with a powerful presence in their respective states but little influence outside, it leads to a concern whether the results are being driven by the impact of a particular AA party in a single state. To verify this isn't the case, we re-estimate our specifications by dropping one state at a time. The results from this exercise are shown in Figures 5 and 6 as coefficient plots. The 19 point estimates are very similar in both the coefficient plots for public expenditure and private investment outcomes, confirming that the core results are not being driven by the impact of a specific AA party operating within a single state.

7.3 Robustness Check: Restricting the Classification of AA Parties to Strictly Caste Based Parties

In our discussion of AA parties in Section 3.2, we had argued for the inclusion of the Left parties and the DMK within the 'AA' category due to the respective similarities in their political goals, the overlap in their target voters, and the electoral support provided by the latter parties to the exclusively caste-based AA parties. However, both the DMK and the Left parties were formed much before the remaining AA parties and thereby, have had more experienced legislators at their disposal. The DMK and the Left parties have also formed governments in three states on multiple occasions between 1967 and 1987, providing the parties with greater administrative experience. All these factors can make legislators belonging to the Left parties and the DMK more effective in implementing their preferred policies, vis-a-vis the relatively more inexperienced legislators from strictly caste-based AA parties. If this is true, the positive impact of AA party representation could be driven solely due to these two party groups, which represent low caste interests, but did not emerge out of the upsurge in political mobilization amongst low caste populations in the 1980s. This would negate the paper's argument that the increased welfare allocations for low caste citizens are generated through a change in *de facto* political power for low caste

populations through the process of electoral competition. To verify this is not the case, we re-run our specifications after excluding the states of West Bengal, Kerala and Tamil Nadu, in which the Left and the DMK have been the most successful.⁴²

The results are presented in Panel C of Tables 9 and 10. On the whole, the results are qualitatively unchanged after restricting the sample. The restriction in sample size affects the precision of some of our coefficients. Nonetheless, we still identify a positive and statistically significant impact of AA parties on the share of state expenditures allocated exclusively towards low caste citizens; and a negative and statistically significant impact on the share of expenditures allocated towards roads and power investments.

7.4 Robustness Check: Clustering at the State Level

As our quasi-random treatment varies with every electoral cycle in the state, we had argued for the clustering of the standard errors for the state-level results at the level of state-electoral cycle.⁴³ To validate that the precision of the results are not an artifact of this choice of clustering, we re-estimate the specifications after clustering the standard errors at the more traditional state-level. From Panel D of Tables 9 and 10, we verify that this is not the case. The marginal AA party legislator has a statistically significant impact on targeted low caste spending as well as road construction and investments in electricity generation while the coefficient for untargeted low caste welfare spending is almost significant at the 15 percent level (p-value of 0.159).

8 Conclusion

This paper uses a unique political setting from India to study the economic impacts of increased political representation for marginalized citizens through the process of political mobilization and electoral competition. The existence of institutional reforms designed to increase the political representation of economically deprived low caste citizens through electoral quotas permits us to contrast the welfare gains emanating from these two distinct modes of political representation for disadvantaged populations. The core empirical results show that a change in the structure of political power, achieved through the electoral success of caste-based AA parties, is necessary to complement the institution of electoral quotas for the latter to impact public resource allocation for low caste citizens. The paper therefore provides causal

⁴² The DMK's political presence is strictly restricted to the southern state of Tamil Nadu while over 80 percent of the state assembly races won by the Left are located in West Bengal and Kerala.

⁴³ The small number of states (19) in our sample is a second reason to cluster the standard errors at the level of state-electoral cycle.

evidence in support of Acemoglu and Robinson (2008) and Acemoglu et al's (2013) prediction that changes in *de facto* political power need to be accompanied with changes in *de jure* political power to realize the latter's full redistributive potential. Relatedly, by showing that the mandated political representation of ethnic minority politicians have an impact on public resource allocation only when the politicians belong to political parties with an explicit policy preference for minority welfare, the paper provides alternative evidence to the body literature studying the impact of a legislator's ascriptive identity on economic outcomes.

By highlighting the criticality of party platforms in facilitating public resource allocation towards low caste populations, the paper also provides evidence that the policy preferences of political parties can have a significant influence on economic outcomes, both for select population groups, and the regional economy. Ferreira and Gyourko (2009) who find no impact of party affiliation on local economic outcomes contend that cities might not be the appropriate geographical unit to study the impact of political parties on economic outcomes. This paper identifies the impact of party platforms based on the legislative actions of state-level politicians committed to their party mandates, suggesting that an appropriate level to study the policy impact of political parties could be the state, where the legislative actions of elected politicians have a much wider bearing on the economy.

Finally, by linking the redistributive spending preferences of elected representatives with the negative impact on regional private investment, the paper showcases the possible economic tradeoffs stemming from redistributive spending policies undertaken by fiscally constrained legislators. It needs to be stressed however that increased welfare spending for disadvantaged populations need not come at a net cost to the regional economy if governments have the necessary state capacity to effectively finance the enhanced levels of social expenditures. In cases such as India, where lower levels of governments have limited taxation powers, advances in the administration and collection of indirect taxes, along with improvements in the efficacy of public investments can reduce the potential distortions associated with higher spending on social protection schemes for vulnerable populations.

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9 Figures

Figure 1: McCrary Test for Discontinuity of AA Victory Margin

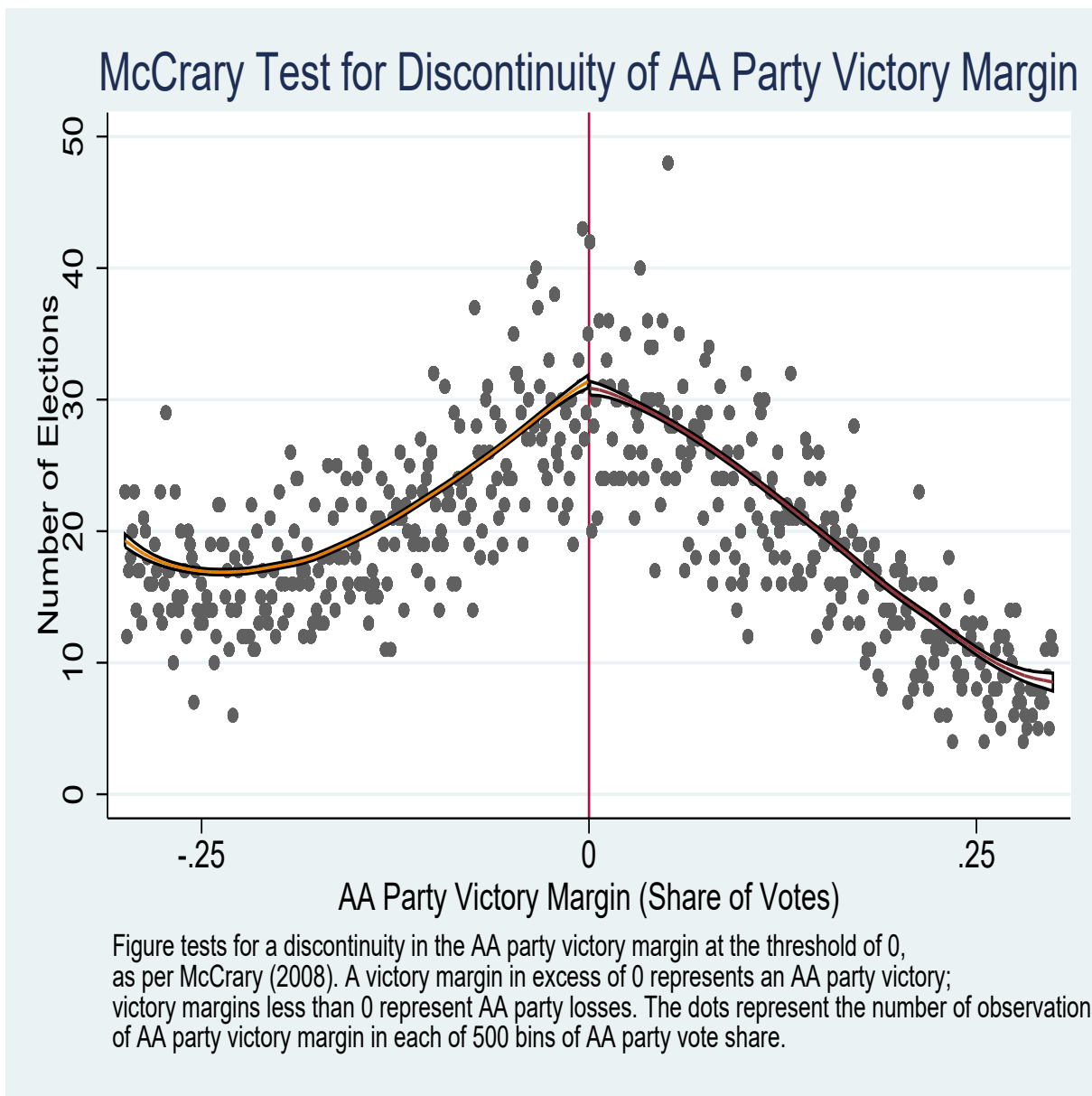
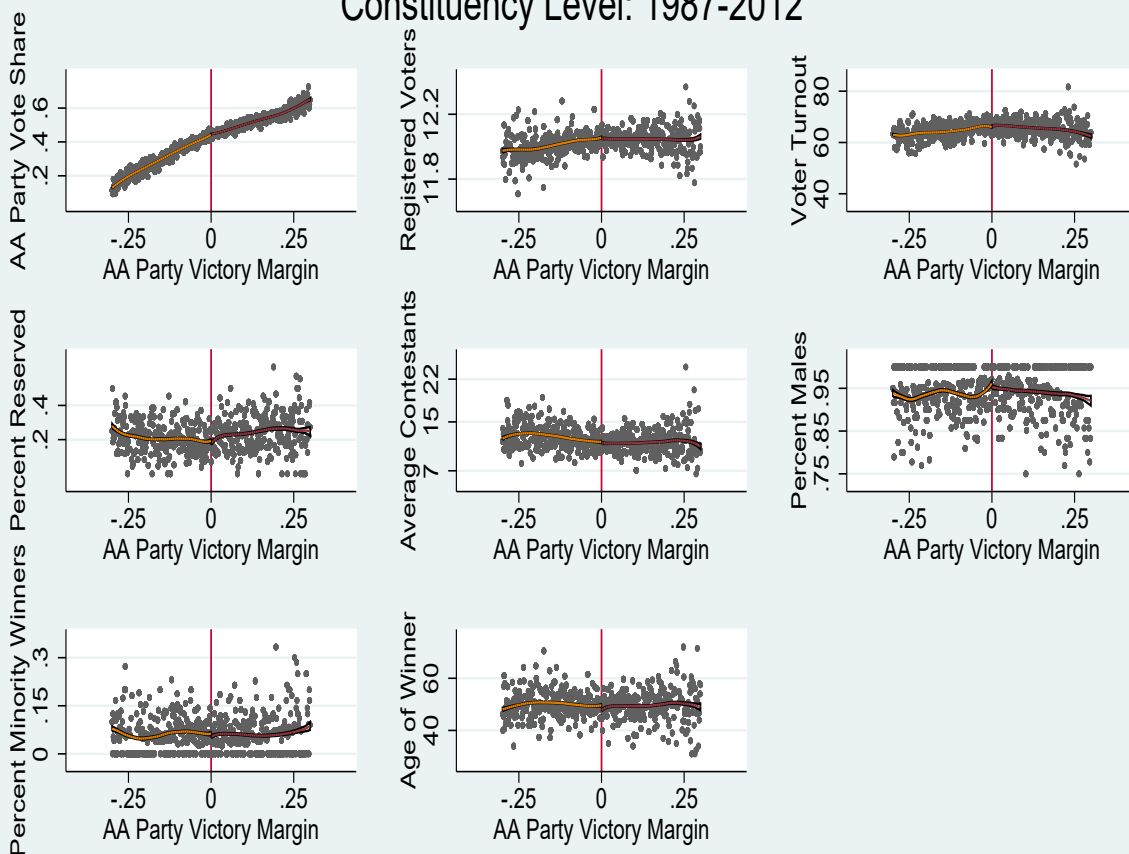


Figure 2: Balance Across Constituency Level Covariates

Check of Covariate Balance Across AA Win Margin

Constituency Level: 1987-2012



Covariate balance checks at the constituency level. The following covariates are tested: AA party vote share; number of registered voters; voter turnout; share of constituencies reserved for SC/ST candidates; number of candidates contesting; share of male winners; share of winners from SC/ST community; share of male winners. Each dot corresponds to unconditional means across 500 bins of AA party vote share. The solid lines represent 95 percent confidence intervals.

Figure 3: Predicted AA Party Close Wins vs Actual AA Party Close Wins, State

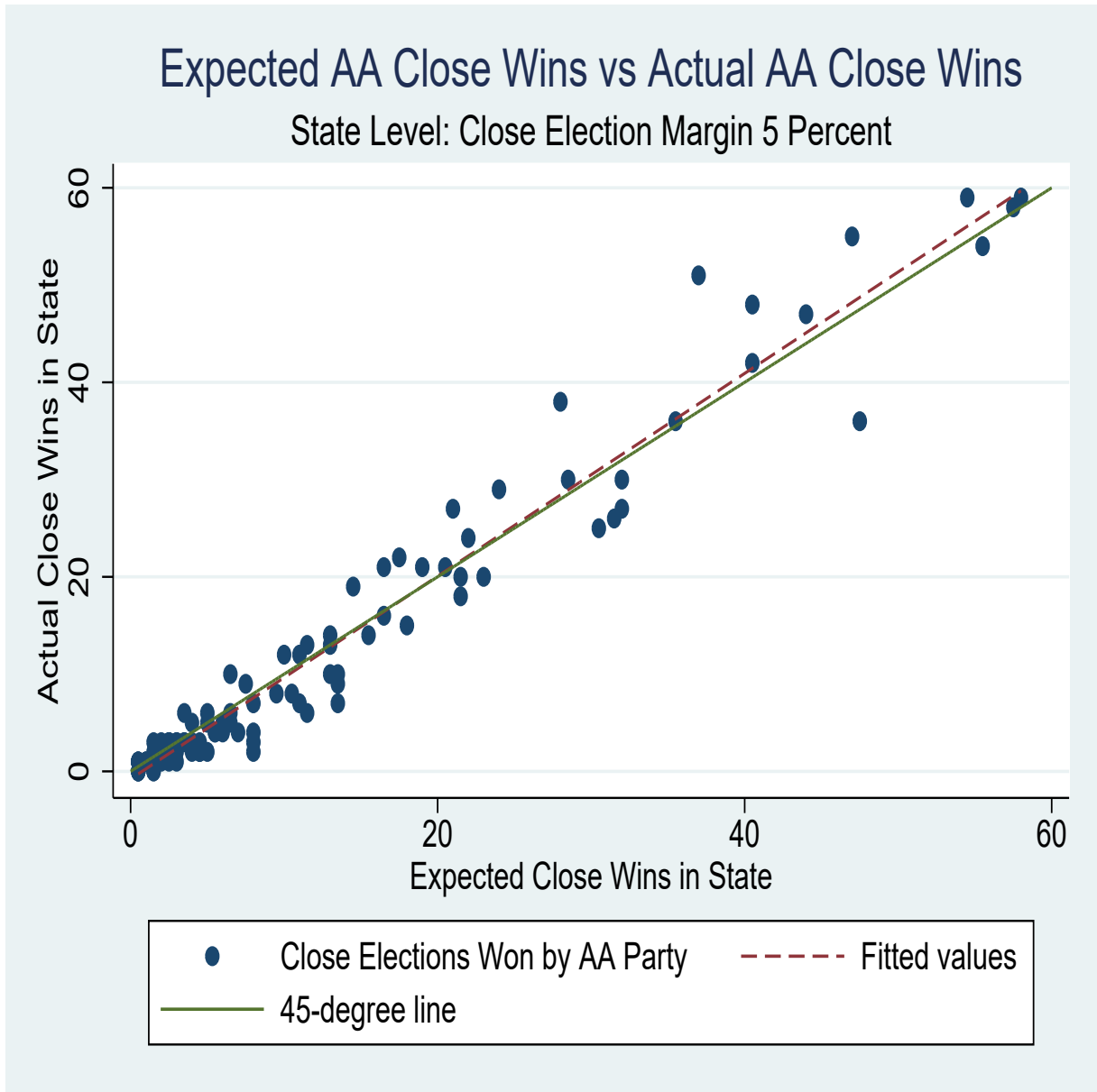
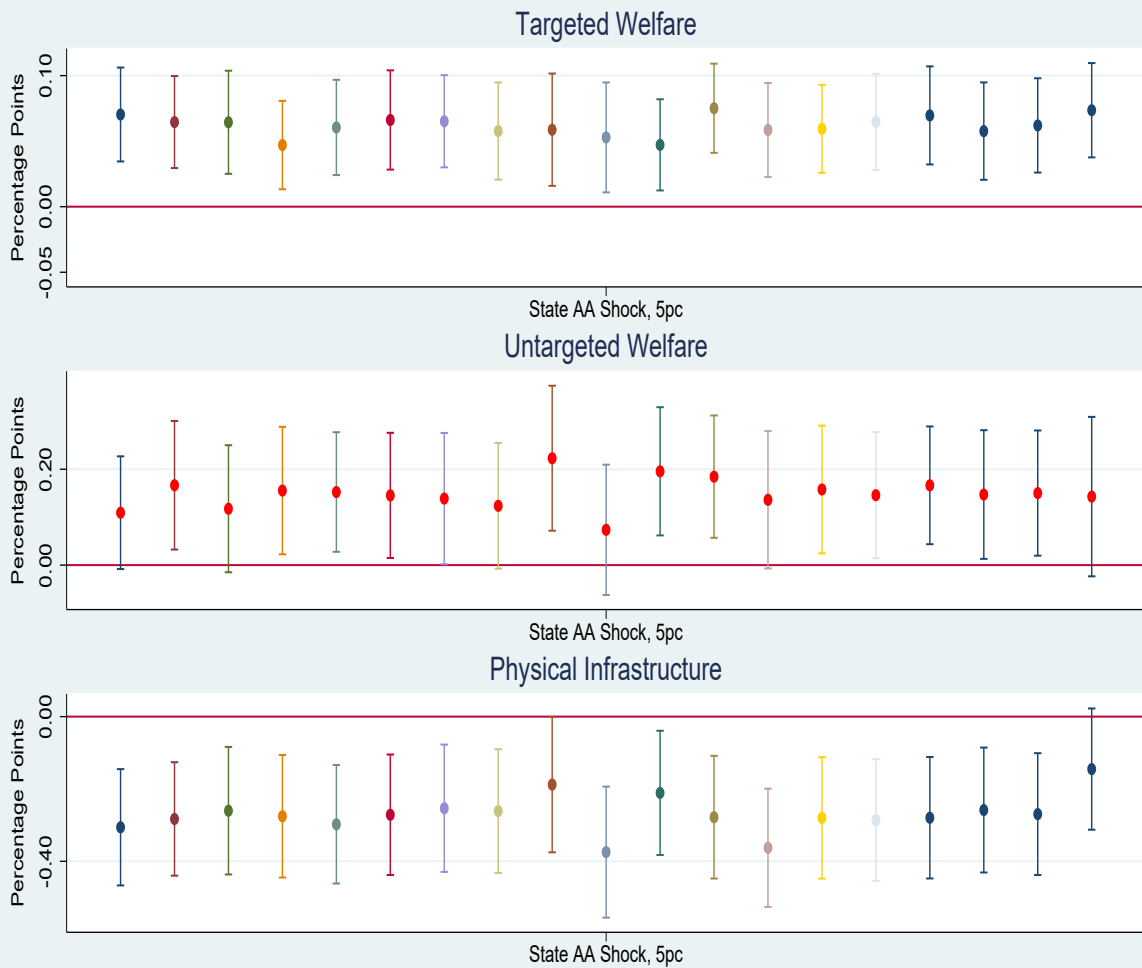


Figure 4: Robustness of Public Expenditure Results to Dropping Individual States

Robustness of State Expenditures to Dropping Individual States



The dependent variable is the share of state expenditures allocated to each category. All specifications control the total number of close elections contested, state and year fixed effects and other political and demographic covariates.

Robustness of Public Expenditure Results to Dropping Individual States

Robustness of Private Investment to Dropping Individual States



The dependent variable is logged in each specification. All specifications control for the total number of close elections contested, district, state-survey round and survey round fixed effects and other political and demographic covariates.

10 Tables

10.1 Main Results

Table 1: Verifying Political Covariates Do Not Predict State-Level AA Representation Shock at 5 Percent Margin

	(1)	(2)	(3)	(4)	(5)	(6)	(7)
	AA	AA	AA	AA	AA	AA	AA
	Shock	Shock	Shock	Shock	Shock	Shock	Shock
Total Elections, State	-.0182 (.0163)						
No. of Reserved Constituencies		-.0358 (.0309)					
Average Effective Number of Parties			-.1372 (.4018)				
State AA Vote Share				.3427 (.6138)			
State Voter Turnout					-1.3264 (11.0620)		
Percent AA Wins, Lag 1						2.3496 (2.4217)	
Total Close Elections, 5 pc	-.0665 (.0510)	-.0652 (.0511)	-.0298** (.0127)	-.0698 (.0539)	-.0642 (.0568)	-.1396*** (.0504)	-.0658 (.0509)
Observations	106	106	106	106	106	87	106
R ²	.4968	.4966	.4670	.4942	.4922	.6300	.4921

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the difference between the total close elections won by AA parties in the state (5 percent margin), and half the close elections contested by AA parties in the state. All regressions control state and election year fixed effects, in addition to the total number of close elections contested by AA parties.

Table 2: Verifying Demographic Covariates Do Not Predict State-Level AA Representation Shock

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
	AA	AA	AA	AA	AA	AA	AA	AA
	Shock	Shock	Shock	Shock	Shock	Shock	Shock	Shock
State Population (log)	-2.6437							
	(5.9119)							
Percent Population SC/ST		-12.1549						
		(43.6627)						
Percent Literate			9.8666					
			(31.5986)					
Percent Workers				-39.2192				
				(43.0443)				
Percent Urban					12.6114			
					(29.7530)			
Gender Ratio						-37.4498		
						(77.4185)		
Population Density							-0.0043	
							(.0078)	
State Domestic Product (log)								-0.9605
								(2.5541)
Observations	74	74	74	74	74	74	74	84
R ²	.6937	.6932	.6942	.7000	.6962	.6944	.6997	.6320

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the difference between the total close elections (5 percent margin) won by AA parties in the state, and half the close elections contested by AA parties in the state. All regressions control for state and year fixed effects, in addition to the total number of close elections contested by AA parties.

Table 3: AA Party Representation Shock and State Expenditures

Panel A:						
Covariates						
	(1)	(2)	(3)	(4)	(5)	(6)
	Low Caste Welfare	Rural Dev and Soc. Welfare	Roads and Power	Health and Educ.	Ag. and Irrig.	Pensions and Admin.
State AA Shock, 5pc	.0617*** (.0214)	.1499* (.0786)	-.2708*** (.1006)	-.0163 (.0925)	-.0564 (.0758)	.1431* (.0728)
Observations	363	363	363	363	363	363
R ²	.90	.77	.54	.80	.70	.82
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dep. Variable Mean (Pct)	3.10	13.40	8.42	29.77	17.05	11.59
Panel B:						
No Covariates						
	(1)	(2)	(3)	(4)	(5)	(6)
	Low Caste Welfare	Rural Dev and Soc. Welfare	Roads and Power	Health and Educ.	Ag. and Irrig.	Pensions and Admin.
State AA Shock, 5pc	.0393 (.0265)	.1564* (.0807)	-.2081** (.1046)	-.0160 (.0885)	-.0380 (.0759)	.1843** (.0887)
Observations	364	364	364	364	364	364
R ²	.86	.76	.46	.78	.68	.78
Controls	No	No	No	No	No	No
Dep. Variable Mean (Pct)	3.10	13.40	8.42	29.77	17.05	11.59

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the share of state expenditures for each state expenditure category. The unit of observation is state-year. Estimation controls for total number of close contests involving AA parties; state-level political competition; percent of constituencies reserved for SC/ST candidates; share of population who are literate; share of workers; rate of urbanization; as well as state and year fixed effects.

Table 4: Effect of AA Party Representation Shock on Public Expenditures - Differential Effects by AA Party Legislative Strength

	(1) Low Caste Spending	(2) Rural Dev and Social Welfare	(3) Roads and Power Investment
State AA Shock, 5pc	.0299 (.0758)	-.1660 (.3017)	-.2693 (.2724)
Elections Won, 30pc*State AA Shock, 5pc	.0329 (.0800)	.3897 (.3148)	-.0125 (.3106)
Observations	363	363	363
R ²	.90	.78	.54
Joint Significance - 5pc	Yes	Yes	Yes
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.1037	13.3994	8.4225

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the share of each expenditure category in total state expenditures. The unit of observation is state-year round. Estimation controls for total number of close contests; state-level political competition; voteshares for AA parties and two major national parties; share of constituencies reserved for minority candidates; share of population who are literate; share of workers; rate of urbanization; constant net state domestic product; as well as state and year fixed effects.

Table 5: Comparing the Impact of Low Caste Politicians on Public Expenditures for Low Caste Citizens Across Party Affiliation

	(1)	(2)	(3)	(4)	(5)	(6)
	Low Caste Welfare	Low Caste Welfare	Low Caste Welfare	Low Caste Welfare	Low Caste Welfare	Low Caste Welfare
State AA Shock Reserved , 5pc	.0698*					
	(.0355)					
State AA Shock Non-Reserved, 5pc		.0672**				
		(.0278)				
State BJP Shock, Reserved 5pc			-.1919***			
			(.0594)			
State BJP Shock, Non-Reserved 5pc				-.0081		
				(.0328)		
State Congress Shock, Reserved 5pc					.0247	
					(.0244)	
State Congress Shock, Non-Reserved 5pc						.0012
						(.0180)
Observations	363	363	363	363	363	363
R ²	.90	.90	.91	.90	.89	.89
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	3.10	3.10	3.10	3.10	3.10

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the share of state expenditures allocated towards low caste welfare. The unit of observation is state-year. Estimation controls for total number of close contests; state-level political competition; voteshares for AA parties and two major national parties; share of constituencies reserved for minority candidates; share of population who are literate; share of workers; rate of urbanization; constant net state domestic product; as well as state and year fixed effects.

Table 6: AA Party Representation Shock and Manufacturing Investment

Panel A:						
Covariates						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Value Added	Workers
State AA Shock, 5pc	-.0127** (.0061)	-.0327*** (.0097)	-.0249** (.0108)	-.0233*** (.0088)	-.0288*** (.0100)	-.0183* (.0093)
Observations	7158	7156	6457	7153	6998	7155
R ²	.76	.70	.63	.69	.64	.68
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	270333	61766	677943	114720	17320
Panel B:						
No Covariates						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Value Added	Workers
State AA Shock, 5pc	-.0129** (.0062)	-.0362*** (.0097)	-.0284** (.0110)	-.0235** (.0097)	-.0295*** (.0110)	-.0219** (.0093)
Observations	6834	6831	6171	6828	6676	6830
R ²	.86	.81	.74	.81	.77	.80
Controls	No	No	No	No	No	No
Dependent Variable Mean	330	271572	63323	689631	115756	17256

Standard errors in parentheses (clustered at level of state-electoral cycle). The dependent variable in each specification is logged. Panel A presents results with covariates and Panel B presents results without covariates. Estimations in panel A controls for the total number of close contests; effective number of parties contesting; state voter turnout; share of workers; and rates of literacy and urbanization. State, industry-year and state-industry (adjusted for changes in industrial classifications across years) fixed effects are also included.

Table 7: AA Party Representation Shock and Manufacturing Industries - Intensive Margin

	(1)	(2)	(3)	(4)	(5)
	Fixed Capital per Factory	Capital Formation per Factory	Output per Factory	Value Added per Factory	Workers per Factory
State AA Shock, 5pc	-.0260*** (.0070)	-.0212*** (.0074)	-.0136** (.0057)	-.0208*** (.0069)	-.0100** (.0047)
Observations	6809	6151	6806	6656	6807
R ²	.73	.61	.73	.67	.65
Controls	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	1989	394	4037	654	78

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is logged. Estimation controls for the total number of close contests; effective number of parties contesting; state voter turnout; share of workers; and rates of literacy and urbanization. State, industry-year and state-industry (adjusted for changes in industrial classifications across years) fixed effects are also included.

Table 8: AA Party Representation Shock and Manufacturing Investment: Differential Effects by Party Strength, Industry Fuel and Capital Intensity

Panel A: Legislative Strength						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Net Value Added	Workers
State AA Shock, 5pc	.0047 (.0147)	-.0136 (.0221)	-.0091 (.0263)	-.0126 (.0227)	-.0171 (.0254)	-.0077 (.0207)
Elections Won, 30pc*State AA Shock, 5pc	-.0253 (.0155)	-.0257 (.0254)	-.0213 (.0288)	-.0124 (.0258)	-.0206 (.0291)	-.0194 (.0234)
Observations	6812	6809	6151	6806	6656	6808
R ²	.87	.81	.74	.81	.77	.81
Joint Significance - 5pc	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	271572	63323	689631	115756	17256
Panel B: Fuel Intensity						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Net Value Added	Workers
State AA Shock, 5pc	-.0068 (.0069)	-.0264** (.0132)	-.0128 (.0133)	-.0115 (.0106)	-.0137 (.0108)	-.0112 (.0102)
High Fuel*AA Shock, 5pc	-.0140 (.0095)	-.0191 (.0176)	-.0333** (.0167)	-.0260* (.0153)	-.0348** (.0170)	-.0210 (.0139)
Observations	6812	6809	6151	6806	6656	6808
R ²	.87	.84	.76	.83	.79	.82
Joint Significance - 5pc	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	271572	63323	689631	115756	17256
Panel C: Capital Intensity						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Net Value Added	Workers
State AA Shock, 5pc	-.0062 (.0080)	-.0321* (.0168)	-.0201 (.0190)	-.0162 (.0135)	-.0151 (.0148)	-.0067 (.0107)
High Capital*AA Shock, 5pc	-.0120 (.0083)	-.0112 (.0239)	-.0197 (.0248)	-.0169 (.0173)	-.0294 (.0186)	-.0268*** (.0091)
Observations	6812	6809	6151	6806	6656	6808
R ²	.87	.81	.74	.81	.77	.81
Joint Significance - 5pc	Yes	Yes	Yes	Yes	Yes	Yes
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	271572	63323	689631	115756	17256

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is logged. Estimation controls for the total number of close contests; effective number of parties contesting; state voter turnout; share of workers; and rates of literacy and urbanization. State, industry-year and state-industry (adjusted for changes in industrial classifications across years) fixed effects are also included.

Table 9: AA Party Representation Shock and Public Expenditures - Robustness

Panel A			
4 Percent			
	(1)	(2)	(3)
	Low Caste Spending	Rural Dev and Social Welfare	Roads and Power Investment
State AA Shock, 4pc	.0640*** (.0213)	.1764** (.0868)	-.3648*** (.1181)
Observations	363	363	363
R ²	.90	.77	.54
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	13.40	8.42
Panel B:			
2 Percent			
	(1)	(2)	(3)
	Low Caste Spending	Rural Dev and Social Welfare	Roads and Power Investment
State AA Shock, 2pc	.0370 (.0386)	.1499 (.1404)	-.4094* (.2130)
Observations	363	363	363
R ²	.89	.77	.53
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	13.40	8.42
Panel C:			
Caste Parties			
	(1)	(2)	(3)
	Low Caste Spending	Rural Dev and Social Welfare	Roads and Power Investment
State AA Shock, 5pc	.0807*** (.0270)	.0630 (.1070)	-.2194* (.1256)
Observations	300	300	300
R ²	.91	.77	.57
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	13.40	8.42
Panel D:			
State Cluster			
	(1)	(2)	(3)
	Low Caste Spending	Rural Dev and Social Welfare	Roads and Power Investment
State AA Shock, 5pc	.0617** (.0264)	.1499 (.1020)	-.2708* (.1552)
Observations	363	363	363
R ²	.90	.77	.54
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	13.40	8.42

Standard errors in parentheses. The dependent variable is the share of each expenditure category in total state expenditures. Estimation controls for total number of close contests; state political competition; share of workers; rate of urbanization; as well as state and year fixed effects. Panel A limits close elections to the 4 percent threshold; Panel B limits close elections to the 2 percent threshold; Panel C limits AA parties to caste parties; and Panel D clusters standard errors at the state-level.

Table 10: AA Party Representation Shock and Manufacturing Investment: Robustness

Panel A: 4 Percent						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Value Added	Workers
State AA Shock	-.0054 (.0083)	-.0195 (.0124)	-.0090 (.0131)	-.0128 (.0111)	-.0185 (.0133)	-.0068 (.0128)
Observations	7158	7156	6457	7153	6998	7155
R ²	.76	.70	.63	.69	.64	.68
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Panel B: 2 Percent						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Value Added	Workers
State AA Shock	-.0288* (.0171)	-.0485* (.0267)	-.0500* (.0289)	-.0391 (.0250)	-.0548** (.0268)	-.0353 (.0250)
Observations	7158	7156	6457	7153	6998	7155
R ²	.76	.70	.63	.69	.64	.68
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Panel C: Caste Parties						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Net Value Added	Workers
State AA Shock, 5pc	.0003 (.0076)	-.0160 (.0131)	-.0095 (.0139)	-.0096 (.0114)	-.0169 (.0114)	.0026 (.0090)
Observations	5872	5870	5290	5867	5723	5869
R ²	.77	.70	.65	.70	.65	.68
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	270333	61766	677943	114720	17320
Panel D: State Clusters						
	(1)	(2)	(3)	(4)	(5)	(6)
	Factories	Fixed Capital	Capital Formation	Output	Net Value Added	Workers
State AA Shock, 5pc	-.0127* (.0062)	-.0327*** (.0077)	-.0249** (.0088)	-.0233*** (.0070)	-.0288*** (.0072)	-.0183** (.0069)
Observations	7158	7156	6457	7153	6998	7155
R ²	.76	.70	.63	.69	.64	.68
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	270333	61766	677943	114720	17320

Standard errors in parentheses (clustered by state electoral-cylce). Dependent variable in each specification is logged. Estimation controls for the total number of close contests; rates of literacy, urbanization and the share of workers; state-level voter turnout; effective number of parties contesting. State-industry, industry-year and state fixed effects are included in each regression. Panel A limits close elections to the 4 percent threshold; Panel B limits close elections to the 2 percent threshold; Panel C limits AA parties to caste parties; and Panel D clusters standard errors at the state-level.

11 Appendix

11.1 Summary Statistics

Table A.1: Summary Statistics of Key State-Level Independent Variables

Variable	Mean	Std. Dev.	Min.	Max.	N
State AA Shock, 5pc	-0.09	3.27	-11.5	14	398
Total Close Elections, 5pc	24.79	29.48	0	116	398
State AA Shock, 4pc	-0.11	2.47	-5.5	10.5	398
Total Close Elections, 4pc	19.89	24.09	0	97	398
State AA Shock, 2pc	0.05	1.32	-4	5.5	398
Total Close Elections, 2pc	9.91	12.8	0	55	398
State AA Party Vote Share	0.23	0.18	0.02	0.67	398
State Congress Vote Share	0.29	0.11	0.02	0.48	398
State BJP Vote Share	0.19	0.14	0	0.5	398
State Voter Turnout (Share)	0.65	0.09	0.23	0.85	398
Share of Reserved Constituencies	0.24	0.09	0.1	0.49	398
Effective Number of Parties	3.11	0.66	2.22	4.85	398
Share Literate	0.66	0.12	0.37	0.94	402
Share Workers	0.4	0.05	0.3	0.52	402
Share Urban	0.27	0.1	0.09	0.51	402

Table A.2: Summary Statistics of Key Outcome Variables: State Expenditures

Variable	Mean	Std. Dev.	Min.	Max.	N
Targeted Low Caste Welfare (Percent)	3	2	0	13	402
Untargeted Low Caste Welfare (Percent)	13	5	3	35	402
Physical Infrastructure (Percent)	8	4	1	34	402
Health and Education (Percent)	30	6	17	44	402
Agriculture and Irrigation (Percent)	17	6	2	33	402
Pension and Wages (Percent)	12	5	1	32	402
Per Capita Targeted Low Caste Welfare	149	128	7	837	402
Per Capita Untargeted Low Caste Welfare	617	439	69	3719	402
Per Capita Physical Infrastructure	405	295	23	3118	402
Per Capita Health and Education	1376	679	120	6157	402
Per Capita Agriculture and Irrigation	868	658	46	4358	402
Per Capita Pension and Wages	555	393	8	3127	402

Table A.3: Summary Statistics of Key Outcome Variables: Private Investment, 2 Digit Industry

Variable	Mean	Std. Dev.	Min.	Max.	N
Total Factories	330	601	0	8785	7183
Total Workers	17321	33241	0	492465	7183
Fixed Capital - 2012 Rupees	270359	670493	0	12614964	7183
Capital Formation - 2012 Rupees	61772	205173	-7753533	4703293	7183
Output - 2012 Rupees	678019	1455773	0	34494348	7183
Net Value Added - 2012 Rupees	114476	265278	-241537	5384645	7183

11.2 Impact of AA Party Legislators on Aggregate Expenditures, Revenues and Deficits

Table A.4: AA Party Representation Shock and State Government Expenditures, Revenue and Deficit

	(1)	(2)	(3)	(4)	(5)
	Total	Per Capita	Total	Per Capita	Deficit
	Expenditures	Expenditures	Revenues	Revenues	Pct NSDP
State AA Shock, 5pc	-.0033	-.0050	-.0005	-.0021	-.0001
	(.0033)	(.0033)	(.0023)	(.0022)	(.0004)
Observations	326	326	326	326	326
R ²	.97	.95	.99	.98	.63
Controls	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	4.16e+06	5550.2929	4.38e+06	5885.3131	.0447

Standard errors in parentheses (clustered at the level of state). The unit of observation is state-year. Estimation controls for total number of close contests; state-level political competition; voteshares for AA parties; share of minorities; share of population who are literate; share of workers; rate of urbanization; constant net state domestic product (logged); as well as state and year fixed effects.

11.3 Additional Results - OLS Estimates

11.3.1 AA Party Representation Shock and Economic Outcomes: OLS Estimates

Table A.5: AA Party Victories and State Government Expenditures

	(1) Low Caste Spending	(2) Rural Dev and Social Welfare	(3) Roads and Power Investment
Total AA Party Wins, State	.0032 (.0024)	.0155* (.0090)	-.0178* (.0107)
Observations	363	363	363
R ²	.89	.77	.54
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	13.40	8.42

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the share of each expenditure category in total state expenditures. The unit of observation is state-year. Estimation controls for total number of close contests; state-level political competition; voteshares for AA parties and two major national parties; share of constituencies reserved for minority candidates; share of population who are literate; share of workers; rate of urbanization; constant net state domestic product; as well as state and year fixed effects. All regressions are weighted by the state's population.

Table A.6: AA Party Electoral Success and Manufacturing Industries - OLS Results

	(1) Factories	(2) Fixed Capital	(3) Capital Formation	(4) Output	(5) Net Value Added	(6) Workers
AA Party Wins, State	-.0001 (.0004)	-.0015 (.0010)	-.0020** (.0008)	-.0007 (.0007)	-.0012 (.0008)	-.0004 (.0005)
Observations	7158	7156	6457	7153	6998	7155
R ²	.76	.70	.64	.69	.64	.68
Controls	Yes	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	270333	61766	677943	114720	17320

Standard errors in parentheses (clustered at the state-electoral level). The dependent variable in each specification is logged. Estimation controls for the total number of close contests; rate of literacy; state-level voter turnout; effective number of parties contesting; demographic characteristics such as urbanization, gender ratio, population density, and percent of workers. State, industry-year and year fixed effects are also included.

11.3.2 AA Party Legislators, State Expenditures and Manufacturing: Population Weighted Estimates

Table A.7: AA Party Representation Shock and State Government Expenditures - Estimates Weighted by State Population

	(1) Low Caste Spending	(2) Rural Dev and Social Welfare	(3) Roads and Power Investment
State AA Shock, 5pc	.0502** (.0215)	.1140 (.0846)	-.3623*** (.1065)
Observations	363	363	363
R ²	.89	.70	.48
Controls	Yes	Yes	Yes
Dependent Variable Mean (Pct)	3.10	13.40	8.42

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is the share of each expenditure category in total state expenditures. The unit of observation is state-year. Estimation controls for total number of close contests; state-level political competition; voteshares for AA parties and two major national parties; share of constituencies reserved for minority candidates; share of population who are literate; share of workers; rate of urbanization; constant net state domestic product; as well as state and year fixed effects. All regressions are weighted by the state's population.

Table A.8: AA Party Representation Shock and Manufacturing Industries - Population Weighted Estimates

	(1) Factories	(2) Fixed Capital	(3) Capital Formation	(4) Output	(5) Workers
State AA Shock, 5pc	-.0101** (.0049)	-.0259*** (.0089)	-.0194** (.0089)	-.0182** (.0074)	-.0170** (.0075)
Observations	7158	7156	6457	7153	7155
R ²	.78	.74	.67	.73	.71
Controls	Yes	Yes	Yes	Yes	Yes
Dependent Variable Mean	330	270333	61766	677943	17320

Standard errors in parentheses (clustered at the state-electoral level). The dependent variable in each specification is logged. Estimation controls for the total number of close contests; rate of literacy; state-level voter turnout; effective number of parties contesting; demographic characteristics such as urbanization, gender ratio, population density, and percent of workers. State, industry-year and year fixed effects are also included.

11.3.3 AA Party Legislators and Per Capita State Expenditures

Table A.9: AA Party Representation Shock and Per Capita State Government Expenditures

	(1)	(2)	(3)
	Low Caste Spending	Rural Dev and Social Welfare	Roads and Power Investment
State AA Shock, 5pc	.0130* (.0072)	.0109* (.0061)	-.0284** (.0120)
Observations	363	363	363
R ²	.93	.92	.85
Controls	Yes	Yes	Yes
Dependent Variable Mean (Rupees)	149.42	616.96	404.91

Standard errors in parentheses (clustered at the state-electoral cycle level). The dependent variable in each specification is logged per capita expenditures for each category in 2012 rupees. The unit of observation is state-year. Estimation controls for total number of close contests; state-level political competition; voteshares for AA parties and two major national parties; share of constituencies reserved for minority candidates; share of population who are literate; share of workers; rate of urbanization; constant net state domestic product; total per capita expenditures in 2012 rupees; as well as state and year fixed effects.

11.4 Summary Statistics of Constituencies Based on Close Elections at 5 Percent Margin

Table A.10: Summary Statistics of Constituency-Level Variables: Constituencies with non-AA vs AA Close Elections at 5 Percent Margin

Variable	Mean	Std. Dev.	Min.	Max.	N
AA Party Vote Share	0.436	0.09	0.142	0.704	2401
Congress Party Vote Share	0.217	0.178	0	0.516	2401
BJP Vote Share	0.129	0.134	0	0.485	2401
Number of Registered Voters	178043.614	48682.828	39638	594868	2401
Number of Contestants	11.66	7.274	2	53	2401
Effective Number of Parties Contesting	3.536	1.297	1.999	11.956	2401
Voter Turnout	66.407	13.323	4.046	96.127	2401
Elections with Male Winner	0.945	0.228	0	1	2401
Constituency Reserved for SC/ST	0.203	0.402	0	1	2401

Table A.11: Summary Statistics of Constituency-Level Variables: Constituencies with AA vs AA Close Elections at 5 Percent Margin

Variable	Mean	Std. Dev.	Min.	Max.	N
AA Party Vote Share	0.703	0.148	0.385	0.987	386
Congress Party Vote Share	0.061	0.069	0	0.308	386
BJP Vote Share	0.109	0.107	0	0.334	386
Number of Registered Voters	227368.754	54156.263	82178	649763	386
Number of Contestants	13.51	5.736	3	42	386
Effective Number of Parties Contesting	4.074	1.127	2.096	10.761	386
Voter Turnout	54.078	9.165	32.589	85.883	386
Elections with Male Winner	0.930	0.255	0	1	386
Constituency Reserved for SC/ST	0.197	0.398	0	1	386

Table A.12: Summary Statistics of Constituency-Level Variables: Constituencies with non-AA vs non-AA Close Elections at 5 Percent Margin

Variable	Mean	Std. Dev.	Min.	Max.	N
AA Party Vote Share	0.079	0.1	0	0.542	2702
Congress Party Vote Share	0.332	0.139	0	0.521	2702
BJP Vote Share	0.227	0.185	0	0.518	2702
Number of Registered Voters	159634.271	55801.117	20645	890784	2702
Number of Contestants	10.811	6.321	2	53	2702
Effective Number of Parties Contesting	3.436	1.302	1.997	13.204	2702
Voter Turnout	66.954	10.464	8.768	96.127	2702
Elections with Male Winner	0.938	0.241	0	1	2702
Constituency Reserved for SC/ST	0.229	0.421	0	1	2702