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Identity Politics, Clientelism, and Public Goods Provision: Theory and Evidence*

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Abstract

We study how identity politics determines clientelism and provision of public goods in representative democracies. Parties cultivate *vote banks* — a group of voters who vote along identity lines — in exchange for clientelistic transfers, and provide public goods to non-partisan voters. There is ex-post identity formation among non-partisans that depends on the party in power. This generates an asymmetry in ex-post conflict payoff for the majority identity. The main theoretical result proposes a new mechanism for clientelism and rent seeking that is driven by identity politics. We further show that asymmetry in identity payoffs *i*) increases investment in conflict when the party with the support of minorities wins; and *ii*) increases public goods provision by *both* parties when income of minorities is below a threshold. We provide empirical evidence from state level elections in India for the period from 1983 till 2000. Results show that identity conflict is more intense when the party with minority identity vote bank is in power. This effect is magnified by the income of minorities. Further, provision of public goods under the party with minority vote bank increases with asymmetry in identity payoffs.

Keywords: political competition, identity politics, conflict, clientelism, rent seeking, public goods

JEL codes: D72, D74, H41

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1 Introduction

Social identities play a key role in shaping political processes in representative democracies. Often, political parties have an incentive to exploit identity fault lines to serve their political interests. For example, right-wing parties have reaped electoral benefits by propagating a majoritarian identity that is rooted in a sense of nativism or nationalism.¹ Left-wing parties, on the other hand, have counteracted this by championing the interests of minority groups.² This partisanship leads to *vote banks* — voters with an underlying social identity support parties based on an identity preference, in return for clientelistic transfers (e.g., [Banerjee and Pande, 2007](#); [Issacharoff, 1992](#)). Meanwhile, identity preferences push society towards inter-group conflict and redistribution of resources (e.g., [Esteban and Ray, 1994](#); [Esteban and Ray, 2008](#); [Sambanis and Shayo, 2013](#)). Identity based voting and conflict are therefore key features of *identity politics*.

While existing research on political competition has isolated the effects of identity based preferences ([Besley and Persson, 2019](#)) and inter-group conflict ([Wilkinson, 2006](#)), the interplay between electoral competition, identity politics, and redistribution of resources has not been studied in the literature. In this paper, we develop a model of electoral competition with an ex-post possibility of identity conflict and redistribution. We find that when identity politics is more salient, *i*) parties appropriate higher rents and reduce clientelistic transfers to their vote banks; and *ii*) under certain conditions, parties increase public goods provision towards the non-partisan electorate.

Setup. We consider political competition between two office motivated parties *A* and *B*. The electorate is divided into three groups. Two of the groups belong to the “majority” social identity and the other group is the “minority”. Out of the two groups that belong to the majority, one of them consists of non-partisan voters who ex ante do not vote along party lines. The two remaining groups are vote banks: they are each affiliated with a political party — minority group with *A* and majority group with *B* — and vote en masse for that party. Political platforms of parties consists of a clientelistic transfer to their respective vote bank and a public goods platform to non-partisan voters.

After elections, there is a possibility of identity conflict between majority and minority groups. Conflict results in redistribution of income away from minorities ([Mitra and Ray,](#)

¹The re-emergence of majoritarian identities in democratic polities has been well documented. For example, in the U.S., Republican and Democratic party voters have become more ideologically divided in the last two decades (see, e.g., “The demographic trends shaping American politics in 2016 and beyond” by Pew Research Center). A similar tendency of polarization and majoritarian politics has been observed in India and Turkey, among other democracies.

²The type of identity politics practiced by left leaning parties has been described as “identity liberalism”. For example, Some political commentators have suggested that Hillary Clinton’s excessive focus on African-American, Latino, L.G.B.T. and women voters on the campaign trail alienated the white voters and therefore resulted in a failed presidential bid. See “The End of Identity Liberalism”, New York Times (November 18, 2016).

2014). Crucially, there is a difference between the two parties in the probability with which identity is triggered among non-partisans (henceforth, we refer to this difference as *polarization*).³ Further, minorities face an institutional bias (e.g., [Alesina and La Ferrara, 2014](#); [Knox et al., 2019](#)) that makes their engagement in conflict costly, irrespective of the party in power.

Theoretical Results. We characterize equilibrium *protection rents* and *identity rents*⁴ to parties *A* and *B* respectively. Specifically, we show that rents to parties increases as polarization between them widens. The intuition is that higher polarization implies an additional conflict payoff to the majority identity when *B* wins. This increases the asymmetry in ex-post payoff to the majority vote bank. The minority vote bank seeks protection from higher polarization by accepting lesser clientelistic transfers. This decreases the ex-ante bargaining power of both vote banks resulting in higher rents in equilibrium.⁵

We next show that clientelism increases the equilibrium ex-post investment in conflict by the groups. Specifically, investment in conflict is higher when party *A* wins, and increasing in the size of transfers to the minority vote bank. Since minorities have greater resources when *A* wins, there is higher investment in protection. Given complementarities in the conflict process,⁶ majority identity groups also increase investment to appropriate resources from the minorities.

Finally, an increase in polarization or institutional bias may have the opposite effect on public goods provision by parties. Specifically, an increase in polarization puts pressure on party *A* to compensate non-partisans for the increased expected conflict payoff under party *B*. This leads to an increase in public goods provision in equilibrium. Clientelism and public goods provision are therefore substitutes in the case of *A*. In the case of party *B*, we find that public goods provision increases only when minority income falls below a threshold. This implies that when minorities are poor, the additional conflict income that accrues to non-partisans from greater polarization is insufficient. This incentivizes party *B* to promise more public goods in equilibrium. In contrast, when the income of minorities is above a certain threshold, the expected conflict payoff to non-partisans from electing party *B* effectively substitutes for public goods provision. This leads to a decrease in public goods provision by party *B* in equilibrium.

Empirical Findings. We substantiate our findings through evidence from India, where religious identity based cleavages have driven electoral politics in the past four decades. The main right leaning party, the Bharatiya Janta Party (BJP) has cultivated upper caste Hindus as its traditional voter base. The main left leaning party, the Indian National Congress (Congress)

³Without loss of generality, we assume a higher likelihood of ex-post identity conflict when party *B* wins.

⁴We interpret rents as what accrues to parties after providing clientelistic transfers to their vote banks.

⁵A similar effect is at play when institutional biases against minorities increases. An increase in biases exacerbate the imbalance in bargaining power and results in an increase in rents to the parties.

⁶The conflict process is modeled as a contest game between the majority groups and minorities. This generates investments in conflict that are strategic complements (see, e.g., [Corchón, 2007](#))

has cultivated minority Muslims as its voter base. Using geo-referenced data that covers 96% of India and spans a period from 1983 and 2000, we investigate how party rule and institutional bias determine Hindu-Muslim conflict and provision of public goods.

Our first set of results pertain to party rule and conflict intensity. Results show that riots are more intense when Congress is in power. The point estimate suggests that a Congress ruled district experiences 0.14 additional days of rioting compared to a non-Congress ruled district (relative to sample average of 0.24 days of rioting). We further investigate the mechanism and find that riot duration under Congress rule is magnified by the size of economic resources that Muslims possess. A simple counterfactual analysis suggests if Muslim per capita expenditure rose from 25th percentile to 75th percentile of the sample, the effect of Congress rule on riot duration will increase by 78%.

Next, we investigate the relationship between party rule, polarization or institutional bias, and provision of public goods. Our theory predicts that both polarization and institutional bias have similar mediating effect on the type of party in power and provision of public goods. We use provision of electricity in districts as a proxy for public goods provision by parties. The empirical challenge however is to find suitable measures of polarization or institutional bias. While we do not have a proxy to measure polarization, we proxy institutional bias using the distance of a district to the nearest medieval port. This is based on evidence that medieval ports in India continue to have higher inter-ethnic complementarity and lower conflict between Hindus and Muslims due to local institutions that developed as a consequence of medieval trade (Jha, 2013).

We find that provision of electricity under Congress rule increases with institutional bias against Muslims. The point estimate suggests that 10% increase in distance to medieval port increases electricity provision under Congress rule by 16%. The relationship between institutional bias and provision of electricity under BJP rule is more complex. The provision of electricity under BJP rule declines with distance to medieval port. Specifically, 10% increase in distance to medieval port decreases electricity provision under BJP by 9%. However, in districts where Muslims are very poor, the provision of electricity under BJP rule increases with institutional bias.

Contribution. The paper contributes to the theoretical and empirical literature on clientelism and rent seeking, identity conflict, and political competition. Besley and Persson (2019) consider a dynamic setup with multi-dimensional political competition in the presence of social identities. We instead focus on the interplay between clientelism and conflict brought on by identity politics in a political competition framework.

Our theoretical finding presents a new mechanism for clientelism to emerge in electoral politics. The existing literature focuses on primarily three channels of clientelism: *i*) monetary transfers (Bardhan and Mookherjee, 2012); *ii*) employment (Calvo and Murillo, 2004; Robinson and Verdier, 2013); and *iii*) contracts (Lehne et al., 2018). In contrast, clientelism in our model

is driven by vote bank politics and is intertwined with social identity. In the same vein, there is extensive empirical research on rent seeking by politicians (see, e.g., [Avis et al., 2018](#); [Ferraz and Finan, 2011](#); [Fisman et al., 2014](#)). In our setup protection rents and identity rents to parties are driven by identity polarization and ex-post conflict between groups.

We also contribute to the theoretical literature on inter-group conflict based on social identity ([Esteban and Ray, 1994](#); [Esteban and Ray, 1999](#)). The crucial difference is that ex-post conflict affects ex-ante political platforms of parties. In the context of Indian politics, this interaction between elections and inter-group conflict has been studied extensively ([Wilkinson, 2006](#); [Iyer and Shrivastava, 2018](#); [Ticku, 2015](#)).⁷ The seminal work of [Mitra and Ray \(2014\)](#) shows that Hindu-Muslim group conflict redistributes income away from minority Muslims whenever their incomes increase due to a shock.⁸ They are, however, agnostic on the reasons for this income shock. We present a mechanism for this income shock to minorities. Our paper therefore complements [Mitra and Ray \(2014\)](#): we propose a clientelistic rationale and provide empirical evidence for an increase in intensity of conflict with minority income.

Finally, our paper is related to the literature that analyzes inefficiencies related to identity politics. For example, [Bardhan et al. \(2018\)](#) show that greater clientelism pushes parties towards lower public goods provision in equilibrium. [Acharya et al. \(2015\)](#) show how group bias — in particular, caste bias — towards a political party decreases public goods provision by the party when it wins power.⁹ In contrast, we show that greater polarization can reduce clientelism towards vote banks. Simultaneously, we also find that clientelism can result in higher provision of public goods to the non-partisan voters.

2 Model

Parties, Group identities, and Vote banks. Two parties $\{A, B\}$ compete to win an election by seeking support from a population of voters. Voters are divided into three groups indexed by G_i , where $i \in \{1, 2, 3\}$. Citizens belonging to the group G_1 are part of the minority identity while voters in groups $\{G_2, G_3\}$ belong to the majority identity.¹⁰ We assume that parties have cultivated (exogenous) vote banks among the voting groups. Party A 's vote bank is

⁷[Wilkinson \(2006\)](#) finds that riots are more likely in districts that are electorally more competitive. [Iyer and Shrivastava \(2018\)](#) and [Ticku \(2015\)](#) show that riots significantly increase Bharatiya Janta Party's vote share in subsequent elections. Together these papers indicate that electoral competition can incentivize political leaders to foment Hindu-Muslim conflict.

⁸In contrast, the work by [Jha \(2013\)](#) and [Jha \(2014\)](#) show that inter-group violence is affected by historical legacies. He shows that conflict decreases in areas with historical economic interdependence between Hindu-Muslim communities.

⁹In a related work, [Banerjee and Pande \(2007\)](#) find evidence for a drop in quality of politicians due to identity based voting.

¹⁰For example, in the case of US, the groups $\{2, 3\}$ would be White American voters and group $\{1\}$ could be the African American voters.

the minority identity group G_1 and party B 's vote bank is the majority identity G_2 . Voters belonging to G_3 are non-partisan and not affiliated with either party ex ante, which allows them to vote for either of the two parties in the electoral competition process.¹¹

The population share of each group is assumed to be exogenous and given by n_i . We make the following assumptions on group sizes: *i*) $n_i < \frac{1}{2}$ for groups (G_1, G_2) ; *ii*) $n_3 > \{n_1, n_2\}$. The first assumption implies that parties have to rely on the support of non-partisan voters in G_3 . The second assumption ensures that non-partisan group has the largest share of voters in the populace. Let the population ratios of the groups be defined in the following manner: $r_{23} = \frac{n_2}{n_3}$ and $r_{13} = \frac{n_1}{n_3}$.

Party platforms. There is a payoff T (benefits of office) that each party has access to if it gets elected to power. Each party bargains with their respective vote banks — (A, G_1) and (B, G_2) —on the amount of clientelistic transfer if they get elected to office. The transfers from bargaining to G_1 and G_2 are denoted by T_1 and T_2 respectively.¹² Transfers to vote banks could be, for example, awarding of government contracts or providing subsidies that facilitate religious activities. The rents from office to parties A and B is therefore $(T - T_1)$ and $(T - T_2)$ respectively. The parties compete for the votes of non-partisan G_3 group voters by announcing a public good T_3^j , where $j \in \{A, B\}$. That is, we assume that non-partisan voters care about policies that enhance social welfare.¹³ The political platforms of the parties are given by a pair of promises (T_1, T_3^A) and (T_2, T_3^B) respectively.

Conflict. An important element of the political process is that parties can trigger ex-post conflict between the majority and minority identity groups. Contingent on the winning party, an environment for anti-minority sentiment is triggered among the majority populace. Specifically, a majority identity is formed with probability θ_A or θ_B depending on whether party A or B wins, respectively. We assume that this trigger in identity happens with a greater probability when the right-wing party B wins the election, implying $\theta_B > \theta_A$. When the identities are triggered, there is conflict between the minorities $\{G_1\}$ and the majority groups $\{G_2, G_3\}$. The majority identity engages in conflict as a single entity. If G_1 loses the conflict, a proportion δ of their wealth is redistributed away (uniformly) towards the majority groups G_2 and G_3 .¹⁴

Conflict resources. Each individual belonging to a group $g \in \{1, 2, 3\}$ expends resources

¹¹We assume all non-partisans belong to the majority identity. This does not alter the analysis of the paper as long as minority non-partisans are unaffected by the identity and conflict process. This merely rescales the effort decisions of the non-partisan majority voters.

¹²The precise bargaining procedure is described in detail in Section 3.

¹³Alternatively, we can assume that non-partisan voters care about candidate competence or valence, which they gauge through the size of promised public good. T_3^j could also be an investment in valence that candidates make that provides a positive benefit to non-partisan voters (see, e.g., [Ashworth and Bueno de Mesquita \(2009\)](#) and [Banerjee and Pande \(2007\)](#)).

¹⁴We abstract away from the distributional aspects of the problem and instead focus on symmetric within group contributions to conflict and uniform redistribution of conflict gains.

a_g^j (endogenously determined) towards the conflict in case identity is triggered when party $j \in \{A, B\}$ is in power. Let $\mathbf{a}^j = (a_1^j, a_{23}^j)$ be the vector of resource investments by individuals belonging to the minority and majority identities respectively. $q(\mathbf{a}^j)$ represents the probability with which there is redistribution of resources away from the minorities when party j gets elected to power. The conflict payoff to a voter belonging to group $i \in \{1, 2, 3\}$ when party j wins the election is $v_i(\mathbf{a}^j) \equiv v_i^j$.

Payoffs. A party, conditional on winning office, receives a payoff equal to the residual rents from bargaining and provisioning a costly public good to the non-partisan group.

$$U_A = (T - T_1 - T_3^A) \quad U_B = (T - T_2 - T_3^B)$$

The payoff to voters depends on both the political platforms and the post-electoral conflict outcome. Without loss of generality, the aggregate initial income of the majority identity groups (G_2, G_3) is normalized to zero and that of the minority group is assumed to be $Y_1 = n_1 \cdot y_1$, where y_1 is the per capita income of an individual belonging to the minorities. Since minority group voters receives additional bargaining rents *only* when party A wins, we will refer to their group incomes under the two regimes as $Y_1^A = Y_1 + T_1$ and $Y_1^B = Y_1$. The voters in groups G_1 and G_2 are homogeneous in their payoffs.

Payoff to G_1 voter:

$$U_1 = \begin{cases} \frac{Y_1 + T_1}{n_1} + v_1^A & \text{if } A \text{ wins} \\ \frac{Y_1}{n_1} + v_1^B & \text{if } B \text{ wins} \end{cases}$$

Payoff to G_2 voter:

$$U_2 = \begin{cases} v_2^A & \text{if } A \text{ wins} \\ \frac{T_2}{n_2} + v_2^B & \text{if } B \text{ wins} \end{cases}$$

Payoff to a non-partisan voter $i \in G_3$ is,

$$U_i^A = \frac{T_3^A}{n_3} + v_3^A \quad (1)$$

$$U_i^B = \frac{T_3^B}{n_3} + v_3^B + \mu + \epsilon_i \quad (2)$$

The preferences of non-partisans are subject to random shocks (μ, ϵ_i) as in the probabilistic voting literature.¹⁵ ϵ_i is the idiosyncratic individual shock to voter i and μ is the aggregate shock. In order to get closed form solutions, we assume that *both* shocks are uniformly distributed on $[-\frac{1}{2}, \frac{1}{2}]$. The interpretation is that a positive shock implies a shift in preference favorable to party B , and vice-versa for a negative shock. The parameters (T, y_1, n_i, θ_j) are all common knowledge. We make the following assumption on the parameters to ensure interior

¹⁵See [Persson and Tabellini \(2002\)](#).

solutions.

Assumption 1. $\gamma_1 \leq 1$, $\frac{T}{\gamma_1} \leq 2\frac{\Delta\theta}{\theta_A}$

The second inequality implies that the ratio of office rents to income of minorities is bounded from above. The upper bound is further decreasing in θ_A . The condition ensures the transfers from bargaining process is positive and the equilibrium platforms are well defined.

Timing. The electoral competition game with ex-post identity induced conflict proceeds as follows.

1. The parties simultaneously announce platforms: (T_1, T_3^A) by A and (T_2, T_3^B) by B .
2. The aggregate and idiosyncratic preference shocks, $(\mu, \epsilon_i) \sim U[-\frac{1}{2}, \frac{1}{2}]$, are realized and observed by the voters.
3. G_3 group voters choose between A and B ; the winning party implements its platform.
4. The *identity environment* is triggered with probability θ_w under the winning party $w \in \{A, B\}$. If identity is triggered, the groups choose conflict resources \mathbf{a}^w and redistribution of resources happen with probability $q(\mathbf{a}^w)$.
5. Payoffs are realized.

Discussion of the setup

The setup of the model relies on *three* premises. *First*, there are two exogenous vote banks, each supporting one of the parties. *Second*, parties implicitly bargain with the vote banks instead of competing for their votes and there is uncertainty in non-partisan voter's preferences. *Third*, there is ex-ante polarization in the probability of identity trigger that leads to ex-post inter-group conflict.

Vote banks. There is anecdotal and empirical evidence for the existence of such vote banks in the Indian political landscape. For example, Muslim voters in India have traditionally been viewed as a vote bank of the center-left Congress party (Nellis et al., 2016) while the upper-caste Hindus have sided with the RSS ideology (Jaffrelot, 1999), the political version of which is the BJP party.¹⁶ Analogously, in the US, a study conducted by Pew Research Center¹⁷ found that 92% of Republicans were to the right of a median Democrat in their core social, economic and political views, while close to 94% of Democrats were to the left of a median

¹⁶The RSS which is the ideological cornerstone of the right wing politics in India, is known for its nationalist stance and the creation of a nation based on an unified Hindu identity. It is also the primary grass roots organization whose members actively participate and contribute to political campaigns of BJP party.

¹⁷For a more detailed analysis, see article titled "The demographic trends shaping American politics in 2016 and beyond" (January 27, 2016).

Republican. [Iyengar et al. \(2019\)](#) document this form of *affective polarization* among Republican and Democratic party supporters.

Bargaining. The bargaining process is a form of *cultivated clientelism* by the parties. Clientelistic transfers to these vote banks could take the form of direct discriminatory spending ([Bardhan and Mookherjee, 2012](#)), providing public sector jobs ([Calvo and Murillo, 2004](#)), or awarding government contracts ([Lehne et al., 2018](#)) that benefit members of the vote bank. Additionally, the transfer could be identity reinforcing spending on groups or a direct transfer to religious leaders in exchange for buying their community’s support.¹⁸ Similarly, a transfer to the majority vote bank could either indirectly reinforce majoritarian identity (e.g., building religious institutions, spending to promote majoritarian cultural practices, rewriting academic curricula to suit identity preferences), or provide direct pecuniary benefits in the form of government jobs and other favorable contracts (see, e.g., [Lehne et al. \(2018\)](#)).

Voting with uncertain preferences. We model candidates’ uncertainty about voter’s preferences in a manner similar to [Bernhardt et al. \(2007\)](#) and [Groseclose \(2001\)](#). The shocks could be interpreted in two possible ways. First, this could be a valence shock in favor of B —and in favor of A when the shock is negative —during the course of a political campaign (e.g., [Ashworth and Bueno de Mesquita \(2009\)](#)). Second, the shocks may emerge from negative advertising which is a common feature of electoral campaigns. It is not uncommon in elections, for example, to have scandals revealed about political candidates during the campaign process.

Identity trigger and conflict. The mechanism of our conflict process is similar to the one described in [Mitra and Ray \(2014\)](#). The main departure of our model is that we assume ex ante polarization between parties in creating an environment for conflict. For example, [Nellis et al. \(2016\)](#) find that electoral victory of center-left Congress party reduces the incidence of Hindu-Muslim riots. Further, they argue that the main reason for this was an electoral incentive, in that the Congress party relied heavily on Muslim votes. We further assume that $\theta_A \geq 0$. This is consistent with the observation of [Wilkinson \(2006\)](#) that riots also occur under Congress regimes, except with lesser frequency compared to when BJP is in power.¹⁹

¹⁸In India, for example, Muslims were granted Haj subsidies that provided compensation for Muslim families to travel to Mecca for the Haj pilgrimage. The Haj subsidy in 2007 was close to \$100 million and was the largest expenditure by the Central government for “Muslim welfare” ([Frontline, 2007](#)).

¹⁹He writes, “despite Congress’s official claims to always protect minorities, the party’s status as the dominant catchall party for many years and its often weak party discipline has meant that at one time or another Congress politicians have both fomented and prevented communal violence for political advantage.”

3 Main Results

Conflict

The ex-post conflict payoff to a voter in the majority groups when either party wins the election is given by,

$$v_i^A = \theta_A \left[q(\mathbf{a}^A) \cdot \frac{\delta(Y_1 + T_1)}{(n_2 + n_3)} - a_{23}^A \right], \quad i \in \{2, 3\} \quad (3)$$

$$v_i^B = \theta_B \left[q(\mathbf{a}^B) \cdot \frac{\delta Y_1}{(n_2 + n_3)} - a_{23}^B \right], \quad i \in \{2, 3\} \quad (4)$$

The conflict payoff relies on the exogenous probability of identity formation θ_j and the endogenous probability of redistribution away from the minorities, $q(\mathbf{a}^j)$. There is a sunk cost of fighting that individuals choose strategically. Similarly, the conflict payoff to the minority identity voter is given by,

$$v_1^A = \frac{(Y_1 + T_1)}{n_1} - \underbrace{\theta_A \left[q(\mathbf{a}^A) \cdot \frac{\delta(Y_1 + T_1)}{n_1} + K a_1^A \right]}_{\text{conflict cost under party A}} \quad (5)$$

$$v_1^B = \frac{Y_1}{n_1} - \underbrace{\theta_B \left[q(\mathbf{a}^B) \cdot \frac{\delta Y_1}{n_1} + K a_1^B \right]}_{\text{conflict cost under party B}} \quad (6)$$

$$\text{where} \quad q(\mathbf{a}^j) = \frac{(1 - n_1) a_{23}^j}{n_1 \cdot a_1^j + (1 - n_1) \cdot a_{23}^j}$$

Minorities face a higher marginal cost $K > 1$ of defending. K captures the *bias* in institutions like the police and legal system (see, e.g., [Alesina and La Ferrara, 2014](#)) against minorities.²⁰ Since we are interested in symmetric within-group investment, the aggregate investment by a group is determined by the relative population shares of each group, akin to the models of ethnic conflict by [Esteban and Ray \(1999\)](#) and [Esteban and Ray \(2008\)](#).²¹

For the majority identity, the problem is one of choosing resources in order to maximize their win-probability $q(\mathbf{a}^j)$. The minorities aim is to minimize this probability. The following equality captures the relationship between population shares and investment in conflict resources,

$$\frac{1 - n_1}{n_1} \cdot \frac{a_{23}^j}{a_1^j} = K \quad (7)$$

²⁰ [Alesina and La Ferrara \(2014\)](#) find evidence of racial bias in capital sentencing against African Americans in the United States.

²¹ Also see [Corchón \(2007\)](#).

Lemma 1. *The probability of redistribution is independent of the party in power and is given by,*

$$q(\mathbf{a}^j) = \frac{K}{1+K} \equiv q$$

Not surprisingly, the probability of redistribution is increasing in the extent of bias K . From an ex-ante perspective this is intuitive since our setup induces a difference only in the exogenous probability with which the identities are shaped under the two parties. But once the population is divided along majority-minority identity lines, the strategic problem of investing in conflict resources is the same irrespective of the party in power.

Lemma 2. *The equilibrium investment in conflict resources when party j wins is given by,*

$$a_1^j = \frac{1}{(1+K)^2} \left(\frac{\delta Y_1^j}{n_1} \right)$$

$$a_{23}^j = \frac{K}{(1+K)^2} \cdot \left(\frac{\delta Y_1^j}{n_2 + n_3} \right)$$

Equilibrium investment in conflict is proportional to the income of the minority group, i.e. $a_1^j, a_{23}^j \propto Y_1^j$. The intuition is the following. When minorities receive a transfer and have higher expendable incomes as a consequence of clientelism, conflict offers a greater reward for members of the majority identity. Given conflict is a zero sum game and there are strategic complementarities in effort, any increase in the marginal gains from conflict—through higher transfers—to minorities results in greater effort provision by the majority identity groups. Correspondingly, a greater bias reduces investment in conflict since it makes effort provision relatively costlier for the minorities.

Equilibrium Platform Selection

Since parties have the support of a vote bank that is less than half the population, they require support from the non-partisan electorate. Parties A and B need a minimum vote share of $(0.5 - n_m)$ and $(0.5 - n_h)$ respectively in order to win the elections. They compete for the support of non-partisans by promising a public good, given by the pair (T_3^A, T_3^B) . From [Equation 1](#) and [Equation 2](#), a voter $i \in G_3$ votes for A if,

$$\mu + \epsilon_i \leq \left(\frac{T_3^A}{n_3} - \frac{T_3^B}{n_3} \right) + (v_3^A - v_3^B) \quad (8)$$

Definition 1. 1. *Let ex ante polarization in identity trigger between parties be $\Delta\theta = (\theta_B - \theta_A)$.*

2. *Let $\eta_i = \theta_i \delta q (2 - q)$, where $i \in \{A, B\}$.*

The win probability of the parties given a pair of platforms (T_1, T_3^A) and (T_2, T_3^B) is,

$$p_A = \frac{1}{n_3} \left[n_1 + n_3 - \frac{1}{2} \right] + \frac{1}{n_3} \Phi(T_1, T_3^A, T_3^B)$$

$$p_B = \frac{1}{n_3} \left[n_2 + n_3 - \frac{1}{2} \right] - \frac{1}{n_3} \Phi(T_1, T_3^A, T_3^B)$$

$$\text{where } \Phi(T_1, T_3^A, T_3^B) = \left[(T_3^A - T_3^B) + \left(\frac{n_3}{n_2 + n_3} \right) (\delta q^2) (\theta_A T_1 - \Delta \theta Y_1) \right]$$

The payoff to a non-partisan voter from electing A is dependent on the *net conflict payoff*, given by $[\theta_A T_1 - \Delta \theta Y_1]$. When this term is positive, the voters get a net surplus from electing A . As $\Delta \theta$ increases, the gains from electing A is diminished. A higher transfer T_1 increases the expected returns from conflict to the majority identity if A wins, thereby providing an *indirect* benefit via the identity conflict channel. The choice of public goods (T_3^A, T_3^B) provides a *direct* payoff to non-partisans. Party A influences voters through both direct and indirect channels while B has only the direct channel. The platform selection stage involves a bargaining process with vote banks and a public goods platform targeting the non-partisan voters.

Bargaining Outcomes

A and G_1 : The bargaining problem can be defined along the lines of Nash's axiomatic theory. Specifically, the outcome of the bargaining process is equivalent to maximizing the Nash product. For the minority identity group G_1 , the payoff from A holding office is given by [Equation 5](#) and the outside option payoff is given by [Equation 6](#). For A the surplus is merely the political rents from holding office, $(T - T_1)$.

$$\max_{T_1} n_1 [v_1^A - v_1^B] \cdot [T - T_1] \quad \text{subject to } v_1^A \geq v_1^B, \quad T_1 \leq T$$

B and G_2 : For the G_2 group the payoff from B holding office is given by [Equation 4](#) and the outside option payoff is given by [Equation 3](#). For party B , the surplus from holding office is $(T - T_2)$. The bargaining problem is therefore,

$$\max_{T_2} n_2 [v_2^B - v_2^A] \cdot [T - T_2] \quad \text{subject to } v_2^B \geq v_2^A, \quad T_2 \leq T$$

Platform Competition

The platform choice of the parties targeting non-partisan voters solves,

$$\max_{T_3^A} \Pi_A = p_A \cdot [T - T_1 - T_3^A] \quad \text{subject to } T_1 + T_3^A \leq T, \quad T_3^A \geq 0$$

$$\max_{T_3^B} \Pi_B = p_B \cdot [T - T_2 - T_3^B] \text{ subject to } T_2 + T_3^B \leq T, \quad T_3^B \geq 0$$

The equilibrium platforms depend crucially on the size of each party's vote bank (n_1, n_2) , the available benefits from political office T , income of the minority identity vote bank Y_1 , polarization $\Delta\theta$, and the redistribution probability q .

Proposition 1. *The unique equilibrium platforms, (T_1^*, T_3^{A*}) and (T_2^*, T_3^{B*}) is given by,*

$$T_1^* = \frac{T}{2} - \frac{\delta q(2-q)}{2(1-\eta_A)} (\Delta\theta Y_1)$$

$$T_2^* = \frac{T}{2} - \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{4} \right) \left[\left(\frac{2-\eta_A}{1-\eta_A} \right) (\Delta\theta Y_1) - \theta_A T \right]$$

$$T_3^{A*} = \frac{T}{2} + \frac{1}{3} \left(\frac{\delta q(2-q)}{1-\eta_A} \right) (\Delta\theta Y_1) - \frac{1}{3} \left(2n_3 + n_1 - \frac{1}{2} \right) + \frac{1}{6} \left(1 + \frac{n_3}{n_2 + n_3} \right) \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2-\eta_A}{1-\eta_A} \right) (\Delta\theta Y_1) - \theta_A T \right]$$

$$T_3^{B*} = \frac{T}{2} + \frac{1}{6} \left(\frac{\delta q(2-q)}{1-\eta_A} \right) (\Delta\theta Y_1) - \frac{1}{3} \left(2n_3 + n_2 - \frac{1}{2} \right) - \frac{1}{6} \left(\frac{n_3 - n_2}{n_2 + n_3} \right) (\delta q^2) \left[\left(\frac{2-\eta_A}{1-\eta_A} \right) (\Delta\theta Y_1) - \theta_A T \right]$$

The equilibrium platforms are dependent on the conflict payoff differential between the two parties. When this is positive, it implies that there is a net surplus to the majority identity groups if party A wins. This affects the platform of party B . Specifically, the bargaining rent T_2^* increases and so does the public goods promised by B to non-partisans. However a net surplus implies party A offers lesser to the non-partisan voters and diverts more resources to their vote bank.

Polarization and Rent Seeking

Since the net conflict payoff critically depends on polarization in identity formation under the two parties, an increase in polarization affects ex-post income of both identity groups. This has an effect on the ex-ante bargaining process.

Corollary 1. *The equilibrium transfers to vote banks is decreasing in polarization. In other words, political rents to the parties is increasing in $\Delta\theta$.*

When the right-wing party is *perceived* to be more harmful to the minorities (higher polarization), both parties capture a greater share of the bargaining surplus. The intuition is that

as $\Delta\theta$ increases, the net payoff to the minorities when party B wins elections decreases. As a consequence, they are willing to accept a smaller share of surplus T in return for “protection” from party A . This also increases in expectation the conflict rents to G_2 if party B wins. Since transfers offered by A to G_1 decreases in equilibrium, the expected conflict rents to G_2 if A wins decreases as well. This decreases their bargaining power and reduces their transfers in equilibrium.

Identity triggers and Rent-seeking. In the absence of polarization both vote bank groups get an equal share of the surplus from office, i.e., $T_1^* = T_2^* = \frac{T}{2}$. An increase in polarization creates an additional rent to both parties. The minorities implicitly seek protection from increased inter-group conflict under B by accepting a transfer less than $\frac{T}{2}$. Further, the majority vote bank accepts a smaller surplus from bargaining in return for (relatively) higher identity conflict payoff under party B .²²

Polarization and Public Good Provision

Corollary 2. *The equilibrium platform choices (T_3^{A*}, T_3^{B*}) are such that,*

1. T_3^{A*} is increasing in $\Delta\theta$
2. T_3^{B*} is decreasing in $\Delta\theta$ if either,
 - (a) $1 + \frac{T}{Y_1} > \bar{\chi}(\theta_A, \theta_B, K)$
 - (b) $\theta_A < \bar{\gamma}(K)$

For party A the platform choices are strategic substitutes.²³ This implies that whenever transfers to the minority vote bank decreases, party A provides more public goods. For party B , T_2 and T_3^B are strategic substitutes. However, there is an additional effect driven by the indirect identity conflict channel, that is in turn dependent on T_1 . Notice that both T_2 and T_3^B are increasing in conflict payoff due to an increase in T_1 . Therefore, on the one hand, an increase in T_1 , in equilibrium, increases T_2 and puts downward pressure on T_3^B . On the other hand, an increase in T_1 also affects T_3^B positively via the indirect channel. As a consequence

²²In India, for example, the center-left Congress party has long been associated with playing politics of “Muslim appeasement” (see, e.g. Varshney (2003)). In the US context, the mechanism we propose predicts that if polarization between the parties is greater, the rents promised to Blacks by Democratic party, and to right-wing extremists supporting the Republican party, would both decrease. See *The Economist* article on 7th March, 2019, <https://www.economist.com/united-states/2019/03/07/african-americans-are-the-democrats-most-loyal-constituency>, for more on this point.

²³We can compute the second derivative of the expected payoff for A with respect to T_1 and T_3^A to see this point clearly. Specifically,

$$\frac{d^2\Pi_A}{dT_1dT_3^A} = -\frac{1}{n_3} \left(\frac{n_3}{n_2 + n_3} \theta_A \delta q^2 + 1 \right) < 0$$

the precise relationship between polarization and T_3^B is determined by the size of these two opposing forces.²⁴

Interestingly, when minority incomes are low, the public goods promised by B increases. The intuition is that when minorities are poor, the additional identity conflict payoff from electing A is higher than the net payoff if party B is elected. This incentivizes B to offer higher levels of public goods to the non-partisans. On a similar vein, when the size of B 's vote bank (n_2) decreases, non-partisans get an increased share of the conflict payoff. Identity rents therefore substitute for public goods provision in equilibrium.²⁵

Corollary 2 argues that greater ex-ante polarization can result in an increase of public goods provision. This finding is different from that of Bardhan et al. (2018), who show that public goods provision goes down for all parties due to the pressures of clientelism.

Institutional Bias and Platform Selection

Corollary 3. *When the institutional bias K increases,*

1. *Party A 's platform is such that: T_1^* decreases and T_3^{A*} increases.*

2. *Party B 's platforms is such that:*

- $\frac{dT_2^*}{dK} < 0$
- $\frac{dT_3^{B*}}{dK} > 0$ if $\frac{T}{Y_1} > \beta(\theta_A, \theta_B, K)$

An increase in K increases the expected losses from conflict for minorities. Ceteris paribus, this increases the bargaining power of party A and reduce transfers in equilibrium. Since T_1^* and T_3^{A*} are strategic substitutes, a decrease in T_1 frees up resources for A which then promises more public goods to non-partisans.

The case of party B is more nuanced because of the direct and indirect channels. When the minority group income is very low, the expected conflict payoff to the majority identity voters is negligible if party B wins. This increases the bargaining power of B 's vote bank (via the direct channel) but reduces the incentive of non-partisans to vote for B . As a consequence both T_2^* and T_3^{B*} are increasing in K .²⁶

²⁴The second derivatives of the expected payoff for B are,

$$\frac{d^2\Pi_B}{dT_2dT_3^B} = -\frac{1}{n_3} < 0 \quad \frac{d^2\Pi_B}{dT_1dT_3^B} = \frac{1}{n_2 + n_3}\theta_A\delta q^2 > 0$$

²⁵A similar intuition goes through in condition (b). When n_2 decreases, $\bar{\gamma}(\cdot)$ becomes larger and more of the conflict surplus accrues to non-partisan voters. This in turn reduces the public good provision by B in equilibrium.

²⁶An opposite effect is at play when the minority incomes are very high. In this case, the bargaining power of B increases with respect to G_2 . At the same time, non-partisan voters also gain from additional identity conflict payoff due to a higher K . This results in both a lower T_2^* and T_3^{B*} .

$\frac{T}{Y_1}$	T_2^*	$T_3^{B^*}$
$< \underline{\beta}$	↓	↓
$> \underline{\beta}$	↓	↑

4 Empirical Analysis

Our empirical analysis focuses on political competition and institutional bias in India, and how they determine Hindu-Muslim conflict and provisioning of public goods. India is a suitable laboratory for our analysis, since religious cleavages have shaped its electoral politics since independence.²⁷ The main right-wing party, the Bharatiya Janta Party (BJP) has cultivated upper caste Hindus as its traditional voter base. The main left leaning party, the Indian National Congress (INC) has cultivated minority Muslims as its voter base. Since independence India has experienced about 40,000 deaths or injuries in Hindu-Muslim riots, that have disproportionately affected the Muslim minorities (Varshney, 2004; Mitra and Ray, 2014). Consequently, Muslim voters regard physical security as a key governance issue compared to their Hindu counterparts (Wilkinson, 2006). Further, there is a general perception that Muslims face higher threat from ethnic violence when BJP is in power.²⁸ In the following sections we explain how we construct the main variables and then present results from our regression framework.

4.1 Data

We construct a geo-referenced district year panel dataset for 339 districts for the period from 1983 till 2000. In this section we provide information about the main datasets and variables that we use to enable the empirical analysis.

Riots.—The original dataset on riots from 1950 to 1995 is by Varshney and Wilkinson (1995). The dataset was collected using individual newspaper reports on riots from the Mumbai edition of The Times of India. This is further extended up to 2001 by Iyer and Shrivastava (2018). Using information on riot location, Iyer and Shrivastava (2018) matched each riot to 339 districts, that are defined as per the Election Commission of India’s delimitation order released in 1976. These districts serve as the spatial unit for our empirical exercise. We further geo-locate the center for each district using a GIS software. The matched riots are spread across sixteen large states, that accounted for 96% of Indian population at the end of our sample period (Iyer and Shrivastava, 2018).

²⁷From early 1980’s onwards, a Hindu nationalist identity has been at the forefront in Indian politics (Jaffrelot, 2009).

²⁸“Why India’s Muslims Are in Grave Danger”, Foreign Policy (March 2, 2020).

Party Rule.—Our main political variable of interest is the party in power in a given year. We focus on party rule at the state level than at the national level for three reasons. First, only six national elections were held during our sample period. Thus, it would be difficult to separate the effect of election outcomes from coterminous national trends (Iyer and Shrivastava, 2018). Second, each state has its own social configuration that determines how political parties cultivate and bargain with their vote banks (Chhibber, 1995). Third, the party in power at the state level is responsible for enforcing law and order. Thus, the difference in party rule across states can have important consequences for controlling riots (Wilkinson, 2009). Data on party in power at the state level comes from Ticku (2015).

Household Expenditure, Public Goods and Demographics.—We collect household level expenditure data from large-scale household surveys (NSS) that are conducted every five years. We gather data from four survey rounds that were conducted during our sample period. The first survey round was conducted in 1983, the second round in 1987-88, the third round in 1993-94 and the final round in 1999-00. These surveys list the religious identity of each household. This enables us to calculate household expenditure (per capita) by religion.

The first and the final survey rounds do not permit identification of the households at the district level. Instead we can calculate the household expenditures at regional level, which is an intermediate spatial unit between the district and the state. There are 60 regions that we can match to the 339 districts in our sample. For each district we assign the household expenditure of its corresponding region for a given survey round year. The non-round years are calculated from a linear interpolation between two consecutive rounds. In addition to household expenditure we also collect information to construct controls for overall expenditure, population and religious polarization, in the spirit of Mitra and Ray (2014).

The district-wise distribution of public goods such as share of houses electrified (%) and other demographics such as Muslim population share and literacy rate is obtained from census data, starting from 1981 until 2001 (three rounds in total). The value of variables in non-census years is obtained by linearly interpolating between two census years. We source this data from Iyer and Shrivastava (2018).

Institutional bias.—We do not have a direct measure of institutional bias against minorities. Instead, we use the distance of a district to its nearest medieval port location as a proxy for institutional bias against Muslims. This is based on evidence that medieval port locations continue to enjoy higher inter-ethnic complementarity between Hindus and Muslims, due to local institutions that developed as a result of economic conditions in the medieval period (Jha, 2013). Medieval ports data is sourced from Jha (2013). Using GIS software we calculate the distance of a district's centroid to the nearest medieval port location. In our sample, 10% of all districts are within 100 kilometers of a medieval port location. Table 1 provides summary statistics for the main variables.

4.2 Regression Estimation

4.2.1 Party Rule and Conflict Investment

We first investigate the relationship between party rule and riot outcomes. Specifically, we are interested in how Congress rule can affect the intensity of Hindu Muslim riots. Our theoretical model predicts that majority Hindus have a higher incentive to invest in conflict under Congress rule, due to the size of potential gains from conflict redistribution. Therefore, riots should be more intense when Congress is in power.

Our regression model assumes the following form:

$$Riot_{ist} = \alpha + \beta_1 INCRule_{ist} + \gamma' X_{ist} + FE_i + FE_t + e_{ist} \quad (9)$$

The dependent variable measures riot at both extensive and intensive margin. Our first measure is a dummy that equals 1 if at least one Hindu-Muslim riot occurred in district i in year t . Next, we measure riot intensity with the number of days of rioting that took place in district i in year t . We assume that duration of riots is in proportion to investment in conflict.

Our main explanatory variable is a dummy that equals 1 if district i was in state s that was ruled by the Congress party (INC) in year t . We include a battery of control variables in vector X_{ist} that are used elsewhere in the riot literature (Mitra and Ray, 2014). Specifically, we control for per capita expenditure, urbanization, population, Muslim population share and religious polarization in district i in year t . FE_i accounts for any unobserved differences across districts that are time invariant. FE_t accounts for shocks that are common across time. β_1 is the coefficient of interest and measures the difference in riot outcomes between Congress and non-Congress ruled districts.

Standard errors are clustered at the state level since the level of treatment (party rule) varies across states. This creates a unique problem due to the small number of clusters in our data ($s=16$). A failure to correct for small number of clusters can lead to over rejecting the null hypothesis (Cameron et al., 2008). We address this concern by using wild bootstrapped clustered standard errors as suggested by Cameron et al. (2008).²⁹

Table 2 shows the effect of Congress rule on riot outcomes. Columns (1) and (2) suggest that riots are no less likely to break out in a Congress ruled district. Columns (3) and (4) however suggest that conditional on a riot incidence, the effect is more intense in a Congress ruled district. The effect is statistically significant at 5% level. The coefficient suggests that a Congress ruled district experiences 0.14 additional days of rioting compared to a non-Congress ruled district. The magnitude of β_1 is also economically significant since the average duration of riots in our sample is equal to 0.24 days. In Column (5) we present a count model with full set of controls, as well as district and year fixed effects and estimate it using

²⁹We implement wild bootstrapped clustering in STATA using a program written by Fisman et al. (2014).

Poisson pseudo-maximum-likelihood estimation (PPML). Such a specification alleviates the concern that our dependent variable is overdispersed (Silva and Tenreiro, 2006). The effect of Congress rule on riot duration is once again positive and statistically significant.

On a related point, we have assumed that Congress rule is exogenous to riot outcomes. The literature on Hindu-Muslim riots and electoral outcomes in India shows that riot events can hurt Congress party's electoral prospects (Ticku, 2015; Nellis et al., 2016; Iyer and Shrivastava, 2018). The problem of reverse causality is mitigated to an extent, as our main explanatory variable varies at a higher dimension than the dependent variable. It is still plausible that large riots in a district severely hamper Congress party's electoral performance in ensuing state elections. In that case the estimated effect of Congress rule on riot intensity reported here may underestimate the true effect.

We further check the mechanism that underlie the relationship between Congress rule and riot intensity. If size of potential redistribution from conflict is the underlying channel, then riot intensity under Congress rule should be magnified by the economic resources that Muslims possess. In Columns (1) and (2) of Table 3 we interact Congress rule with Muslim per capita expenditure. Results suggest that riot duration in Congress ruled districts is magnified by Muslim expenditure. The coefficient of the interaction term is statistically significant at 1% level in Column (2). The point estimate in Column (2) implies that if Muslim per capita expenditure rose from 25th percentile of the sample to its 75th percentile, riot duration under Congress rule will increase by 78%.

Finally, in Columns (3) and (4) we assess whether institutional bias against Muslims weakens conflict investment by the majority group. The intuition is that institutional bias increases the marginal cost of defense for Muslims, leading to lower investment from both groups.³⁰ We interact our main interaction (INC Rule \times Muslim expenditure) with our proxy of institutional bias, that is the distance of district i from the nearest medieval port. We hypothesize that districts that are further away from medieval port locations possess lower long-term inter-ethnic complementarity between Hindus and Muslims that arose due to medieval trade (Jha, 2013). Therefore, distance to medieval port should dampen the investment in conflict. While the coefficient of the triple interaction is negative in Columns (3) and (4), the effect is imprecisely estimated. We do not find robust evidence of institutional bias weakening investment in conflict. In Columns (5) and (6) we present the results from pseudo maximum likelihood estimation, that are in line with OLS results obtained in Columns (2) and (4).

³⁰Muslims investment in conflict reduces with increase in cost of defense. Strategic complementarity implies that Hindus also reduce the attack investment.

4.2.2 Party Rule, Institutional Bias and Provisioning of Public Goods

Next we assess the relationship between party rule, institutional bias and provisioning of public goods. Our theory predicts that institutional bias can weaken the bargaining power of Muslim voters with respect to the Congress party. It incentivises the Congress party to promise greater public goods to the non-partisan voters. Hence provisioning of public goods under Congress rule is increasing in institutional bias against Muslims.

The effect of institutional bias on provisioning of public goods under BJP's rule is more complex. Higher institutional bias amplifies the possibility of redistribution from conflict under BJP rule. The non-partisan voters also benefit from the higher chance of conflict redistribution under BJP rule. This can strengthen the bargaining power of BJP with respect to the non-partisans. However, the probable transfers to non-partisans under Congress rule also increases with institutional bias. This indirect effect weakens BJP's bargaining power with respect to the non-partisans. The empirical puzzle is which of two effects dominate?

We estimate the relationship between party rule, institutional bias and provisioning of public goods from the following specification:

$$Electricity_{ist} = \alpha + \beta_1 PartyRule_{ist} + \beta_2 Bias_i + \beta_3 (PartyRule_{ist} \times Bias_i) + \gamma' \mathbf{X}_{ist} + \mathbf{FE}_i + \mathbf{FE}_t + e_{ist} \quad (10)$$

We use the share of houses electrified in district i in year t as the outcome of interest. The main explanatory variable is the interaction between district i 's distance to the nearest medieval port and the party in power in that district in year t . β_3 is the coefficient of interest and measures how provisioning of electricity under either party's rule changes with institutional bias.

Table 4 shows how institutional bias affects provision of electricity under Congress rule. Columns (1) and (2) show that β_1 is positive and statistically significant at 1% level. The magnitude implies that provisioning of electricity is higher by 1.4% in a Congress ruled district. Columns (3) and (4) report our coefficient of interest, β_3 , is positive and statistically significant at 1% level. The point estimate implies that there is a higher provisioning of electricity under Congress rule as the institutional bias against Muslims rise.

Table 5 shows how institutional bias affects provision of electricity under BJP rule. Columns (1) and (2) show that on average there is no difference in provision of electricity under BJP rule. In Columns (3) and (4) the coefficient of β_3 is negative and statistically significant at 5% level. This result suggests that the bargaining between BJP and non-partisan voters is primarily driven by the possibility of conflict redistribution under BJP's rule.

Finally, we empirically assess the condition, according to our theoretical model, under which one of the two channels unambiguously determine the bargaining between BJP and the

non-partisans. Such a condition is satisfied when Muslim income is low enough that gains from conflict redistribution under BJP rule is comparatively less attractive to the non-partisans than a potential transfer from the Congress party. This incentivizes BJP to offer more public goods. We assess this prediction in Columns (5) and (6) where we interact our main interaction (BJP Rule \times Institutional Bias) with a dummy that equals 1 if Muslim per capita expenditure in district i in year t is in the bottom quarter of its respective state's (s) distribution. The triple interaction is positive in both columns and statistically significant at 1% level in Column (6). This result supports our model's prediction that BJP offers higher public goods *only* when their potential gain from conflict redistribution is negligible.

5 Conclusion

We study political competition between two parties in the presence of group identity and ex-post inter group conflict. Parties have the support of a vote bank and seek votes from non-partisans in the electorate. There is ex-post conflict between the majority and minority groups, driven by an identity trigger. The trigger is relatively higher under one party inducing ex-ante polarization between the parties. Further, minorities face an institutional bias when conflict happens.

We characterize optimal levels of clientelism by parties towards their vote bank groups. We find the emergence of protection rents and identity rents. The size of these rents to parties increases in the extent of polarization and institutional biases. We show that public good provision by parties varies as a consequence of ex-ante polarization. The party with minority vote bank support increases provision of public goods when the polarization increases. The majority vote bank party increases provision only when minority incomes are below a threshold. Therefore, we find that public goods provision is higher in societies where minorities are very poor.

We investigate how group identity and institutional bias determine conflict and provision of public goods in India. Results show that conflict is more intense when the party with minority vote bank is in power. Furthermore, the effect gets magnified with the economic resources possessed by minorities. The relationship between institutional bias and provision of public goods is also dependent on the party in power. There is an increase in provision of public goods under party with minority vote bank, and this effect increases with institutional bias. A similar effect is observed under the party with majority vote bank, when minority incomes are below a threshold. This suggests that parties compete more intensely over public goods provision when the channel for identity politics is weak. Our results highlight a rent seeking opportunity for political parties due to widening identity fault lines.

Tables

Table 1: Summary Statistics

VARIABLES	N	Mean	SD	25th	50th	75th	Min	Max
INC Rule	6102	0.50	0.50	0	0	0	0	1
BJP Rule	6102	0.15	0.36	0	0	1	0	1
Riot	6102	0.07	0.26	0	0	0	0	1
Riot duration (days)	6102	0.24	1.90	0	0	0	0	75
Electricity (%)	6102	41.61	23.85	21.44	39.38	60.46	2.61	97.06
Muslim (%)	6022	11.95	13.99	4.12	8.75	13.60	0.11	98.06
Urban (%)	6022	22.22	15.33	11.50	18.79	27.65	2.88	100.00
Literacy (%)	6022	42.54	13.68	32.13	41.27	51.46	11.83	85.36
Log Muslim per capita expenditure	6102	9.28	1.11	9.05	9.70	10.00	6.40	10.38
Log per capita expenditure	6102	9.32	1.12	9.09	9.73	10.04	6.41	10.44
Religious polarization	6102	0.34	0.00	0.33	0.33	0.34	0.33	0.34
Log population	6102	0.47	0.00	0.47	0.47	0.48	0.46	0.48
Distance to medieval port (km)	6102	613.42	377.19	277.50	637.07	923.62	1.63	1616.97

Table 2: Congress Rule and Hindu Muslim Riots

VARIABLES	OLS				PPML
	(1) Riot	(2) Riot	(3) Duration	(4) Duration	(5) Duration
INC Rule	0.00717 (0.0111)	0.0115 (0.00773)	0.143** (0.0688)	0.183** (0.0734)	0.425** (0.172)
Observations	6,004	6,004	6,004	6,004	3,082
Controls	Y	Y	Y	Y	Y
District Fixed Effects	Y	Y	Y	Y	Y
Year Dummies	N	Y	N	Y	Y

Notes:*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Bootstrapped standard errors clustered at the state level are given in parentheses (Cameron et al., 2008). In Columns (1) and (2) the dependent variable is a dummy that equals 1 if at least one riot occurred in district (i) in year (t). In Columns (3) and (4) the dependent variable is the number of days of rioting in district (i) in year (t). INC Rule is a dummy that equals 1 if district (i) was ruled by the Congress party in year (t). We include controls for literacy rate, urbanization, per capita expenditure, population, Muslim population share and religious polarization in all specifications. In Column (5) we use Poisson pseudo-maximum-likelihood maximum likelihood estimation (PPML). Standard errors clustered at the state level are given in the parantheses.

Table 3: Congress Rule, Muslim Income and Hindu Muslim Riots

VARIABLES	OLS			PPML		
	(1)	(2)	(3)	(4)	(5)	(6)
	Duration					
INC Rule	-0.533* (0.294)	-0.894*** (0.323)	-9.262 (8.186)	-8.366 (7.763)	-4.615* (2.386)	-22.176 (17.827)
Muslim expenditure	-4.403 (8.433)		-8.299 (8.643)			
INC Rule \times Muslim expenditure	0.0711** (0.0333)	0.114*** (0.0389)	1.038 (0.864)	0.918 (0.816)	0.516** (0.243)	2.283 (1.783)
Institutional Bias						
INC Rule \times Institutional Bias			1.475 (1.365)	1.272 (1.282)		3.157 (3.012)
Muslim Expenditure \times Institutional Bias			-0.0345 (0.0351)	-0.0435 (0.0386)		-0.070 (0.046)
INC Rule Muslim Expenditure \times Institutional Bias			-0.164 (0.144)	-0.137 (0.135)		-0.319 (0.303)
Observations	6,004	6,004	6,004	6,004	3,082	3,082
Controls	Y	Y	Y	Y	Y	Y
District Fixed Effects	Y	Y	Y	Y	Y	Y
Year Dummies	N	Y	N	Y	Y	Y

Notes:*** p<0.01, ** p<0.05, * p<0.10. Bootstrapped standard errors clustered at the state level are given in parentheses (Cameron et al., 2008). The dependent variable is the number of days of rioting in district (i) in year (t). INC Rule is a dummy that equals 1 if district (i) was ruled by the Congress party in year (t). We include controls for literacy rate, urbanization, per capita expenditure, total population, Muslim population share and religious polarization in all specifications. Muslim per capita expenditure is interpolated from data at state region level. We can't estimate its own effect when we include both district fixed effects and year dummies. Institutional bias is the log distance of district i 's centroid from the nearest medieval port location. In Columns (5) and (6) we use Poisson pseudo-maximum-likelihood estimation (PPML). Standard errors clustered at the state level are given in the parantheses.

Table 4: Congress Rule, Institutional Bias and Public Goods

VARIABLES	(1) Electricity	(2) Electricity	(3) Electricity	(4) Electricity
INC Rule	1.382*** (0.518)	1.638*** (0.572)	-8.190*** (2.253)	-9.241*** (2.559)
Institutional Bias				
INC Rule \times Institutional Bias			1.606*** (0.414)	1.833*** (0.480)
Observations	6,004	6,004	6,004	6,004
Controls	Y	Y	Y	Y
District Fixed Effects	Y	Y	Y	Y
Year Dummies	N	Y	N	Y

Notes:*** $p < 0.01$, ** $p < 0.05$, * $p < 0.10$. Bootstrapped standard errors clustered at the state level are given in parentheses (Cameron et al., 2008). The dependent variable is the share of houses electrified in district (i) in year (t). INC Rule is a dummy that equals 1 if district (i) was ruled by the Congress party in year (t). We include controls for literacy rate, urbanization, per capita expenditure, population, Muslim population share and religious polarization in all specifications. Institutional bias is the log distance of district i 's centroid from the nearest medieval port location.

Table 5: BJP Rule, Institutional Bias and Public Goods

VARIABLES	(1)	(2)	(3)	(4)	(5)	(6)
	Electricity	Electricity	Electricity	Electricity	Electricity	Electricity
BJP Rule	-0.803 (0.821)	-1.221 (0.944)	4.898** (2.498)	5.949* (3.062)	6.355*** (2.399)	7.714*** (2.958)
Institutional Bias						
BJP Rule \times Institutional Bias			-0.911** (0.429)	-1.150** (0.544)	-0.942*** (0.348)	-1.259*** (0.464)
Low Muslim Expenditure					19.56*** (4.701)	
Low Muslim Expenditure \times Institutional Bias					-3.179*** (0.728)	-3.203*** (0.725)
BJP Rule \times Low Muslim Expenditure \times Institutional Bias					2.054** (0.812)	2.302*** (0.870)
Observations	6,004	6,004	6,004	6,004	6,004	6,004
Controls	Y	Y	Y	Y	Y	Y
District Fixed Effects	Y	Y	Y	Y	Y	Y
Year Dummies	N	Y	N	Y	N	Y

Notes:*** p<0.01, ** p<0.05, * p<0.10. Bootstrapped standard errors clustered at the state level are given in parentheses (Cameron et al., 2008). The dependent variable is the number of days of rioting in district (i) in year (t). BJP Rule is a dummy that equals 1 if district (i) was ruled by the Congress party in year (t). We include controls for literacy rate, urbanization, per capita expenditure, population, Muslim population share and religious polarization in all specifications. Institutional bias is the log distance of district i 's centroid from the nearest medieval port location. Low Muslim Expenditure is a dummy that equals 1 if Muslim per capita expenditure in district i in year t was in the bottom quartile of its respective state's distribution.

Proofs

Proof of Lemma 1 and Lemma 2

The problem faced by the majority group when either party is in power is given by,

$$a_{23}^j \equiv \operatorname{argmax}_{a_{23}^j} \left(\frac{(1 - n_1)a_{23}^j}{n_1 \cdot a_1^j + (1 - n_1) \cdot a_{23}^j} \right) \left(\frac{\delta Y_1^j}{n_2 + n_3} \right) - a_{23}^j \quad (11)$$

The corresponding problem for a minority group individual is,

$$a_1^j \equiv \operatorname{argmax}_{a_1^j} - \left(\frac{(1 - n_1)a_{23}^j}{n_1 \cdot a_1^j + (1 - n_1) \cdot a_{23}^j} \right) \left(\frac{\delta Y_1^j}{n_1} \right) - K a_1^j \quad (12)$$

The first term of Equation 11 is the per capita expected returns from conflict for a citizen belonging to the majority. The first term of Equation 12 is the per capita expected loss to the minority voter in G_1 . Since the conflict problem is symmetric to both the majority and minority members, we index the investment according to the party in power. Solving the maximization problem yields the following FOC:

$$\frac{n_1 \cdot a_1^j}{(n_1 \cdot a_1^j + (1 - n_1) \cdot a_{23}^j)^2} \cdot (\delta Y_1^j) = 1$$

$$\frac{(1 - n_1) \cdot a_{23}^j}{(n_1 \cdot a_1^j + (1 - n_1) \cdot a_{23}^j)^2} \cdot (\delta Y_1^j) = K$$

The solution to the two equations gives the required result conflict investments by the two sides in equilibrium,

$$a_1^j = \frac{1}{(1 + K)^2} \left(\frac{\delta Y_1^j}{n_1} \right)$$

$$a_{23}^j = \frac{K}{(1 + K)^2} \cdot \left(\frac{\delta Y_1^j}{1 - n_1} \right)$$

The probability of redistribution is computed as,

$$q = \frac{(1 - n_1)a_{23}^j}{n_1 \cdot a_1^j + (1 - n_1) \cdot a_{23}^j} = \frac{K}{1 + K}$$

This completes the proof.

QED

Proof of Proposition 1

Bargaining equilibrium

The bargaining problem of G_1 and party A is,

$$\max_{T_1} [v_1^A - v_1^B] \cdot [T - T_1] \quad \text{subject to } v_1^A \geq v_1^B, \quad T_1 \leq T$$

The difference in conflict loss for the minority group between the two parties is,

$$v_1^A - v_1^B = \frac{T_1}{n_1} - \frac{q\delta}{n_1} (\theta_A T_1 - \Delta\theta Y_1) - K (\theta_A a_1^A - \theta_B a_1^B)$$

$$(\theta_A a_1^A - \theta_B a_1^B) = \frac{q}{n_1(1+K)^2} (\theta_A T_1 - \Delta\theta Y_1)$$

Rewriting $\frac{K}{(1+K)^2} = q(1-q)$ and simplifying yields,

$$n_1(v_1^A - v_1^B) = T_1 - \delta q(2-q)[\theta_A T_1 - \Delta\theta Y_1]$$

Rearranging,

$$n_1(v_1^A - v_1^B) = [1 - \eta_A]T_1 + \delta q(2-q)(\Delta\theta Y_1)$$

The maximization condition with respect to T_1 is therefore,

$$[1 - \eta_A](T - T_1) = n_1(v_1^A - v_1^B)$$

Solving yields,

$$T_1^* = \frac{T}{2} - \frac{\delta q(2-q)}{2(1-\eta_A)} (\Delta\theta Y_1) \quad (13)$$

Similarly, the bargaining problem between G_2 and party B is,

$$\max_{T_2} n_2[v_2^B - v_2^A] \cdot [T - T_2] \quad \text{subject to } v_2^B \geq v_2^A, \quad T_2 \leq T$$

The total surplus for group G_2 voters is,

$$n_2[v_2^B - v_2^A] = T_2 - \frac{n_2}{n_2 + n_3} \delta q^2 (\theta_A T_1 - \Delta\theta Y_1)$$

The foc is,

$$(T - T_2) = T_2 - \frac{n_2}{n_2 + n_3} \delta q^2 (\theta_A T_1 - \Delta\theta Y_1) \quad (14)$$

Substituting for T_1 from [Equation 13](#), we get the desired expression,

$$T_2^* = \frac{T}{2} - \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{4} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta\theta Y_1) - \theta_A T \right] \quad (15)$$

Voting Outcome

The vote share of each party given a pair of platforms (T_3^A, T_3^B) is computed using [Equation 8](#),

$$\mu + \epsilon_i \leq \left(\frac{T_3^A}{n_3} - \frac{T_3^B}{n_3} \right) + (v_3^A - v_3^B)$$

The difference $(v_3^A - v_3^B)$ is given by,

$$(v_3^A - v_3^B) = \frac{\delta q^2}{(n_2 + n_3)} (\theta_L T_1 - \Delta\theta Y_1)$$

Rewriting the above equation,

$$\mu + \epsilon_i \leq \frac{1}{n_3} \left[(T_3^A - T_3^B) + \frac{n_3}{(n_2 + n_3)} \delta q^2 (\theta_A T_1 - \Delta\theta Y_1) \right] \equiv \frac{1}{n_3} \Phi(T_1, T_3^A, T_3^B)$$

The vote share of party A is,

$$s_A = n_3 \cdot Pr \left[\epsilon_i \leq \frac{1}{n_3} \Phi(T_1, T_3^A, T_3^B) - \mu \right] = n_3 \cdot \left[\frac{1}{2} + \frac{1}{n_3} \Phi(T_1, T_3^A, T_3^B) - \mu \right]$$

The win probability of party A is,

$$p_A = Pr[s_A \geq (0.5 - n_1)]$$

$$p_A = \frac{1}{n_3} \left[(n_1 + n_3 - 0.5) + \Phi(T_1, T_3^A, T_3^B) \right]$$

Analogously, the win probability of party B is,

$$p_B = \frac{1}{n_3} \left[(n_2 + n_3 - 0.5) - \Phi(T_1, T_3^A, T_3^B) \right]$$

Non-Partisan Platform Equilibrium

The platform choice T_3^A solves,

$$\max_{T_3^A} \Pi_A = p_A \cdot [T - T_1 - T_3^A] \text{ subject to } T_1 + T_3^A \leq T, \quad T_3^A \geq 0$$

The Lagrangian for the optimization problem is,

$$\mathcal{L} = \frac{1}{n_3} \left[(n_1 + n_3 - 0.5) + \Phi(T_1, T_3^A, T_3^B) \right] [T - T_1 - T_3^A] + \Lambda_A [T - T_1 - T_3^A] + \lambda_A T_3^A \quad (16)$$

The Kuhn-Tucker conditions are,

$$\frac{\partial \mathcal{L}}{\partial T_3^A} = \frac{1}{n_3} [T - T_1 - T_3^A] - \frac{1}{n_3} \left[(n_1 + n_3 - 0.5) + \Phi(T_1, T_3^A, T_3^B) \right] - \Lambda_A + \lambda_A = 0$$

$$T_1 + T_3^A = T \quad \text{or} \quad \Lambda_A = 0$$

$$T_3^A = 0 \quad \text{or} \quad \lambda_A = 0$$

The latter two are the complementary slackness conditions. We proceed to show that to guarantee a maximum, it must be that $\Lambda_A = 0$ and $T_1 + T_3^A < T$, and, $\lambda_A = 0$ and $T_3^A > 0$. We show this by contradiction.

Case 1. Suppose $\Lambda_A > 0$.

In this case, complementary slackness constraint implies $T_1 + T_3^A = T$ and the payoff to party A is 0. Clearly, given the continuity of the win-probability p_A , a small decrease in T_3^A such that $\tilde{T}_3^A = T - T_1 - \varepsilon_l$ where $\varepsilon_l \downarrow 0$ decreases p_A but the expected payoff is greater than zero. That is,

$$\left. \frac{d[p_A \cdot (T - T_1 - T_3^A)]}{dT_3^A} \right|_{T_3^A = (T - T_1)} = -p_A < 0$$

Therefore in equilibrium, it cannot be that $T_3^A = (T - T_1)$. By complementary slackness, it must be that $\Lambda_A = 0$, a contradiction.

Case 2. Suppose $\lambda_A > 0$.

In this case, $T_3^A = 0$ implies,

$$\left. \frac{d[p_A \cdot (T - T_1 - T_3^A)]}{dT_3^A} \right|_{T_3^A = 0} = \frac{1}{n_3} [T - T_1] - \frac{1}{n_3} \left[(n_1 + n_3 - 0.5) + \Phi(T_1, 0, T_3^B) \right]$$

$$\Phi(T_1, 0, T_3^B) = -T_3^B - \frac{n_3}{(n_2 + n_3)} \delta q^2 (\Delta \theta Y_1 - \theta_A T_1)$$

$$\Phi(T_1, 0, T_3^B) = - \left[T_3^B + \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) - \frac{n_2}{(n_2 + n_3)} \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) \right]$$

From [Equation 14](#), we substitute $\frac{n_2}{(n_2 + n_3)} \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) = T - 2T_2$

$$\Phi(T_1, 0, T_3^B) = - \left[T_3^B + \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) - (T - 2T_2) \right]$$

$$\begin{aligned} & \left. \frac{d[p_A \cdot (T - T_1 - T_3^A)]}{dT_3^A} \right|_{T_3^A=0} = \\ & \frac{1}{n_3} \left[T - T_1 - (n_1 + n_3 - 0.5) + T_3^B + \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) - (T - 2T_2) \right] \\ & \left. \frac{d[p_A \cdot (T - T_1 - T_3^A)]}{dT_3^A} \right|_{T_3^A=0} = \frac{1}{n_3} \left[2T_2 - T_1 - (n_1 + n_3 - 0.5) + T_3^B + \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) \right] \end{aligned}$$

Where,

$$2T_2 - T_1 = \frac{T}{2} + \frac{\eta_A}{2(1-\eta_A)} \frac{\Delta \theta Y_1}{\theta_A} - \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right]$$

Further,

$$\delta q^2 (\Delta \theta Y_1 - \theta_A T_1) = \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right]$$

Substituting the above simplifications back into the foc of the expected payoff,

$$\begin{aligned} & \left. \frac{d[p_A \cdot (T - T_1 - T_3^A)]}{dT_3^A} \right|_{T_3^A=0} > 0 \quad \text{if} \\ & \left[\frac{T}{2} + \left(\frac{\eta_A}{2(1-\eta_A)} \right) \left(\frac{\Delta \theta Y_1}{\theta_A} \right) + \left(\frac{n_3}{n_2 + n_3} \right) \left(\frac{\delta q^2}{2} \right) \left(\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right) + T_3^B \right] > \\ & (n_1 + n_3 - 0.5) \end{aligned}$$

The above inequality always holds strictly since our assumptions imply that the win-probabilities are well defined and such that $p_i \in [0, 1]$. Therefore, this implies that not providing any additional transfers to the non-partisans cannot be optimal. It follows that $T_3^A > 0 \implies \lambda_A = 0$, a contradiction.

Finally, we check for the second order condition to ensure that there is an unique maximum when $T_3^A \in (0, T - T_1)$.

$$\left. \frac{d^2[p_A \cdot (T - T_1 - T_3^A)]}{dT_3^{A2}} \right|_{T_3^A \in (0, T - T_1)} = -\frac{2}{n_3}$$

The maximization problem is analogous to party B . Specifically,

$$\mathcal{L} = \frac{1}{n_3} \left[(n_2 + n_3 - 0.5) - \Phi(T_1, T_3^A, T_3^B) \right] [T - T_2 - T_3^B] + \Lambda_B [T - T_2 - T_3^B] + \lambda_B T_3^B \quad (17)$$

The Kuhn-Tucker conditions are,

$$\frac{\partial \mathcal{L}}{\partial T_3^B} = \frac{1}{n_3} [T - T_2 - T_3^B] - \frac{1}{n_3} \left[(n_2 + n_3 - 0.5) - \Phi(T_1, T_3^A, T_3^B) \right] - \Lambda_B + \lambda_B = 0$$

$$T_2 + T_3^B = T \quad \text{or} \quad \Lambda_B = 0$$

$$T_3^B = 0 \quad \text{or} \quad \lambda_B = 0$$

A similar set of arguments hold in the case of party B and therefore will not be presented. We now proceed to solve for the unique non-partisan equilibrium platform.

The foc's for an interior solution for party A is,

$$(n_1 + n_3 - 0.5) + (T_3^A - T_3^B) - \frac{n_3}{(n_2 + n_3)} \delta q^2 (\Delta \theta Y_1 - \theta_A T_1) = (T - T_1 - T_3^A)$$

Substituting for $(\Delta \theta Y_1 - \theta_A T_1)$,

$$(n_1 + n_3 - 0.5) + (T_3^A - T_3^B) - \frac{n_3}{(n_2 + n_3)} \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right] = (T - T_1 - T_3^A)$$

And, analogously, for party B is,

$$(n_2 + n_3 - 0.5) + (T_3^B - T_3^A) + \frac{n_3}{(n_2 + n_3)} \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right] = (T - T_2 - T_3^B)$$

Substituting for (T_1, T_2) and solving yields the required solutions:

$$\begin{aligned} T_3^{A*} = & \frac{T}{2} + \frac{1}{3} \left(\frac{\delta q(2 - q)}{1 - \eta_A} \right) (\Delta \theta Y_1) - \frac{1}{3} \left(2n_3 + n_1 - \frac{1}{2} \right) \\ & + \frac{1}{6} \left(1 + \frac{n_3}{n_2 + n_3} \right) \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right] \end{aligned} \quad (18)$$

$$\begin{aligned} T_3^{B*} = & \frac{T}{2} + \frac{1}{6} \left(\frac{\delta q(2 - q)}{1 - \eta_A} \right) (\Delta \theta Y_1) - \frac{1}{3} \left(2n_3 + n_2 - \frac{1}{2} \right) \\ & - \frac{1}{6} \left(\frac{n_3 - n_2}{n_2 + n_3} \right) (\delta q^2) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta \theta Y_1) - \theta_A T \right] \end{aligned} \quad (19)$$

Together, [Equation 13](#), [Equation 15](#), [Equation 18](#), and [Equation 19](#) define the unique equilibrium platform of the parties. **QED**

Proof of Corollaries 1, 2, and 3

The increase in polarization can be due to a decrease in θ_A or an increase in θ_B . We consider both possibilities.

$$\frac{dT_1^*}{d\theta_A} = \left(\frac{\eta_A}{2\theta_A} \right) \left(\frac{1 - \eta_B}{(1 - \eta_A)^2} \right) Y_1 > 0$$

$$\frac{dT_1^*}{d\theta_B} = - \left(\frac{\eta_B^2}{2\theta_B^2(1 - \eta_A)} \right) Y_1 < 0$$

$$\frac{dT_2^*}{d\theta_A} = \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{4} \right) \left[T + \left(\frac{2 - \eta_A}{1 - \eta_A} \right) Y_1 - \frac{(\eta_B - \eta_A)}{(1 - \eta_A)^2} Y_1 \right]$$

Simplifying yields,

$$\frac{dT_2^*}{d\theta_A} = \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{4} \right) \left[T + Y_1 + \frac{(1 - \eta_B)}{(1 - \eta_A)^2} Y_1 \right] > 0$$

$$\frac{dT_2^*}{d\theta_B} = - \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{4} \right) \left(\frac{2 - \eta_A}{1 - \eta_A} \right) Y_1 < 0$$

The above expressions imply that both T_1^* and T_2^* decreases when polarization increases. As a result the political rents to the parties, $(T - T_1^*)$ and $(T - T_2^*)$ both increase. This proves Corollary 1.

$$\frac{dT_3^{A*}}{d\theta_A} = - \frac{\eta_A}{3\theta_A} \frac{(1 - \eta_B)}{(1 - \eta_A)^2} Y_1 - \left(1 + \frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{12} \right) \left[T + Y_1 + \frac{(1 - \eta_B)}{(1 - \eta_A)^2} Y_1 \right] < 0$$

$$\frac{dT_3^{A*}}{d\theta_B} = \frac{\eta_A}{3\theta_A(1 - \eta_A)} Y_1 + \left(1 + \frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q^2}{3} \right) \left(\frac{2 - \eta_A}{1 - \eta_A} \right) Y_1 > 0$$

This proves the first part of Corollary 2. We continue with the same exercise for T_3^{B*} .

$$\frac{dT_3^{B*}}{d\theta_A} = - \left(\frac{\eta_A(1 - \eta_B)}{6\theta_A(1 - \eta_A)^2} \right) Y_1 + \frac{\delta q^2(n_3 - n_2)}{6(n_2 + n_3)} \left[T + Y_1 + \frac{(1 - \eta_B)}{(1 - \eta_A)^2} Y_1 \right]$$

$$\implies \frac{dT_3^{B*}}{d\theta_A} > 0 \quad \text{if}$$

$$\begin{aligned} & \frac{q(n_3 - n_2)}{(n_2 + n_3)} \left[T + Y_1 + \frac{(1 - \eta_B)}{(1 - \eta_A)^2} Y_1 \right] > \frac{(2 - q)(1 - \eta_B)}{(1 - \eta_A)^2} Y_1 \\ T & > \left[\left(\frac{(n_2 + n_3)(2 - q)(1 - \eta_B)}{(n_3 - n_2)q(1 - \eta_A)^2} \right) - \left(1 + \frac{(1 - \eta_B)}{(1 - \eta_A)^2} \right) \right] Y_1 \\ \implies 1 + \frac{T}{Y_1} & > \frac{(1 - \eta_B)}{(1 - \eta_A)^2} \left[\frac{(n_2 + n_3)(2 - q) - (n_3 - n_2)q}{(n_3 - n_2)q} \right] \end{aligned}$$

Substituting for $q = \frac{K}{1+K}$, and using the definition of population shares $r_{23} = \frac{n_2}{n_3}$, and simplifying the above yields,

$$1 + \frac{T}{Y_1} > \frac{2(1 + (1 - \theta_B \delta)K)(1 + K)(1 + r_{23}(1 + K))}{(1 + (1 - \theta_A \delta)K)K(1 - r_{23})} \equiv \bar{\chi}(\theta_A, \theta_B, K, r_{23})$$

$$\frac{dT_3^{B*}}{d\theta_B} = \frac{\delta q}{6(1 - \eta_A)} \left[(2 - q) - q(2 - \eta_A) \left(\frac{1 - r_{23}}{1 + r_{23}} \right) \right]$$

$$\implies \frac{dT_3^{B*}}{d\theta_B} < 0 \quad \text{if} \quad \frac{2 + K}{K} < (2 - \eta_A) \left(\frac{1 - r_{23}}{1 + r_{23}} \right)$$

Simplifying the inequality yields the required expression:

$$\frac{dT_3^{B*}}{d\theta_B} < 0 \implies \theta_A < \left(\frac{(1 + K)^2}{\delta K(2 + K)} \right) \left(2 - \frac{2 + K}{K} \frac{1 + r_{23}}{1 - r_{23}} \right) \equiv \bar{\gamma}(K, r_{23})$$

This completes the proof of Corollary 2.

T_1^* is decreasing in η_A and η_A is increasing in q , implying $\frac{dT_1^*}{dq} < 0$.

$$T_3^{A*} = \frac{T}{2} + \frac{1}{3} \left(\frac{\eta_A}{\theta_A(1 - \eta_A)} \right) (\Delta\theta Y_1) - \frac{1}{3} \left(2n_3 + n_1 - \frac{1}{2} \right)$$

$$+ \frac{1}{6} \left(1 + \frac{n_3}{n_2 + n_3} \right) \left(\frac{\delta q^2}{2} \right) \left[\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta\theta Y_1) - \theta_A T \right]$$

By similar reasoning, both the second and last terms in the above expression are increasing in η_A . Therefore, T_3^{A*} is increasing in q . This completes first part of the Corollary.

$$\frac{dT_2^*}{dq} = \left(\frac{n_2}{n_2 + n_3} \right) \left(\frac{\delta q}{2} \right) \left[- \left(\left(\frac{2 - \eta_A}{1 - \eta_A} \right) (\Delta\theta Y_1) - \theta_A T \right) - \left(\frac{\delta q(1 - q)\theta_A}{(1 - \eta_A)^2} \right) (\Delta\theta Y_1) \right] < 0$$

$$\frac{dT_3^{B*}}{dq} = \left(\frac{\theta_A \delta(1 - q)}{3(1 - \eta_A)^2} \right) \left(\frac{\Delta\theta Y_1}{\theta_A} \right) - \left(\frac{n_3 - n_2}{n_2 + n_3} \right) \left(\frac{\delta q}{3} \right) \left[\left(1 + \frac{1 - \eta_A \delta q}{(1 - \eta_A)^2} \right) (\Delta\theta Y_1) - \theta_A T \right]$$

From simple algebraic manipulation, $\frac{dT_3^{B*}}{dq} > 0$ if,

$$\frac{T}{Y_1} > \left[\left(1 + \frac{(1 - \theta_A \delta q)}{(1 - \eta_A)^2} \right) - \left(\frac{n_2 + n_3}{n_3 - n_2} \frac{1 - q}{q} \frac{1}{(1 - \eta_A)^2} \right) \right] \frac{\Delta\theta}{\theta_A} \equiv \underline{\beta}(\theta_A, \theta_B, K)$$

This completes the proof. QED

References

- ACHARYA, A., J. E. ROEMER, AND R. SOMANATHAN (2015): "Caste, corruption and political competition in India," *Research in Economics*, 69, 336–352.
- ALESINA, A. AND E. LA FERRARA (2014): "A test of racial bias in capital sentencing," *American Economic Review*, 104, 3397–3433.
- ASHWORTH, S. AND E. BUENO DE MESQUITA (2009): "Elections with platform and valence competition," *Games and Economic Behavior*, 67, 191–216.
- AVIS, E., C. FERRAZ, AND F. FINAN (2018): "Do government audits reduce corruption? Estimating the impacts of exposing corrupt politicians," *Journal of Political Economy*, 126, 1912–1964.
- BANERJEE, A. V. AND R. PANDE (2007): "Parochial politics: Ethnic preferences and politician corruption," *Vol.*
- BARDHAN, P. AND D. MOOKHERJEE (2012): *Political clientelism and capture: Theory and evidence from West Bengal, India*, 2012/97, WIDER Working Paper.
- BARDHAN, P., D. MOOKHERJEE, ET AL. (2018): "A Theory of Clientelistic Politics versus Programmatic Politics," Tech. rep., Boston University-Department of Economics.
- BERNHARDT, D., J. DUGGAN, AND F. SQUINTANI (2007): "Electoral competition with privately-informed candidates," *Games and Economic Behavior*, 58, 1–29.
- BESLEY, T. AND T. PERSSON (2019): "The Rise of Identity Politics," Tech. rep., Mimeo.
- CALVO, E. AND M. V. MURILLO (2004): "Who delivers? Partisan clients in the Argentine electoral market," *American journal of political science*, 48, 742–757.
- CAMERON, A. C., J. B. GELBACH, AND D. L. MILLER (2008): "Bootstrap-based improvements for inference with clustered errors," *The Review of Economics and Statistics*, 90, 414–427.
- CHHIBBER, P. (1995): "Political parties, electoral competition, government expenditures and economic reform in India," *The Journal of Development Studies*, 32, 74–96.
- CORCHÓN, L. C. (2007): "The theory of contests: a survey," *Review of Economic Design*, 11, 69–100.
- ESTEBAN, J. AND D. RAY (1999): "Conflict and distribution," *Journal of Economic Theory*, 87, 379–415.
- (2008): "On the salience of ethnic conflict," *American Economic Review*, 98, 2185–2202.

- ESTEBAN, J.-M. AND D. RAY (1994): "On the measurement of polarization," *Econometrica: Journal of the Econometric Society*, 819–851.
- FERRAZ, C. AND F. FINAN (2011): "Electoral accountability and corruption: Evidence from the audits of local governments," *American Economic Review*, 101, 1274–1311.
- FISMAN, R., F. SCHULZ, AND V. VIG (2014): "The private returns to public office," *Journal of Political Economy*, 122, 806–862.
- GROSECLOSE, T. (2001): "A model of candidate location when one candidate has a valence advantage," *American Journal of Political Science*, 862–886.
- ISSACHAROFF, S. (1992): "Polarized voting and the political process: The transformation of voting rights jurisprudence," *Michigan Law Review*, 90, 1833–1891.
- IYENGAR, S., Y. LELKES, M. LEVENDUSKY, N. MALHOTRA, AND S. J. WESTWOOD (2019): "The origins and consequences of affective polarization in the United States," *Annual Review of Political Science*, 22, 129–146.
- IYER, S. AND A. SHRIVASTAVA (2018): "Religious riots and electoral politics in India," *Journal of Development Economics*, 131, 104–122.
- JAFFRELOT, C. (1999): *The Hindu nationalist movement and Indian politics: 1925 to the 1990s: strategies of identity-building, implantation and mobilisation (with special reference to Central India)*, Penguin Books India.
- (2009): "The Hindu nationalist reinterpretation of pilgrimage in India: the limits of Yatra politics," *Nations and Nationalism*, 15, 1–19.
- JHA, S. (2013): "Trade, institutions, and ethnic tolerance: Evidence from South Asia," *American political Science review*, 107, 806–832.
- (2014): "'Unfinished business': Historic complementarities, political competition and ethnic violence in Gujarat," *Journal of Economic Behavior & Organization*, 104, 18–36.
- KNOX, D., W. LOWE, AND J. MUMMOLO (2019): "The bias is built in: How administrative records mask racially biased policing," *Available at SSRN*.
- LEHNE, J., J. N. SHAPIRO, AND O. V. EYNDE (2018): "Building connections: Political corruption and road construction in India," *Journal of Development Economics*, 131, 62–78.
- MITRA, A. AND D. RAY (2014): "Implications of an economic theory of conflict: Hindu-Muslim violence in India," *Journal of Political Economy*, 122, 719–765.

- NELLIS, G., M. WEAVER, S. ROSENZWEIG, ET AL. (2016): "Do parties matter for ethnic violence? Evidence from India," *Quarterly Journal of Political Science*, 11, 249–277.
- PERSSON, T. AND G. E. TABELLINI (2002): *Political economics: explaining economic policy*, MIT press.
- ROBINSON, J. A. AND T. VERDIER (2013): "The political economy of clientelism," *The Scandinavian Journal of Economics*, 115, 260–291.
- SAMBANIS, N. AND M. SHAYO (2013): "Social identification and ethnic conflict," *American Political Science Review*, 107, 294–325.
- SILVA, J. S. AND S. TENREYRO (2006): "The log of gravity," *The Review of Economics and statistics*, 88, 641–658.
- TICKU, R. (2015): "Riot Rewards? Study of BJP's Electoral Performance and Hindu Muslim Riots," IHEID Working Papers HEIDWP19-2015, Economics Section, The Graduate Institute of International Studies.
- VARSHNEY, A. (2003): *Ethnic conflict and civic life: Hindus and Muslims in India*, Yale University Press.
- (2004): "Varshney Wilkinson Dataset on Hindu-Muslim Violence in India, Version 2.,"
- VARSHNEY, A. AND S. WILKINSON (1995): "02-17," *Varshney-Wilkinson Dataset on Hindu-Muslim Violence in India*, 1995.
- WILKINSON, S. I. (2006): *Votes and violence: Electoral competition and ethnic riots in India*, Cambridge University Press.
- (2009): "Riots," *Annual Review of Political Science*, 12, 329–343.